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Registration No. 333-281204

PROSPECTUS

6,501,150 Shares

Cartesian Therapeutics, Inc.

Common Stock

Offered by the Selling Stockholders

This prospectus relates to the proposed resale or other disposition by the selling stockholders identified herein (the "Selling Stockholders") of up to (i) 3,563,247 shares (the "Private Placement Common Shares") of our common stock, par value $0.0001 per share ("Common Stock"), and (ii) 2,937,903 shares of Common Stock (the "Private Placement Conversion Shares") issuable upon the conversion of 2,937,903 shares (the "Private Placement Preferred Shares") of Series B Non-Voting Convertible Preferred Stock, par value $0.0001 (the "Series B Preferred Stock"). Subject to receiving the requisite stockholder approval and certain beneficial ownership limitations set by each Selling Stockholder, each share of Series B Preferred Stock will automatically convert upon the requisite stockholder approval into one share of Common Stock. The shares of Common Stock registered by the registration statement of which this prospectus forms a part are referred to herein as the "Resale Shares."

The Private Placement Common Shares and the Private Placement Preferred Shares were issued and sold to certain institutional and accredited investors in a private placement (the "Private Placement"), which closed on July 3, 2024. We are not selling any Resale Shares under this prospectus and will not receive any of the proceeds from the sale or other disposition of Resale Shares by the Selling Stockholders.

The Selling Stockholders may sell the Resale Shares on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, on the over-the-counter market, in one or more transactions otherwise than on these exchanges or systems, such as privately negotiated transactions, or using a combination of these methods, and at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. See the disclosure under the heading "Plan of Distribution" elsewhere in this prospectus for more information about how the Selling Stockholders may sell or otherwise dispose of their Resale Shares hereunder.

The Selling Stockholders may sell any, all or none of the securities offered by this prospectus and we do not know when or in what amount the Selling Stockholders may sell their Resale Shares hereunder following the effective date of the registration statement of which this prospectus forms a part.

You should carefully read this prospectus and any applicable prospectus supplement before you invest in any of the securities being offered.

Our Common Stock is traded on The Nasdaq Global Market under the symbol "RNAC." On September 26, 2024, the last reported sale price for our Common Stock was $17.36 per share.

An investment in our securities involves a high degree of risk. You should carefully consider the information under the heading "Risk Factors" beginning on page 6 of this prospectus and any applicable prospectus supplement.

We are a "smaller reporting company" as defined by Rule 12b-2 of the Exchange Act and are subject to reduced public company reporting requirements.

Neither the SEC nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is October 1, 2024

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the SEC using a "shelf" registration process. Under this shelf registration process, the Selling Stockholders may, from time to time, sell the securities described in this prospectus in one or more offerings.

This prospectus contains information that you should consider when making your investment decision. Neither we nor the Selling Stockholders have authorized anyone to provide you with information that is different from or in addition to the information contained in this prospectus or in any applicable prospectus supplement or in any related free writing prospectus prepared by or on behalf of us or to which we have referred you. Accordingly, neither we nor any Selling Stockholder takes any responsibility for, or can provide any assurance as to the reliability of, any information that others may give. The Selling Stockholders are offering to sell, and seeking offers to buy, our securities only in jurisdictions where it is lawful to do so. This prospectus and any accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in any accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

We may also provide a prospectus supplement or post-effective amendment to the registration statement to add information to, or update or change information contained in, this prospectus. You should read this prospectus and any applicable prospectus supplement or post-effective amendment to the registration statement together with the additional information to which we refer you in the section of this prospectus titled "Where You Can Find More Information."

In this prospectus, unless the context otherwise requires, the terms "Cartesian," the "Company," "we," "us," and "our" refer to Cartesian Therapeutics, Inc., a Delaware corporation, and its consolidated subsidiaries.

This prospectus contains trade names, trademarks and service marks of others, which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this prospectus may appear without the ® or TM symbols.

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PROSPECTUS SUMMARY

This summary may not contain all the information that you should consider before investing in securities. You should read the entire prospectus carefully, including the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements and the related notes included elsewhere in this prospectus, before making an investment decision.

Company Overview

The Company (formerly known as Selecta Biosciences, Inc. ("Selecta")) was incorporated in Delaware on December 10, 2007, and is headquartered in Gaithersburg, Maryland. On November 13, 2023, the Company and the Delaware corporation which, immediately prior to the Merger (as defined below), was known as Cartesian Therapeutics, Inc. ("Old Cartesian"), entered into an Agreement and Plan of Merger (the "Merger Agreement"), by and among the Company, Sakura Merger Sub I, Inc., a Delaware corporation and a wholly owned subsidiary of the Company ("First Merger Sub"), Sakura Merger Sub II, LLC, a Delaware limited liability company and wholly owned subsidiary of the Company ("Second Merger Sub"), and Old Cartesian. Pursuant to the Merger Agreement, and simultaneously with execution thereof, (i) First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation (the "First Step Surviving Corporation"), and became a wholly owned subsidiary of the Company (the "First Merger"), and (ii) immediately following the First Merger, Old Cartesian (as the First Step Surviving Corporation) merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving company (the "Surviving Company"), and continued under the name "Cartesian Bio, LLC" (the "Second Merger" and, together with the First Merger, the "Merger"). In connection with the Merger and pursuant to the Merger Agreement, the Company (which was known as Selecta Biosciences, Inc. until immediately prior to the Merger) changed its corporate name to Cartesian Therapeutics, Inc.

We are a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases. We leverage our proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. Unlike DNA, mRNA degrades naturally over time without integrating into the cell's genetic material. Therefore, our mRNA cell therapies are distinguished by their capacity to be dosed repeatedly like conventional drugs, administered in an outpatient setting, and given without pre-treatment chemotherapy required with many conventional cell therapies. In an open-label Phase 2 clinical trial in patients with myasthenia gravis ("MG"), a chronic autoimmune disease that causes disabling muscle weakness and fatigue, we observed that our lead product candidate, Descartes-08, generated a deep and durable clinical benefit, which we define as improvement in MG symptoms lasting at least six months after treatment completion.

Our Common Stock is listed on the Nasdaq Global Market under the ticker symbol "RNAC." Our principal executive offices are located at 704 Quince Orchard Road, Gaithersburg, MD 20878, and our telephone number is (617) 923-1400.

Implications of Being a Smaller Reporting Company

We qualify as a "smaller reporting company" under the rules of the Securities Act and the Exchange Act. As a result, we may choose to take advantage of certain scaled disclosure requirements available specifically to smaller reporting companies. We will remain a smaller reporting company until the last day of the fiscal year in which the aggregate market value of our Common Stock held by non-affiliated persons and entities, or our public float, is more than $700 million as of the last business day of our most recently completed second fiscal quarter, or until the fiscal year following the year in which we have at least $100 million in revenue and at least $250 million in public float as of the last business day of our most recently completed second fiscal quarter.

The Offering

Shares Offered by the Selling Stockholders	Up to (i) 3,563,247 shares of Common Stock and (ii) 2,937,903 shares of Common Stock issuable upon the conversion of 2,937,903 shares of Series B Preferred Stock.
Terms of the Offering	The Selling Stockholders will determine when and how they will dispose of the shares of Common Stock and shares of Common Stock issuable upon conversion of Series B Preferred Stock registered under this prospectus for resale.
Shares Outstanding	As of September 3, 2024, there were 21,387,549 shares of our Common Stock, 166,341.592 shares of Series A Preferred Stock and 2,937,903 shares of Series B Preferred Stock outstanding.
Use of Proceeds	We will not receive any proceeds from the sale of the Resale Shares offered by the Selling Stockholders under this prospectus. The net proceeds from the sale of the Resale Shares offered by this prospectus will be received by the Selling Stockholders. See the section titled "Use of Proceeds."
Risk Factors	See the section titled "Risk Factors" and other information included in this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our securities.
Trading Markets and Ticker Symbols	Our Common Stock is listed on the Nasdaq Global Market under the symbol "RNAC."

The number of issued and outstanding shares of Common Stock does not include the following, as of September 3, 2024:

- 5,544,719 shares of Common Stock issuable upon the conversion of 166,341.592 outstanding shares of Series A Preferred Stock;
- 2,937,903 shares of Common Stock issuable upon the conversion of 2,937,903 outstanding shares of Series B Preferred Stock;
- 1,981,189 shares of Common Stock issuable upon the exercise of outstanding stock options at a weighted-average exercise price of $9.99;
- 448,211 shares of Common Stock issuable upon the vesting of outstanding restricted stock units;
- 974,954 shares of Common Stock issuable upon the exercise of outstanding warrants;
- 27,270 shares of Common Stock reserved for issuance under the Cartesian Therapeutics, Inc. Amended and Restated 2016 Incentive Award Plan (the "Old Cartesian Plan");
- 3,511,101 shares of Common Stock reserved for issuance under our Amended and Restated 2016 Incentive Award Plan (the "2016 Plan");
- 253,377 shares of Common Stock reserved for issuance under our Amended and Restated 2018 Employment Inducement Incentive Award Plan (the "2018 Plan"); and
- 45,795 shares of Common Stock reserved for issuance pursuant to our 2016 Employee Stock Purchase Plan (the "2016 ESPP").

For additional information concerning the offering, see the section titled "Plan of Distribution."

RISK FACTORS SUMMARY

The following summarizes the principal factors that make an investment in the Company speculative or risky, all of which are more fully described in the "Risk Factors" section below. This summary should be read in conjunction with the "Risk Factors" section and should not be relied upon as an exhaustive summary of the material risks facing our business. The occurrence of any of these risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this prospectus and those we may make from time to time. When evaluating our business, you should consider all of the risk factors described in our public filings, including the following risks:

- We may fail to obtain stockholder approval of the conversion of our Series B Preferred Stock.
- We are a development-stage company and we expect to incur losses for the foreseeable future and may never achieve or maintain profitability.
- We will need substantial additional funding in order to complete development of our product candidates and commercialize our products, if approved. If we are unable to raise capital when needed and on terms favorable to us, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.
- We develop our mRNA-based product candidates by leveraging our proprietary technology and our manufacturing platform, RNA Armory®, which is an unproven approach to the treatment of autoimmune disease. We are early in most of our clinical development efforts and may not be successful in our efforts to build a pipeline of product candidates and develop marketable drugs.
- Clinical drug development is inherently risky and involves a lengthy and expensive process, which is subject to a number of factors, many of which are outside of our control. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.
- We expect to continue to grow our manufacturing capabilities and resources and we must incur significant costs to develop this expertise and/or rely on third parties to manufacture our products.
- We rely, and expect to continue to rely, on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including by failing to meet deadlines for the completion of such trials.
- If we or our licensors are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would negatively impact our business.
- We have been in the past and may in the future be subject to stockholder litigation.
- The failure to successfully integrate the businesses of Selecta and Old Cartesian in the expected timeframe would adversely affect the Company's future results.
- We have identified a material weakness in our internal control over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our consolidated financial statements or cause us to fail to meet our periodic reporting obligations.

RISK FACTORS

Risks Related to the Development of our Product Candidates

We develop our mRNA-based product candidates by leveraging our proprietary technology and our manufacturing platform, RNA Armory®, which is an unproven approach to the treatment of autoimmune disease. We are early in most of our clinical development efforts and may not be successful in our efforts to build a pipeline of product candidates and develop marketable drugs.

Our mRNA approach to develop product candidates for the treatment of autoimmune diseases is an unproven approach. Our most advanced product candidate, Descartes-08 is in Phase 2 clinical development. We have not demonstrated the ability to successfully complete any Phase 3 or other pivotal clinical trials, obtain regulatory approvals, manufacture a commercial product, or arrange for a third party to do so on our behalf, or conduct other sales and marketing activities necessary for successful product commercialization. We may have problems identifying new product candidates and applying our technologies to other areas. Even if we are successful in identifying new product candidates, they may not be suitable for clinical development, including as a result of manufacturing difficulties, harmful side effects, limited efficacy or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. The success of our product candidates will depend on several factors, including the following:

- design, initiation and completion of preclinical studies and clinical trials with positive results;
- reliance on third parties, including but not limited to collaborators, licensees, clinical research organizations and contract manufacturing organizations;
- receipt of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates and not infringing or violating patents or other intellectual property of third parties;
- manufacturability, manufacturing, logistics, and stability of our cell therapies, including autologous cell therapies;
- growing our internal cGMP manufacturing capabilities to support commercial manufacturing or making arrangements with third-party manufacturers;
- launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- acceptance of our products, if and when approved, by patients and the medical community;
- effectively competing with other therapies;
- obtaining and maintaining coverage and adequate reimbursement by third-party payors, including government payors, for our products, if approved;
- maintaining an acceptable safety profile of our products following approval; and
- maintaining and growing an organization of scientists and businesspeople who can develop and commercialize our product candidates and technology.

Our failure to successfully execute on of any of the foregoing for any reason would effectively prevent or delay approval of our lead and other product candidates.

Clinical drug development is inherently risky and involves a lengthy and expensive process which is subject to a number of factors, many of which are outside of our control. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

Clinical development is expensive, time consuming and involves significant risk. It is impossible to predict when or if any of our product candidates will prove effective and safe in humans or will receive regulatory approval, 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 manufacturing and preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Manufacturing cell therapies, particularly those modified with mRNA, is a new field.

Preclinical development is costly and inherently uncertain. Early preclinical results may not be predictive of future results, however, if our technology proves to be ineffective or unsafe as a result of, among other things, adverse side effects, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the clinical development and commercialization of our product candidates.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidate for its intended indications. Clinical testing is expensive, difficult to design and implement, can take many years to complete and its outcome is inherently uncertain. A failed clinical trial can occur at any stage of testing. Moreover, the outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, we may not be able to complete, or may be required to deviate from the current clinical trial protocol for a variety of reasons.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in clinical trials after achieving positive results in preclinical development or early-stage clinical trials, and we cannot be certain that we will not face similar setbacks. Serious adverse events ("SAEs"), caused by, or other unexpected properties of, any product candidates that we may choose to develop could cause us, an institutional review board or regulatory authority to interrupt, delay or halt clinical trials of one or more of such product candidates and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or comparable non-U.S. regulatory authorities. If any product candidate that we may choose to develop is associated with SAEs or other unexpected properties, we may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which those undesirable characteristics would be expected to be less prevalent, less severe or more tolerable from a risk-benefit perspective. Moreover, preclinical and clinical data is often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain FDA or other regulatory authority approval. If we fail to produce positive results in clinical trials of our product candidates, the development timeline and regulatory approval and commercialization prospects for our product candidates, and, correspondingly, our business and financial prospects, would be negatively impacted.

In addition, we cannot be certain as to what type and how many clinical trials the FDA will require us to conduct before we may gain regulatory approval to market any of our product candidates in the United States or other countries, if any. Prior to approving a new therapeutic product, the FDA generally requires that safety and efficacy be demonstrated in two adequate and well-controlled clinical trials.

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 for, or commercialize, our product candidates, including:

- clinical trials of our product candidates may produce unfavorable, incomplete or inconclusive results;
- we may be unable to manufacture our product candidates, which in some cases such as mRNA CAR-T, are manufactured on a patient-by-patient basis;
- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site or may place a clinical hold on existing clinical trials;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with contract research organizations ("CROs"), or clinical trial sites;
- we may be unable to recruit suitable patients to participate in a clinical trial, the number of patients required for clinical trials of our product candidates may be larger than we expect, enrollment in these clinical trials may be slower than we expect or participants may drop out of these clinical trials at a higher rate than we expect, or enrollment could be affected by the ongoing conflicts in Ukraine and the Middle East;
- the number of clinical trial sites required for clinical trials of our product candidates may be larger than we expect;
- 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;

- we may have to suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks;
- investigators, regulators, data safety monitoring boards or institutional review boards may require that we or our investigators suspend or terminate clinical research, or we may decide to do so ourselves;
- investigators may deviate from the trial protocol, fail to conduct the trial in accordance with regulatory requirements or misreport study data;
- the cost of clinical trials of our product candidates may be greater than we expect or we may have insufficient resources to pursue or complete certain aspects of our clinical trial programs or to do so within the timeframe we planned;
- the supply or quality of raw materials or manufactured product candidates (whether provided by us or third parties) or other materials necessary to conduct clinical trials of our product candidates may be insufficient, inadequate or not available at an acceptable cost, or in a timely manner, or we may experience interruptions in supply;
- laboratories that we rely upon to perform certain quality control tests may become unavailable, or their services could be delayed;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we expect;
- the FDA or comparable foreign regulatory authorities may disagree with our clinical trial design or our interpretation of data from preclinical studies and clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design of our clinical trials;
- regarding trials managed by our existing or any future collaborators, our collaborators may face any of the above issues, and may conduct clinical trials in ways they view as advantageous to them but potentially suboptimal for us; and
- geopolitical events may affect international and overseas trial sites in ways beyond our control.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, or if we are forced to delay or abandon certain clinical trials or other testing in order to conserve capital resources, we may:

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

We could also encounter delays if a clinical trial is suspended or terminated. Authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or comparable foreign regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, 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. In addition, changes in regulatory requirements and policies may occur, and we may need to amend clinical trial protocols to comply with these changes. Amendments may require us to resubmit our clinical trial protocols to institutional review boards (“IRBs”), for reexamination, which may impact the costs, timing or successful completion of a clinical trial.

Our product development costs will increase if we experience delays in clinical testing or in obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant preclinical or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, potentially impairing our ability to successfully commercialize our product candidates and harming our business and results of operations.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

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. In addition, from time to time our competitors have ongoing clinical trials for product candidates that treat the same indications as our product candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates. Our inability to enroll a sufficient number of patients for our clinical trials would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, which could cause the value of our Common Stock to decline and limit our ability to obtain additional financing.

We may conduct clinical trials for product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations or the complexity of regulatory burdens may otherwise adversely impact us.

Opening trial sites outside the United States may involve additional regulatory, administrative and financial burdens, including compliance with foreign and local requirements relating to regulatory submission and clinical trial practices. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of these 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 good clinical practices ("GCPs"), and the FDA must be able to validate the data from the trial through an onsite inspection, if necessary. Generally, the patient population for any clinical trials conducted outside the United States must be representative of the population for which we intend to seek approval 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. Nonetheless, there can be no assurance that the FDA will accept data from trials conducted outside the United States. If the FDA does not accept the data from any trial that we conduct outside the United States, it would likely result in the need for additional clinical trials, which would be costly and time-consuming and delay or permanently halt our development of any applicable product candidates.

Additional risks inherent in conducting international clinical trials include:

- foreign regulatory requirements that could burden or limit our ability to conduct our clinical trials;
- increased costs and heightened supply constraints associated with the acquisition of standard of care drugs and/or combination or comparator agents for which we may bear responsibility in certain jurisdictions;
- administrative burdens of conducting clinical trials under multiple foreign regulatory schema;
- foreign exchange fluctuations;
- more burdensome manufacturing, customs, shipment and storage requirements;
- cultural differences in medical practice and clinical research;
- lack of consistency in standard of care from country to country;
- diminished protection of intellectual property in some countries;
- changes in country or regional regulatory requirements; and
- geopolitical instability or wars in regions outside of the United States where we conduct clinical trials may impact ongoing clinical trials.

We may not be able to qualify for or obtain various designations from regulators that would have the potential to expedite the review process of one or more of our product candidates and even if we do receive one or more such designations there is no guarantee that they will ultimately expedite the process, or aid in our obtaining marketing approval or provide market exclusivity.

There exist several designations that we can apply for from the FDA and other regulators that would provide us with various combinations of the potential for expedited regulatory review, certain financial incentives as well as the potential for post-approval exclusivity for a period of time. These designations include but are not limited to orphan drug designation, breakthrough therapy designation, accelerated approval, fast track status and priority review for our product candidates. For example, Descartes-08 has been granted orphan drug designation and Regenerative Medicine Advanced Therapy ("RMAT") designation by the FDA for the treatment of MG. We expect to seek one or more of these designations for our other current and future product candidates. There can be no assurance that any of our other product candidates will qualify for any of these designations. There can also be no assurance that any of our product candidates that do qualify for these designations will be granted such designations or that the FDA will not revoke a designation it grants at a later date, or that Congress will not change the law about a designation.

Further, there can be no assurance that any of our product candidates that are granted such designations, including Descartes-08, will ever benefit from such designations or that the FDA would not withdraw such designations once granted. Were we to receive a designation that promised a period of market exclusivity, such as orphan drug exclusivity, such exclusivity may not effectively protect the product from competition because different drugs can be approved for the same condition. In particular, the scope of exclusivity afforded for mRNA-modified cell therapy products may not be well defined. Further with respect to orphan drug status, even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is clinically superior if it is shown to be safer, more effective or makes a major contribution to patient care.

Interim, top-line 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, top-line or preliminary data from our clinical studies, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a full analyses of all data related to the particular trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Preliminary or top-line 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. Interim data from clinical trials 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, top-line or preliminary data may not be representative of final data. If final data is not as positive as earlier interim, top-line or preliminary we have released, our business prospects would be significantly harmed.

In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure. Any information we determine not to disclose may ultimately be deemed significant by you or others with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. As a result, preliminary and top-line data should not be relied upon in making an investment decision in our securities.

Our product candidates may cause undesirable side effects or have other properties that could 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.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials, could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities and could result in decreased market acceptance of any of

our product candidates, if approved. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects. In such an event, our trials could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications.

In November 2023, the FDA issued a statement that it is investigating serious risk of T-cell malignancy following BCMA-directed or CD19-directed autologous CAR-T cell immunotherapies. While the FDA noted that it currently believes that the overall benefits of these products continue to outweigh their potential risks for their approved uses, the FDA stated that it is investigating the identified risk of T-cell malignancy with serious outcomes, including hospitalization and death, and is evaluating the need for regulatory action. Further, in January 2024, the FDA announced it would require a so-called "boxed warning" be added to the prescribing information for all six then-currently approved CAR-T therapies. A boxed warning is the strongest safety labeling the FDA may require. However, because all currently approved CAR T-cell immunotherapies are in oncology indications, there can be no assurance that FDA will reach the same risk-benefit analysis in other indications.

While we believe our mRNA-based CAR-T product candidates may have a differentiated toxicity profile than currently approved DNA-based CAR-T therapies, there can be no assurance that the FDA would not treat Descartes-08 or any of our other product candidates similar to approved DNA-based CAR-T therapies. The FDA's investigation may impact the FDA's review of product candidates that we are developing, or that we may seek to develop in the future, which may, among other things, result in additional regulatory scrutiny of our product candidates, delay the timing for receiving any regulatory approvals or impose additional post-approval requirements on any of our product candidates that receive regulatory approval.

Any drug-related side effects observed in our clinical trials could also affect patient enrollment in our clinical trials or the ability of any enrolled patients to complete such trials or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product;
- regulatory authorities may require the addition of labeling statements, such as a boxed warning or a contraindication;
- regulatory authorities may impose additional restrictions on the marketing of, or the manufacturing processes for, the particular product;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients, or become subject to fines, injunctions or the imposition of civil or criminal penalties;
- our reputation may suffer; and
- we could be required to develop a risk evaluation and mitigation strategies ("REMS"), plan to prevent, monitor and/or manage a specific serious risk by informing, educating and/or reinforcing actions to reduce the frequency and/or severity of the event.

Any of these events could prevent us from achieving or maintaining market acceptance of a particular product candidate, if approved, and could significantly harm our business, results of operations and prospects.

Risks Related to Manufacturing and our Dependence on Third Parties

We expect to continue to grow our manufacturing capabilities and resources and we must incur significant costs to develop this expertise and/or rely on third parties to manufacture our products.

We have growing manufacturing capabilities, and in order to continue to develop our current product candidates, apply for regulatory approvals and, if approved, commercialize future products, we will need to continue to develop, contract for, or otherwise arrange for any necessary external manufacturing capabilities.

We manufacture our product candidates internally. There are risks inherent in biological manufacturing and we may not meet our delivery time requirements or provide adequate amounts of material to meet our needs, and we may make errors in manufacturing, any of which could delay our clinical trials and result in additional expense to us.

Our autologous cell therapy product candidates, including Descartes-08, are made on a patient-by-patient basis, rendering their manufacture less predictable and requiring more demanding logistics.

We rely on one or more third-party laboratories to perform certain quality control tests. These laboratories could become unavailable, or provision of their services could be delayed.

Additionally, as we scale up our manufacturing, we may encounter further challenges. Furthermore, competition for supply from our manufacturers from other companies, a breach or violation by such manufacturers of their contractual or regulatory obligations or a dispute with such manufacturers would cause delays in our discovery and development efforts, as well as additional expense to us.

In developing manufacturing capabilities by building our own manufacturing facilities, we have incurred substantial expenditures, and expect to incur significant additional expenditures in the future. Also, we have had to, and will likely need to continue to recruit, hire, and train qualified employees to staff our facilities. If we are unable to manufacture sufficient quantities of material or if we encounter problems with our facilities in the future, we may also need to secure alternative suppliers, and such alternative suppliers may not be available, or we may be unable to enter into agreements with them on reasonable terms and in a timely manner. In addition, to the extent we or our partners rely on contract manufacturing organizations ("CMOs"), to supply our product candidates, any delays or disruptions in supply could have a material adverse impact on the research and development activities and potential commercialization of our or our partners' product candidates.

The manufacturing process for any products that we may develop is subject to the FDA and foreign regulatory authority approval process and we will need to meet, or will need to contract with CMOs who can meet, all applicable FDA and foreign regulatory authority requirements on an ongoing basis. Our failure or the failure of any CMO to meet required regulatory authority requirements could result in the delayed submission of regulatory applications, or delays in receiving regulatory approval for any of our or our current or future collaborators' product candidates.

To the extent that we have existing, or enter into future, manufacturing arrangements with third parties, we depend, and will depend in the future, on these third parties to perform their obligations in a timely manner and consistent with contractual and regulatory requirements, including those related to quality control and quality assurance. The failure of any CMO to perform its obligations as expected, or, to the extent we manufacture all or a portion of our product candidates ourselves, our failure to execute on our manufacturing requirements, could adversely affect our business in a number of ways, including:

- we or our current or future collaborators may not be able to initiate or continue clinical trials of product candidates that are under development;
- we or our current or future collaborators may be delayed in submitting regulatory applications, or receiving regulatory approvals, for our product candidates;
- we may lose the cooperation of our collaborators;
- our facilities and those of our CMOs, and our products could be the subject of inspections by regulatory authorities that could have a negative outcome and result in delays in supply;
- we may be required to cease distribution or recall some or all batches of our products or take action to recover clinical trial material from clinical trial sites; and
- ultimately, we may not be able to meet the clinical and commercial demands for our products.

If we are unable to enter into future collaborations and licensing arrangements, our business could be adversely affected.

We intend to explore licenses and other strategic collaborations with pharmaceutical and biotechnology companies for development and potential commercialization of therapeutic products. However, we face significant competition in seeking appropriate collaborators. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we

may not be able to further develop our product candidates or bring them to market or continue to develop our programs, and our business may be materially and adversely affected.

We rely, and expect to continue to rely, on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including by failing to meet deadlines for the completion of such trials.

We rely, and expect to continue to rely, on third parties, such as CROs, clinical data management organizations, medical institutions and clinical investigators, to conduct and manage our clinical trials, including our ongoing Phase 2 clinical trials of Descartes-08. We also expect to rely on other third parties to store and distribute drug supplies for our clinical trials.

While we rely on these third parties for research and development activities, we remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with GCP regulations, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, safety and welfare of trial participants are protected. Other countries' regulatory agencies also have requirements for clinical trials. If we or any of our CROs or third-party contractors fail to comply with applicable GCPs, the 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. 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. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, www.ClinicalTrials.gov, within specified timeframes. Failure to do so can result in fines, adverse publicity, and civil and criminal sanctions.

Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, do not comply with confidentiality obligations, do not meet expected deadlines, experience work stoppages, terminate their agreements with us or need to be replaced, or do not conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we may need to enter into new arrangements with alternative third parties, which could be difficult, costly or impossible, and our clinical trials may be extended, delayed or terminated, or may need to be repeated. If any of the foregoing occur, we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates or in commercializing our product candidates.

Risks Related to Commercialization of our Product Candidates and Legal Compliance Matters

Even if any of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates 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 our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on several factors, including:

- the efficacy, safety and potential advantages compared to alternative treatments;
- our ability to manufacture and distribute cell therapies in a timely and secure manner;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;
- product labeling or product insert requirements of the FDA or foreign regulatory authorities, including any limitations or warnings contained in a product's approved labeling, including any black box warning or REMS;
- the willingness of the target patient population to try new treatments and of physicians to prescribe these treatments;
- our ability to hire and retain a sales force;

- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement for our product candidates, once approved;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our products together with other medications.

We currently have no sales organization. If we are unable to establish effective sales, marketing and distribution capabilities, or enter into agreements with third parties with such capabilities, we may not be successful in commercializing our product candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any product candidate for which we obtain marketing approval, we will need to establish a sales and marketing organization or make arrangements with third parties to perform sales and marketing functions and we may not be successful in doing so. We expect to build a focused sales and marketing infrastructure to market or co-promote our product candidates in the United States and potentially elsewhere, if and when they are approved. There are risks involved with establishing our own sales, marketing and distribution capabilities. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

We face substantial competition, including from biosimilars, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The development and commercialization of new drug and biologic products and technologies is highly competitive and is characterized by rapid and substantial technological development and product innovations. We are aware that pharmaceutical and biotechnology companies, offer or are pursuing the development of pharmaceutical products or technologies that may address one or more indications that our product candidates target, as well as smaller, early-stage companies, that offer or are pursuing the development of pharmaceutical products or technologies that may address one or more indications that our product candidates target. We face competition with respect to our current product candidates and will face competition with respect to any product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources, established presence in the market and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and reimbursement for product candidates and in marketing approved products than we do.

These third parties compete with us in recruiting and retaining qualified scientific, sales and marketing and management personnel, 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 more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market, especially for any competitor developing a cell therapy product that will likely share our same regulatory approval requirements. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic or biosimilar products.

We expect the product candidates we develop will be regulated as biological products, or biologics, and therefore they may be subject to competition sooner than anticipated.

The Biologics Price Competition and Innovation Act of 2009 (the "BPCIA"), was enacted as part of the Affordable Care Act to establish an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its

similarity to an approved biologic. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the reference product was approved under a biologics license application ("BLA"). The law is still being interpreted and implemented by the FDA, and as a result, its ultimate impact, implementation, and meaning are subject to uncertainty. However, any such processes could have a material adverse effect on the future commercial prospects for our biological products.

We believe that any product candidate approved in the United States as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to Congressional action or otherwise, or that the FDA will not consider the subject product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of the reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

Even if we are able to commercialize any of our product candidates, the products may become subject to unfavorable pricing regulations or third-party coverage or reimbursement policies, any of which would have a material adverse effect on our business.

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval, especially novel products like our cell therapy product candidates, and may be particularly difficult because of the higher prices associated with such product candidates. Our ability to commercialize any product candidates successfully will depend, in part, on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels.

Obtaining and maintaining adequate reimbursement for our products may be difficult. We cannot be certain if we will obtain an adequate level of reimbursement for our products by third-party payors. Even if we do obtain adequate levels of reimbursement, third-party payors, such as government or private healthcare insurers, carefully review and question the coverage of, and challenge the prices charged for, products. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Third-party payors often require that pharmaceutical companies provide them with predetermined discounts from list prices and are challenging the prices charged for products. We may also be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. Some third-party payors may require pre-approval of coverage for new and innovative therapies, such as our product candidates, before they will provide reimbursement. If coverage and reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining reimbursement for newly approved products, and coverage may be more limited than the purposes for which the product is approved by the FDA or similar regulatory authorities outside of the United States. Moreover, eligibility for reimbursement does not imply that a product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the product and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost products and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of products from countries where they may be sold at lower prices than in the United States. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review

period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control, including possible price reductions, even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval. There can be no assurance that our product candidates, if they are approved for sale in the United States or in other countries, will be considered medically necessary for a specific indication or cost-effective, or that coverage or an adequate level of reimbursement will be available.

Moreover, there is heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. There can be no assurance that our product candidates, will not be subject to heightened governmental scrutiny, unfavorable regulatory inquiry or action, or Congressional inquiry.

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

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

- regulatory investigations, product recalls or withdrawals, or labeling, marketing or promotional restrictions;
- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- loss of clinical trial participants or increased difficulty in enrolling future participants;
- significant costs to defend the related litigation or to reach a settlement;
- substantial payments to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy;
- the inability to commercialize any products that we may develop;
- distraction of management’s attention from our primary business; and
- substantial monetary awards to patients or other claimants.

We maintain general liability, product liability and umbrella liability insurance. Our existing insurance coverage may not fully cover potential liabilities that we may incur. We may need to increase our insurance coverage as we expand our clinical trials or if we commence commercialization of our product candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. A 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 commercialization of any product candidates we develop.

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

Arrangements with physicians, others who may be in a position to generate business for us, and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that constrain the business or financial arrangements and relationships through which we market, sell and distribute any products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under a federal healthcare program 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 to have committed a violation;
- the federal False Claims Act, which impose criminal and civil penalties against individuals or entities for knowingly presenting, or causing to be presented, to the federal government claims for payment that are false or fraudulent. Private individuals (e.g., whistleblowers) can bring these actions on behalf of the government; in addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which imposes criminal and civil liability for, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), and their respective implementing regulations, which also impose obligations, including mandatory contractual terms, on certain types of people and entities with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payments Sunshine Act (the "Sunshine Act"), which requires applicable manufacturers of certain products for which payment is available under a federal healthcare program to report annually to the government information related to certain payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other health care professionals beginning in 2022, and teaching hospitals, as well as ownership and investment interests held by the physicians and their immediate family members;
- analogous state laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by third-party payors, including private insurers; and requirements to comply with federal and pharmaceutical industry compliance guidelines;
- state data privacy and price transparency laws, many of which differ from each other in significant ways and often are broader than and not preempted by HIPAA or the Sunshine Act, thus complicating compliance efforts; by way of example, the California Consumer Privacy Act ("CCPA"), which went into effect January 1, 2020, among other things, creates new data privacy obligations for covered companies and provides new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also creates a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. Although the law includes limited exceptions, including for "protected health information" maintained by a covered entity or business associate, it may regulate or impact our processing of personal information depending on the context; and

- similar healthcare laws and regulations in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of certain protected information, such as the General Data Protection Regulation ("GDPR"), which imposes obligations and restrictions on the collection and use of personal data relating to individuals located in the EU (including health data); in addition, the United Kingdom leaving the EU could also lead to further legislative and regulatory changes. It remains unclear how the United Kingdom data protection laws or regulations will develop in the medium to longer term and how data transfer to the United Kingdom from the EU will be regulated. However, the United Kingdom has transposed the GDPR into domestic law with the Data Protection Act 2018, which remains in force following the United Kingdom's departure from the EU.

Efforts to ensure that our 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 may recommend, purchase and/or prescribe our product candidates, if approved, may not comply with current or future statutes, regulations 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 these laws or any other governmental laws and regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval.

For example, the Patient Protection and Affordable Care Act of 2010 (the "ACA"), is a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. We cannot predict the ultimate content, timing or effect of any healthcare reform legislation or the impact of potential legislation on us.

We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our products.

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

The ability of the FDA to review and or approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's

ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new drugs and biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. If a prolonged government shutdown occurs, or if global health concerns were to again 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.

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

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations administered by the U.S. Commerce Department's Bureau of Industry and Security, U.S. customs regulations, various economic and trade sanctions regulations including those administered or enforced by relevant government authorities, such as by the U.S. Treasury Department's Office of Foreign Assets Control or the U.S. Department of State, the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism ("PATRIOT Act"), and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. U.S. sanctions laws and regulations may govern or restrict our business and activities in certain countries and with certain persons. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors and other partners from authorizing, promising, offering or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We may engage third parties for clinical trials outside of the United States, to sell our product candidates abroad once we enter a commercialization phase, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors and other partners, even if we do not explicitly authorize or have actual knowledge of such activities. Our violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences.

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

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

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

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

Risks Related to our Financial Position and Need for Additional Capital

We are a development-stage company and we expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

Except for the quarter ended June 30, 2024 and the year ended December 31, 2022, we have incurred significant operating losses since our inception. We incurred a net loss of $43.0 million and $33.1 million for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 2024, we had an accumulated deficit of $657.6 million. To date, we have financed our operations primarily through public offerings and private placements of our securities, funding received from collaboration and license arrangements and a credit facility. We currently have no source of product revenue, and we do not expect to generate product revenue for the foreseeable future. Historically we devoted substantially all of our financial resources and efforts to developing our ImmTOR platform and following the closing of the Merger (the "Closing"), we expect to devote substantially all of our financial resources and efforts to developing our mRNA-based therapies for the treatment of autoimmune diseases, identifying potential product candidates and conducting preclinical studies and our clinical trials. We are in the early stages of clinical development of most of our product candidates. We expect to continue to incur significant expenses and operating losses for the foreseeable future. We expect that our expenses will increase substantially as we:

- continue the research and development of our product candidates;
- increase and develop our manufacturing and distribution capacities;
- discover and develop additional product candidates;
- seek to maintain and enter into collaboration, licensing and other agreements, including, but not limited to research and development, and/or commercialization agreements;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- potentially establish a sales, marketing and distribution infrastructure and scale up internal manufacturing capabilities to commercialize any products for which we may obtain regulatory approval;
- maintain, expand and protect our intellectual property portfolio, including through licensing arrangements;
- add clinical, scientific, operational, financial and management information systems and personnel, including personnel to support our product development and potential future commercialization efforts;
- experience any delays or encounter any issues with any of the above, including, but not limited to, failed studies, complex results, safety issues or other regulatory, manufacturing or scale-up challenges; and
- are exposed to broad macroeconomic conditions including inflation and supply chain tightness which could result in us paying more, or being unable, to access goods and services.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of our product candidates, discovering additional product candidates, obtaining regulatory approval and securing reimbursement for these product candidates, manufacturing, marketing and selling any products for which we may obtain regulatory approval, and establishing and managing our collaborations at various stages of a product candidate's development. We are only in the preliminary stages of most of these activities. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with pharmaceutical and biological 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 profitability. If we are required by the FDA or other regulatory authorities to perform studies in addition to those currently expected, or if there are any delays in completing our clinical trials or the development of any of our product candidates, our expenses could increase and product revenue could be further delayed.

We may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to remain profitable would depress our value and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product offerings or continue our operations.

We will need substantial additional funding in order to complete development of our product candidates and commercialize our products, if approved. If we are unable to raise capital when needed and on terms favorable to us, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue research and development for other product candidates. Additionally, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. Accordingly, we will need to obtain substantial additional funding to continue operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our clinical trials, our other research and development programs or any future commercialization efforts.

We believe that our existing cash, cash equivalents and restricted cash as of June 30, 2024, combined with the net proceeds received subsequent to June 30, 2024 in connection with the Private Placement, will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months. We may pursue additional cash resources through public or private equity or debt financings, by establishing collaborations with other companies or through the monetization of potential royalty and/or milestone payments pursuant to our existing collaboration and license arrangements. Management's expectations with respect to our ability to fund current and long-term planned operations are based on estimates that are subject to risks and uncertainties. If actual results are different from management's estimates, we may need to seek additional strategic or financing opportunities sooner than would otherwise be expected. However, there is no guarantee that any of these strategic or financing opportunities will be executed on favorable terms, and some could be dilutive to existing stockholders. If we are unable to obtain additional funding on a timely basis, we may be forced to significantly curtail, delay, or discontinue one or more of our planned research or development programs or be unable to expand our operations, meet long-term obligations or otherwise capitalize on our commercialization of our product candidates. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect.

Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of our clinical trials, preclinical development, manufacturing, laboratory testing and logistics;
- the number of product candidates that we pursue and the speed with which we pursue development;
- our headcount growth and associated costs;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Market volatility resulting from the ongoing conflicts in Ukraine and the Middle East and current global macroeconomic conditions or other factors could also adversely impact our ability to access capital as and when needed. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders, and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness could result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs, including our clinical trial programs, or the commercialization of any product candidates, or be unable to sustain or expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

Our ability to use our net operating loss and research and development tax credit carryforwards to offset future taxable income may be subject to certain limitations.

We have net operating loss carryforwards ("NOLs"), for federal and state income tax purposes that may be available to offset our future taxable income, if any. In general, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), a corporation that undergoes an "ownership change" is subject to limitations on its ability to use its pre-change NOLs to offset future taxable income. If the IRS, challenges our analysis that existing NOLs will not expire before utilization due to previous ownership changes, or if we undergo an ownership change, our ability to use our NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code.

Furthermore, our ability to use NOLs of companies that we may acquire in the future may be subject to limitations. As a result, we may not be able to use a material portion of the NOLs reflected on our balance sheet, even if we attain profitability. Under current law, NOLs that arose before January 1, 2018 may be carried forward up to 20 years. NOLs that arose after 2017 may be used to offset at most 80% of our taxable income to the extent not offset by pre-2018 NOLs and such NOLs can be carried forward indefinitely. As a result, we may become required to pay federal income taxes in future years despite having generated losses for federal income tax purposes in prior years.

Risks Related to our Intellectual Property

If we or our licensors are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would negatively impact our business.

Our success depends in large part on our ability to obtain and maintain patent and other intellectual property protection in the United States and other countries with respect to our proprietary technology and products. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost, in a timely manner or in all jurisdictions. As we reach the statutory deadlines for deciding whether and where to initiate prosecution in specific foreign jurisdictions by filing national stage applications based on our Patent Cooperation Treaty ("PCT"), applications,

we will have to decide whether and where to pursue patent protection for the various inventions claimed in our patent portfolio, and we will only have the opportunity to obtain patents in those jurisdictions where we pursue protection. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, such as, with respect to proper priority claims, inventorship, claim scope or patent term adjustments. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business. We also cannot guarantee that any of our patent searches or analyses, including but not limited to the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete and thorough, nor can we be certain that we have identified each and every patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction.

In some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents covering technology that we license from third parties. We may also require the cooperation of our licensors to enforce any licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Moreover, we have obligations under our licenses, and any failure to satisfy those obligations could give our licensor the right to terminate the license. Termination of a necessary license could have a material adverse impact on our business.

Some of our patent licenses are non-exclusive. In those cases, a competitor could obtain a license to the same or similar technology from the licensor. We have at least one exclusive patent license that is restricted to a particular field of use. A competitor could obtain a license to a similar technology outside of that field of use.

We cannot provide any assurances that the issued patents we currently own, or any future patents, include claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage.

Further, it is possible that a patent claim may provide coverage for some but not all parts of a product candidate or third-party product. These and other factors may provide opportunities for our competitors to design around our patents.

Moreover, other parties may have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications, and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming similar methods or by claiming subject matter that could dominate our patent position. In addition, it may be some time before we understand how the patent office reacts to our patent claims and whether they identify prior art of relevance that we have not already considered.

Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in any owned patents or pending patent applications, or that we were the first to file for patent protection of such inventions, nor can we know whether those from whom we may license patents were the first to make the inventions claimed or were the first to file. For these and other reasons, the issuance, scope, validity, enforceability and commercial value of our patent rights are subject to a level of uncertainty. Our pending and future patent applications may not result in patents being issued that protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

We may be subject to a third-party preissuance submission of prior art to the U.S. Patent and Trademark Office (“USPTO”), or other patent office, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize product

candidates without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates. The issuance, scope, validity, enforceability and commercial value of our patents are subject to a level of uncertainty.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. Due to legal standards relating to patentability, validity, enforceability and claim scope of patents covering biotechnological and pharmaceutical inventions, our ability to obtain, maintain and enforce patents is uncertain and involves complex legal and factual questions. Even if issued, a patent's validity, inventorship, ownership or enforceability is not conclusive. Accordingly, rights under any existing patent or any patents we might obtain or license may not cover our product candidates, or may not provide us with sufficient protection for our product candidates to afford a commercial advantage against competitive products or processes, including those from branded and generic pharmaceutical companies.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how, information, or technology that is not covered by our patents. Although our agreements require all of our employees to assign their inventions to us, and we require all of our employees, consultants, advisors and any other third parties who have access to our trade secrets, proprietary know-how and other confidential information and technology to enter into appropriate confidentiality agreements, we cannot be certain that our trade secrets, proprietary know-how, and other confidential information and technology will not be subject to unauthorized disclosure or that our competitors will not otherwise gain access to or independently develop substantially equivalent trade secrets, proprietary know-how, and other information and technology. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property globally. If we are unable to prevent unauthorized disclosure of our intellectual property related to our product candidates and technology to third parties, we may not be able to establish or maintain a competitive advantage in our market, which could adversely affect our business and operations.

Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful. Even if we are successful, domestic or foreign litigation, or USPTO or foreign patent office proceedings, may result in substantial costs and distraction to our management. We may not be able, alone or with our licensors or potential collaborators, to prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or other proceedings, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation or other proceedings. In addition, during the course of this kind of litigation or proceedings, there could be public announcements of the results of hearings, motions or other interim proceedings or developments or public access to related documents. If investors perceive these results to be negative, the market price for our Common Stock could be adversely affected.

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

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also seek to enter into confidentiality and invention or patent assignment agreements with our employees, advisors and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Our trade secrets may also be obtained by third parties by other means, such as breaches of our physical or

computer security systems. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. Moreover, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to, or independently developed by, a competitor, our competitive position would be harmed.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biotechnology companies, our 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. In addition, recent patent reform legislation could further increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. The Leahy-Smith Act America Invents Act (the "Leahy-Smith Act"), included provisions that affect the way patent applications are prosecuted and may also affect patent litigation, including first-to-file provisions. A third party that files a patent application in the USPTO before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This requires us to be cognizant of the time from invention to filing of a patent application. Thus, for our U.S. patent applications containing a priority claim after March 16, 2013, the date such provisions became effective, there is a greater level of uncertainty in the patent law. Moreover, some of the patent applications in our portfolio will be subject to examination under the pre-Leahy-Smith Act law and regulations, while other patents applications in our portfolio will be subject to examination under the law and regulations, as amended by the Leahy-Smith Act. This introduces additional complexities into the prosecution and management of our portfolio.

In addition, the Leahy-Smith Act limits where a patentee may file a patent infringement suit and provides opportunities for third parties to challenge any issued patent in the USPTO. These provisions apply to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal court 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 federal court action.

Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims because it may be easier for them to do so relative to challenging the patent in a federal court action. It is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, 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 U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. From time to time, the U.S. Supreme Court, other federal courts, the U.S. Congress or the USPTO may change the standards of patentability, and any such changes could have a negative impact on our business.

Depending on these and other decisions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change or be interpreted in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue to us in the future. In addition, these events may adversely affect our ability to defend any patents that may issue in procedures in the USPTO or in courts.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is considerable intellectual property litigation in the biotechnology and

pharmaceutical industries. While no such litigation has been brought against us and we have not been held by any court to have infringed a third party's intellectual property rights, we cannot guarantee that our technology, product candidates or use of our product candidates do not infringe third-party patents.

We are aware of numerous patents and pending applications owned by third parties, and we monitor patents and patent applications in the fields in which we are developing product candidates, both in the United States and elsewhere. However, we may have failed to identify relevant third-party patents or applications. For example, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Moreover, it is difficult for industry participants, including us, to identify all third-party patent rights that may be relevant to our product candidates and technologies because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We may fail to identify relevant patents or patent applications or may identify pending patent applications of potential interest but incorrectly predict the likelihood that such patent applications may issue with claims of relevance to our technology. In addition, we may be unaware of one or more issued patents that would be infringed by the manufacture, sale or use of a current or future product candidate, or we may incorrectly conclude that a third-party patent is invalid, unenforceable or not infringed by our activities. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our product candidates or the use of our product candidates.

The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our product candidates or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our product candidates and technology, including interference or derivation proceedings before the USPTO and similar bodies in other countries. Third parties may assert infringement claims against us based on existing intellectual property rights and intellectual property rights that may be granted in the future.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. If we are found, or believe there is a risk we may be found, to infringe a third party's intellectual property rights, we could be required or may choose to obtain a license from such third party to continue developing and marketing our product candidates and technology. However, we may not be able to obtain any such 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. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business.

Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

Even if we are successful in such proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. There could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our Common Stock.

Any of these risks coming to fruition could have a material adverse impact on our business.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, and our issued patents covering our product candidates could be found invalid or unenforceable or could be interpreted narrowly if challenged in court.

Competitors may infringe our intellectual property, including our patents or the patents of our licensors. As a result, we may be required to file infringement claims to stop third-party infringement or unauthorized use. This can be expensive, particularly for a company of our size, and time-consuming. If we initiated legal proceedings against a third party to enforce a patent, if and when issued, covering one of our product candidates, the

defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement, or failure to claim patent-eligible subject matter. Grounds for unenforceability assertions include allegations that someone connected with the 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, inter partes review, interference proceedings and equivalent proceedings in foreign jurisdictions, such as opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, 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 our product candidates. Moreover, even if not found invalid or unenforceable, the claims of our patents could be construed narrowly or in a manner that does not cover the allegedly infringing technology in question. Such a loss of patent protection would have a material adverse impact on our business.

The lives of our patents may not be sufficient to effectively protect our products and business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its first effective non-provisional filing date. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates, proprietary technologies and their uses are obtained, once the patent life has expired, we may be open to competition. In addition, although upon issuance in the United States a patent's life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. 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. If we do not have sufficient patent life to protect our product candidates, proprietary technologies and their uses, our business and results of operations will be adversely affected.

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 noncompliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent and, in some jurisdictions, during the pendency of a patent application. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction.

Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have an adverse effect on our business.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to certain intellectual property, through licenses from third parties and under patents and patent applications that we own, to develop our product candidates. Because we may find that our programs require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license or use these proprietary rights. We may be unable to acquire or in-license compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license

or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, financial resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment.

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

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

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may also engage advisors and consultants who are concurrently employed at universities or other organizations or who perform services for other entities.

Although we try to ensure that our employees, advisors and consultants 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, advisors or consultants have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such party's former or current employer or in violation of an agreement with another party. Although we have no knowledge of any such claims being alleged to date, if such claims were to arise, litigation may be necessary to defend against any such claims.

In addition, while it is our policy to require our employees, consultants, advisors and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Our and their assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. Similarly, we may be subject to claims that an employee, advisor or consultant performed work for us that conflicts with that person's obligations to a third party, such as an employer, and thus, that the third party has an ownership interest in the intellectual property arising out of work performed for us. Litigation may be necessary to defend against these claims.

Although we have no knowledge of any such claims being alleged to date, if such claims were to arise, litigation may be necessary to defend against any such claims.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than in the United States, assuming that rights are obtained in the United States and assuming that rights are pursued outside the United States. In this regard, in addition to the United States, we also seek to protect our intellectual property rights in other countries. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For all of the patent families in our portfolio, including the families that may provide coverage for our lead product candidate, the relevant statutory deadlines have not yet expired. Therefore, for each of the patent families that we believe provide coverage for our lead product candidate, we will need to decide whether and where to pursue additional protection outside the United States. 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, for our existing patent rights outside the United States and any foreign patent rights we may decide to pursue in the future, we may not be able to obtain relevant claims and/or 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 do not pursue and obtain 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 in the United States. These products may compete with our product candidates and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

If we do not obtain additional protection under the Hatch-Waxman Act and similar foreign legislation extending the terms of our patents for our product candidates, our business may be harmed.

Depending upon the timing, duration and specifics of FDA regulatory approval for our product candidates, one or more of our U.S. patents may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984 (the "Hatch-Waxman Act"). The Hatch-Waxman Act permits a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. Patent term restorations, however, are limited to a maximum of five years and cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval by the FDA.

The application for patent term extension is subject to approval by the USPTO, in conjunction with the FDA. It takes at least six months to obtain approval of the application for patent term extension. We may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our product will be shortened, our competitors may obtain earlier approval of competing products and our ability to generate revenues could be materially adversely affected.

Risks Related to our Operations

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

We are highly dependent on Carsten Brunn, Ph.D., our President and Chief Executive Officer, as well as the other principal members of our management, scientific and clinical teams. Although we have entered into employment agreements or offer letters with Dr. Brunn and other executive officers, each of them may terminate their employment with us at any time. We do not maintain "key person" insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific, clinical, manufacturing, technology and sales and marketing personnel will also be critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize product candidates. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies 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 employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

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

As a public company, we have incurred and expect to continue to incur significant legal, accounting and other expenses. If we are unable to maintain effective internal control over financial reporting, we may not have

adequate, accurate or timely financial information, and we may be unable to meet our reporting obligations as a public company or comply with the requirements of the SEC or Section 404 of the Sarbanes-Oxley Act of 2002. This could result in a restatement of our financial statements, the imposition of sanctions, including the inability of registered broker dealers to make a market in our Common Stock, or investigation by regulatory authorities. Any such action or other negative results caused by our inability to meet our reporting requirements or comply with legal and regulatory requirements or by disclosure of an accounting, reporting or control issue could adversely affect the trading price of our securities and our business. Material weaknesses in our internal control over financial reporting could also reduce our ability to obtain financing or could increase the cost of any financing we obtain. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

We have identified a material weakness in our internal control over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our consolidated financial statements or cause us to fail to meet our periodic reporting obligations.

In connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2023, we identified a material weakness in our internal control over financial reporting and concluded that our internal control over financial reporting was not effective as of December 31, 2023. There are no material accounting errors or omissions within the consolidated financial statements as a result of this material weakness. We concluded that we did not design and implement effective internal controls specifically related to the documentation of the assumptions supporting the valuation of the in-process intangible assets in connection with the Old Cartesian material business combination and the initial and ongoing contingent value right obligation issued at the time to legacy Selecta stockholders. This includes a lack of sufficient documentation to provide evidence of the associated management review controls.

In response to the identified material weakness above, we, with the oversight of the Audit Committee (the "Audit Committee") of the Board of Directors (the "Board of Directors"), intend to take comprehensive actions to remediate the material weakness in internal control over financial reporting. We expect to re-evaluate the scope and level of precision for conducting and documenting the reviews over significant acquisitions and contingent value rights including the review of prospective financial information used in valuation reports produced by third-party specialists supporting the accounting for business combinations and contingent value rights. The remediation efforts are intended both to address the identified material weakness and to enhance our overall financial control environment.

This material weakness and any other failure to maintain effective internal control over financial reporting could result in a loss of confidence in the reliability of our financial statements which could have a negative impact on the trading price of our Common Stock and harm our ability to raise additional capital on acceptable terms or at all.

A variety of risks associated with maintaining our subsidiary in Russia or expanding operations internationally could adversely affect our business.

In addition to our U.S. operations, we maintain a wholly owned subsidiary in Russia, Selecta (RUS). However, we are in the process of winding down all remaining operations of this subsidiary. We may face risks associated with winding down the operations of our subsidiary in Russia, or with any international operations, including possible unfavorable regulatory, pricing and reimbursement, legal, political, tax and labor conditions, and risks associated with our compliance with evolving international sanctions, which could harm our business. We may also rely on collaborators to commercialize any approved product candidates outside of the United States. Doing business internationally involves a number of risks, including but not limited to:

- multiple, conflicting and changing laws and regulations, such as privacy regulations, tax laws, export and import restrictions, employment laws, regulatory requirements and other governmental approvals, permits and licenses;
- failure by us to obtain and maintain regulatory approvals for the use of our product candidates in various countries;
- additional potentially relevant third-party patent rights;

- complexities and difficulties in obtaining protection of and enforcing our intellectual property rights;
- difficulties in staffing and managing foreign operations;
- complexities associated with managing multiple-payor reimbursement regimes, government payors or patient self-pay systems;
- limits on our ability to penetrate international markets;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our product candidates and exposure to foreign currency exchange rate fluctuations, which could result in increased operating expenses and reduced revenues;
- natural disasters, political and economic instability, including wars, events of terrorism and political unrest, outbreak of disease, including the COVID-19 pandemic, boycotts, curtailment of trade and other business restrictions, economic sanctions, and economic weakness, including inflation;
- changes in diplomatic and trade relationships;
- challenges in enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- restriction on cross-border investment, including enhanced oversight by the Committee on Foreign Investment in the United States and substantial restrictions on investment from China;
- certain expenses including, among others, expenses for travel, translation and insurance;
- legal risks, including use of the legal system by the government to benefit itself or affiliated entities at our expense, including expropriation of property;
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and activities that may fall within the purview of the FCPA its books and records provisions, or its anti-bribery provisions; and
- risks that we may suffer reputational harm as a result of our operations in Russia.

Any of these factors could significantly harm our future international expansion and operations and, consequently, our results of operations.

Our business and operations, including our development programs, could be materially disrupted in the event of system failures, security breaches, violations of data protection laws or data loss or damage by us or third parties on which we rely, including our CROs or other contractors or consultants.

Our internal computer systems and those of third parties on which we rely, including our CROs and other contractors and consultants, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could have a material adverse effect on our business operations, including a material disruption of our development programs. Unauthorized disclosure of sensitive or confidential patient or employee data, including personally identifiable information, whether through breach of computer systems, systems failure, employee negligence, fraud or misappropriation, or otherwise, or unauthorized access to or through our information systems and networks, whether by our employees or third parties, could result in negative publicity, legal liability and damage to our reputation. Unauthorized disclosure of personally identifiable information could also expose us to sanctions for violations of data privacy laws and regulations around the world. To the extent that any disruption or security breach resulted in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed. For example, the loss of or damage to clinical trial data, such as from completed or ongoing clinical trials, for any of our product candidates would likely result in delays in our marketing approval efforts and significantly increased costs in an effort to recover or reproduce the data.

We have previously been, and expect to remain, the target of cyber-attacks. As we become more dependent on information technologies to conduct our operations, cyber incidents, including deliberate attacks, such as

ransomware attacks, and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication. These incidents pose a risk to the security of our systems and networks, the confidentiality and the availability and integrity of our data and these risks apply both to us, and to third parties on whose systems we rely for the conduct of our business. While we do not believe the effect of these incidents has historically been material to our results of operations, financial condition or prospects, cyber threats are persistent and constantly evolving. Such threats have increased in frequency, scope and potential impact in recent years, which increases the difficulty of detecting and successfully defending against them. As cyber threats continue to evolve, we may be required to incur additional expenses in order to enhance our protective measures or to remediate any information security vulnerability. There can be no assurance that we or our third-party providers will be successful in preventing cyber-attacks or mitigating their effects. Similarly, there can be no assurance that our collaborators, CROs, third-party logistics providers, distributors and other contractors and consultants will be successful in protecting our clinical and other data that is stored on their systems. Any cyber-attack or destruction or loss of data could have a material adverse effect on our business and prospects. In addition, we may suffer reputational harm or face litigation or adverse regulatory action as a result of cyber-attacks or destruction or loss of data and may incur significant additional expense to implement further data protection measures. It is also possible that unauthorized access to data may be obtained through inadequate use of security controls by our suppliers or other vendors.

Although we have general liability insurance coverage, our insurance may not cover all claims, continue to be available on reasonable terms or be sufficient in amount to cover one or more large claims. Additionally, the insurer may disclaim coverage as to any claim. The successful assertion of one or more large claims against us that exceed or are not covered by our insurance coverage or changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, prospects, operating results and financial condition.

Acquisitions or joint ventures could disrupt our business, cause dilution to our stockholders and otherwise harm our business.

We may acquire other businesses, product candidates or technologies as well as pursue strategic alliances, joint ventures, technology licenses or investments in complementary businesses. We have not made any acquisitions to date, and our ability to do so successfully is unproven. Any of these transactions could be material to our financial condition and operating results and expose us to many risks, including:

- disruption in our relationships with future customers or with current or future distributors or suppliers as a result of such a transaction;
- unexpected liabilities related to acquired companies;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- diversion of management time and focus from operating our business to acquisition integration challenges;
- increases in our expenses and reductions in our cash available for operations and other uses;
- possible write-offs or impairment charges relating to acquired businesses; and
- inability to develop a sales force for any additional product candidates.

Foreign acquisitions involve unique risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the expected benefit of any acquisition may not materialize. Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

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.

The trading price of our Common Stock is likely to be volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. The stock market in general and the market for smaller biopharmaceutical 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 price at which you purchased. The market price for our Common Stock may be influenced by many factors, including:

- the success of competitive products or technologies;
- results or progress, or changes in approach or timelines, of clinical trials of our product candidates or those of our competitors;
- failure or discontinuation of any of our development programs;
- commencement of, termination of, or any development related to any collaboration or licensing arrangement;
- 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 collaborators or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- announcement or market expectation of additional financing efforts;
- 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, projections or development timelines 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;
- sale of Common Stock by us or our stockholders in the future as well as the overall trading volume of our Common Stock;
- changes in the composition of our stockholder base;
- activity in the options market for shares of our Common Stock;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this “Risk Factors” section.

Our 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.

Our executive officers, directors and stockholders who own more than 5% of our outstanding Common Stock and their respective affiliates, in the aggregate, hold shares representing approximately 64.1% of our outstanding voting stock as of September 3, 2024, assuming the conversion of all outstanding shares of Series A Preferred Stock and Series B Preferred Stock into Common Stock, or 62.5%, assuming no conversion of outstanding shares of Series A Preferred Stock and Series B Preferred Stock into Common 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.

Anti-takeover provisions in our charter documents and under Delaware law and the terms of some of our contracts could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our management.

Provisions in our restated certificate of incorporation, as amended (the "Charter"), and amended and restated by-laws (the "Bylaws") may delay or prevent an acquisition or a change in management. These provisions include a prohibition on actions by written consent of our stockholders and the ability of our Board of Directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law (the "DGCL"), which prohibits stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us.

Although we believe these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our Board of Directors, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the Board of Directors, which is responsible for appointing the members of management.

Furthermore, our Charter 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. This provision of our Charter applies to actions arising under the Securities Act and the Exchange Act. We believe this provision benefits us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, 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 and may result in increased litigation costs for our stockholders. We note that there is uncertainty as to whether a court would enforce these provisions and that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Section 22 of the Securities Act generally creates concurrent jurisdiction for state and federal courts over suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

In addition, the Certificate of Designation of Preferences, Rights and Limitations of Series A Non-Voting Convertible Preferred Stock (the "Series A Certificate of Designation") may delay or prevent a change in control of our Company. At any time while at least 30% of the originally issued Series A Preferred Stock remains issued and outstanding, we may not consummate a Fundamental Transaction (as defined in the Series A Certificate of Designation) or any merger or consolidation of the Company with or into another entity or any stock sale to, or other business combination in which the stockholders of the Company immediately before such transaction do not hold at least a majority of the capital stock of the Company immediately after such transaction, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A Preferred Stock. This provision of the Series A Certificate of Designation may make it more difficult for us to enter into any of the aforementioned transactions.

We have been in the past and may in the future be subject to stockholder 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 biopharmaceutical companies have

experienced significant stock price volatility in recent years. Involvement in such litigation, could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

On February 21, 2024, Paul Wymer, a purported stockholder of our Company, filed an action against us and members of our Board of Directors in the U.S. District Court for the Southern District of New York, titled Wymer v. Cartesian Therapeutics, Inc., et al., No. 24-cv-01288. The complaint alleged that the defendants violated Sections 14(a) and 20(a) of the Exchange Act by failing to disclose purportedly material information to our stockholders in our Preliminary and Definitive Proxy Statements filed on January 31, 2024, and February 14, 2024, respectively, in connection with the solicitation of stockholder approval of a proposal to convert our Series A Preferred Stock into our Common Stock, subject to certain beneficial ownership limitations (the "Series A Conversion Proposal"). The complaint sought injunctive relief enjoining or rescinding the Merger, issuance of an amended proxy statement, and attorneys' fees and costs. Additional similar lawsuits may be filed. This action was voluntarily dismissed on March 11, 2024.

On February 7, 2024, Justin Sloan, a purported stockholder of our Company, filed a putative class action on behalf of himself and similarly situated stockholders of the Company against our Company and members of our Board of Directors in the Court of Chancery of the State of Delaware, titled Sloan v. Barabe, et al., No. 2024-0105. The complaint alleged that the individual defendants breached their fiduciary duties by failing to disclose purportedly material information to our Company's stockholders in our Preliminary Proxy Statement filed on January 31, 2024 in connection with the solicitation of stockholder approval of the Series A Conversion Proposal. The complaint seeks a temporary injunction against the stockholder vote on the Series A Conversion Proposal, compensatory damages, pre-and post-judgment interest, and attorneys' fees and costs. At a telephonic hearing on February 28, 2024, the Court denied the Plaintiff's motion to expedite the proceedings, rejecting Plaintiff's argument that the lawsuit raised colorable disclosure claims warranting expedited treatment. Additional similar lawsuits may be filed. This action was subsequently dismissed on March 13, 2024.

On August 3, 2020, a stockholder of Selecta filed a stockholder derivative action, purportedly on behalf of Selecta and against certain current and former members of the Company's Board of Directors, as well as one affiliated company owned by a current board member, in the Court of Chancery of the State of Delaware, namely Franchi v. Barabe, et al. The complaint alleged that the individual defendants breached their fiduciary duties and committed corporate waste when they authorized a private placement transaction, announced on December 19, 2019, at a price allegedly below fair value. The complaint further alleges that the four defendant directors who participated in the private placement were unjustly enriched in connection with the transaction. On September 25, 2020, the defendants filed a motion to dismiss the lawsuit. On November 6, 2020, the plaintiff filed an amended complaint, and the defendants filed a second motion to dismiss on January 8, 2021. On December 31, 2020, we received a litigation demand letter from two other putative stockholders relating to the same private placement transaction. On April 12, 2021, the Court of Chancery in the State of Delaware granted a motion to stay the litigation pending a review by a Special Committee appointed by the Company's Board of Directors. While the litigation was stayed, the parties reached an agreement in principle to settle the matter, and on March 18, 2022, they submitted a Stipulation and Agreement of Settlement and other documentation to the Court for its approval of the settlement. On July 21, 2022, the Court held a settlement hearing, at which the settlement was approved. On August 1, 2022, the Court entered an Order and Final Judgment which dismissed the action, and all claims contained therein, with prejudice. We could receive other demands or be subject to other litigation. We intend to vigorously defend against any demands which we believe to be without merit.

There can be no assurance as to the outcome of any stockholder litigation. Unfavorable outcomes in class action litigation could require us to pay extensive damages, which could delay or prevent our ability to develop our product candidates and harm our operations.

We have incurred substantial expenses related to the integration of Old Cartesian.

We have incurred substantial expenses in connection with the Merger and the subsequent integration of Old Cartesian with Selecta. There are a large number of processes, policies, procedures, operations, technologies and systems that must be integrated, including purchasing, accounting and finance, sales, billing, payroll, research and development, marketing and benefits. Both we and Old Cartesian have incurred significant transaction expenses in connection with the drafting and negotiation of the Merger Agreement and significant severance expenses as a result of the Merger. While we and Old Cartesian have assumed that a certain level of expenses will be incurred, there are many factors beyond our control that could affect the total amount or the timing of the integration expenses. Moreover, many of the

expenses that have been and will be incurred are, by their nature, difficult to estimate accurately. These integration expenses have resulted in our taking significant charges against earnings following the completion of the Merger, and the amount and timing of such charges are uncertain at present.

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events.

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", or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus are only predictions. We have based these forward-looking statements 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 prospectus and are subject to a number of important factors that could cause actual results to differ materially from those in the forward-looking statements, including the factors described under the sections in this prospectus titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" as well as the following:

- stockholder approval of the conversion rights of the Series B Preferred Stock;
- our expectations regarding the conversion of the Series B Preferred Stock and our Series A Non-Voting Convertible Preferred Stock, par value $0.0001 per share ("Series A Preferred Stock"), into Common Stock;
- any future payouts under the contingent value right ("CVR"), issued to our holders of record as of the close of business on December 4, 2023;
- our future results of operations and financial position, business strategy, and the length of time that we believe our existing cash resources will fund our operations;
- our market size and our potential growth opportunities;
- our preclinical and future clinical development activities;
- the efficacy and safety profile of our product candidates;
- the potential therapeutic benefits and economic value of our product candidates;
- the timing and results of preclinical studies and clinical trials;
- the expected impact of macroeconomic conditions, including inflation, increasing interest rates and volatile market conditions, current or potential bank failures;
- global events, including the ongoing conflicts between Russia and Ukraine and between Hamas and Israel and geopolitical tensions in China on our operations;
- the receipt and timing of potential regulatory designations, approvals and commercialization of product candidates;
- our ability to prevent or minimize the effects of litigation and other contingencies;
- our status as a preclinical and development-stage company and our expectation to incur losses in the future, and the possibility that we never achieve or maintain profitability;
- uncertainties with respect to our ability to access future capital;
- our ability to maximize the value of our pipeline of product candidates;
- our unproven approach to therapeutic intervention;
- our ability to enroll patients in clinical trials, timely and successfully complete those trials and receive necessary regulatory approvals;
- our ability to continue to grow our manufacturing capabilities and resources;

- our ability to manufacture our product candidates, which in some cases are manufactured on a patient-by-patient basis;
- our ability to access manufacturing facilities and to receive or manufacture sufficient quantities of our product candidates;
- our ability to maintain our existing or future collaborations or licenses and to seek new collaborations, licenses or partnerships;
- the impact of resurgence of the COVID-19 pandemic on our operations, the continuity of our business, including our preclinical studies and clinical trials, and general economic conditions;
- our ability to protect and enforce our intellectual property rights;
- federal, state, and foreign regulatory requirements, including U.S. Food and Drug Administration ("FDA") regulation of our product candidates;
- our ability to obtain and retain key executives and retain qualified personnel; and
- developments relating to our competitors and our industry, including the impact of government regulation.

Moreover, we operate in an evolving environment. New risks and uncertainties may emerge from time to time, and it is not possible for management to predict all risk and uncertainties.

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

All subsequent written or oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities laws. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

USE OF PROCEEDS

We are not selling any securities under this prospectus and we will not receive any proceeds from the sale of the Resale Shares covered hereby. The net proceeds from the sale of the Resale Shares offered by this prospectus will be received by the Selling Stockholders.

Subject to limited exceptions, the Selling Stockholders will pay any underwriting discounts and commissions and expenses incurred by the Selling Stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Stockholders in disposing of any of the Resale Shares. We will bear the costs, fees and expenses incurred in effecting the registration of the Resale Shares covered by this prospectus, including all registration and filing fees, listing fees of the Nasdaq Stock Market LLC ("Nasdaq") and fees and expenses of our counsel and our independent registered public accounting firm.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the consolidated financial statements and the related notes thereto and other financial information included elsewhere in this prospectus. This discussion contains forward-looking statements based upon current beliefs, plans and expectations related to future events and our future financial performance that involve risks, uncertainties and assumptions. Our actual results could differ materially from those discussed in these forward-looking statements as a result of various factors. Factors that could cause or contribute to these differences include, but are not limited to, those discussed below and elsewhere in this prospectus, particularly in the section titled "Risk Factors." Please also see the section titled "Special Note Regarding Forward-Looking Statements." As used in this prospectus, unless the context suggests otherwise, "we", "us", "our", "the Company," or "Cartesian" refers to Cartesian Therapeutics, Inc. and its subsidiaries. A discussion of the year ended December 31, 2022 compared to the year ended December 31, 2021 has been reported previously in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 2, 2023, under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Overview

We are a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases. We leverage our proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. Unlike DNA, mRNA degrades naturally over time without integrating into the cell's genetic material. Therefore, our mRNA cell therapies are distinguished by their capacity to be dosed repeatedly like conventional drugs, administered in an outpatient setting, and given without pre-treatment chemotherapy required with many conventional cell therapies. In an open-label Phase 2 clinical trial in patients with MG, a chronic autoimmune disease that causes disabling muscle weakness and fatigue, we observed that our lead product candidate, Descartes-08, generated a deep and durable clinical benefit, which we define as improvement in MG symptoms lasting at least six months after treatment completion.

Our mRNA CAR-T modality is a personalized approach that collects a patient's T-cells and uses mRNA to introduce a CAR into the cell. The CAR redirects the T-cells to target and destroy pathogenic self-reactive cells. Our mRNA *in situ* modality is designed to deliver mRNA into a patient's lymph node to generate CAR-T cells and other proteins that target autoimmunity.

Merger

On November 13, 2023, the Company (formerly known as Selecta Biosciences, Inc.) merged with the private Delaware corporation which, immediately prior to the Merger, was known as Old Cartesian, in accordance with the terms of the Merger Agreement. Pursuant to the Merger Agreement, First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation and became a wholly owned subsidiary of Selecta. Immediately following the First Merger, Old Cartesian merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving entity. In connection with the Second Merger, Old Cartesian changed its name to Cartesian Bio, LLC. In connection with the Merger and pursuant to the Merger Agreement, the Company changed its corporate name to Cartesian Therapeutics, Inc. See Note 3 of the accompanying notes to the unaudited consolidated financial statements appearing elsewhere in the registration statement of which this prospectus forms a part for additional information regarding the Merger.

Financial Operations

To date, we have financed our operations primarily through public offerings and private placements of our securities, funding received from research grants, collaboration and license arrangements and a credit facility. We do not have any products approved for sale and have not generated any product sales.

Except for the quarter ended June 30, 2024 and the year ended December 31, 2022, we have incurred significant operating losses since our inception. We incurred a net loss of $43.0 million and $33.1 million for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 2024, we had an accumulated deficit of $657.6 million. We expect to continue to incur significant expenses and operating losses for the foreseeable future as we:

- advance Descartes-08 for MG into Phase 3 development;
- continue to develop our preclinical and clinical-stage product candidates;
- seek regulatory approvals for any product candidates that successfully complete clinical trials; and
- maintain, expand and protect our intellectual property portfolio, including through licensing arrangements.

Until we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, and license and collaboration agreements. We may be unable to raise capital when needed or on reasonable terms, if at all, which would force us to delay, limit, reduce or terminate our product development or future commercialization efforts. We will need to generate significant revenues to achieve profitability, and we may never do so.

Concurrently with the closing of the Merger, we entered into a securities purchase agreement (the "November 2023 Securities Purchase Agreement") pursuant to which we agreed to issue 149,330.115 shares of Series A Preferred Stock, in exchange for aggregate gross proceeds of $60.25 million (such transaction, the "November 2023 Private Placement"). We granted customary registration rights to investors in connection with the November 2023 Private Placement.

On July 2, 2024, we entered into a securities purchase agreement (the "Securities Purchase Agreement") for the Private Placement, which provides for the issuance of 3,563,247 shares of Common Stock and 2,937,903 shares of Series B Preferred Stock, each at a purchase price of $20.00 per share. The Private Placement resulted in gross proceeds of approximately $130.0 million before deducting placement agent fees and other offering expenses. We granted customary registration rights to investors in connection with the Private Placement. This registration statement is being filed in order to satisfy our obligations with respect to such registration rights.

We believe that our existing cash, cash equivalents, and restricted cash as of June 30, 2024, combined with net proceeds from the Private Placement received subsequent to June 30, 2024, will support development of Descartes-08 in MG, specifically supporting anticipated manufacturing costs associated with a Phase 3 clinical trial and early commercial activities in preparation for a potential launch. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect.

We intend to seek collaboration partners for the assets in the development programs that we are no longer actively advancing.

The consolidated financial information presented below includes the accounts of Cartesian Therapeutics, Inc. and our wholly owned subsidiaries, Selecta (RUS) LLC, a Russian limited liability company ("Selecta (RUS)"), and Selecta Biosciences Security Corporation, a Massachusetts securities corporation, and Cartesian Bio, LLC, a Delaware limited liability company, which is a variable interest entity for which we are the primary beneficiary. All intercompany accounts and transactions have been eliminated.

Collaboration and License Revenue

To date, we have not generated any revenue from product sales. Our revenue consists primarily of collaboration and license revenue, which includes amounts recognized related to upfront and milestone payments for research and development funding under collaboration and license agreements. We expect that any revenue we generate will fluctuate from quarter to quarter because of the timing and amounts of fees, research and development reimbursements and other payments from collaborators. We do not expect to generate revenue from product sales for at least the next several years. If we or our collaborators fail to complete the development of our product candidates in a timely manner or fail to obtain regulatory approval as needed, our ability to generate future

revenue will be harmed, and will affect the results of our operations and financial position. For further description of the agreements underlying our collaboration and license revenue, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Grant revenue

We have generated grant revenue from funding received to perform specific research and development services under a grant arrangement with the National Institute of Neurological Disorders and Stroke of the National Institutes of Health (the "NINDS"). For additional information regarding our grant arrangement with NINDS, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Research and Development

Our research and development expenses consist of internal and external research and development costs, which primarily include fees paid to contract research organizations, internal manufacturing and quality related expenses, process development costs, internal research and development expenses, as well as fees paid to contract manufacturing organizations. These costs are primarily associated with compensation expenses for our research and development employees, capital equipment and supplies for our process development and manufacturing process, and other related expenses. Our internal research and development employees as well as our direct and indirect costs are shared across multiple development programs and are not solely dedicated to individual programs.

We expense research and development costs as incurred. Conducting a significant amount of research and development is central to our business model. Product candidates in clinical development generally have higher development costs than those in earlier stages of development, primarily due to the size, duration and cost of clinical trials. The successful development of our clinical and preclinical product candidates is highly uncertain. Clinical development timelines, the probability of success and development costs can differ materially from our expectations. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those which we currently expect will be required for the completion of clinical development of a product candidate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time to complete any clinical development.

In June 2020, we and Swedish Orphan Biovitrum AB ("Sobi"), entered into a License and Development Agreement, which was amended in October 2023 (as so amended, the "Sobi License"). Pursuant to the Sobi License, clinical trial costs incurred to complete development of the product candidate SEL-212, including but not limited to costs incurred while conducting and completing the Phase 3 DISSOLVE trials for SEL-212, were reimbursed by Sobi. These costs, when reimbursed, were recognized as revenue consistent with the revenue recognition methodology disclosed in Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part. The reimbursable costs exclude any costs of additional development activities required that were related to the ImmTOR platform and were unrelated to SEL-212.

In January 2023, we and Audentes Therapeutics, Inc. ("Astellas"), entered into a License and Development Agreement (the "Astellas Agreement"). Pursuant to the Astellas Agreement, Astellas agreed to reimburse us for 25% of all budgeted costs incurred to complete the development of Xork, a bacterial IgG protease licensed from Genovis AB (publ.) ("Genovis"), for use in Pompe disease with an Astellas gene therapy investigational or authorized product. These costs, when reimbursed, will be recognized as revenue consistent with the revenue recognition methodology disclosed in Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part. The Astellas Agreement was terminated effective June 6, 2024.

General and Administrative

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation, related to our executive, finance, business development and support functions. Other general and administrative expenses include facility-related costs not otherwise allocated to research and development expenses, travel expenses for our general and administrative personnel and professional fees for auditing, tax and corporate legal services, including intellectual property-related legal services.

Investment Income

Investment income consists primarily of interest income earned on our cash, cash equivalents and marketable securities.

Interest Expense

Interest expense consists of interest expense on amounts borrowed under our credit facilities.

Other Income, Net

Other income, net consists primarily of sublease income.

Change in Fair Value of Warrant Liabilities

Common warrants classified as liabilities are remeasured quarterly at fair value, utilizing a Black-Scholes valuation methodology, with the change in fair value recognized as a component of earnings.

Change in Fair Value of Contingent Value Right Liability

The CVR liability is remeasured quarterly at fair value, utilizing a Monte Carlo simulation, with the change in fair value recognized as a component of earnings.

Change in Fair Value of Series A Preferred Stock Forward Contract Liabilities

The forward contract liability associated with the delayed issuance of the Series A Preferred Stock related to the November 2023 Private Placement is remeasured quarterly at fair value, utilizing the market price of our Common Stock, with the change in fair value recognized as a component of earnings.

Foreign Currency Transaction Gain (Loss)

The functional currency of Selecta (RUS) is the Russian ruble. In addition to holding cash denominated in Russian rubles, our Russian bank accounts also hold cash balances denominated in U.S. dollars to facilitate payments to be settled in U.S. dollars or other currencies. As of both June 30, 2024 and December 31, 2023, we maintained cash of $0.2 million in Russian bank accounts in denominations of both Russian rubles and U.S. dollars. The amounts denominated in U.S. dollars and used in transacting the day-to-day operations of our Russian subsidiary are subject to transaction gains and losses, which are reported as incurred.

Results of Operations

Comparison of the Three Months Ended June 30, 2024 and 2023

Collaboration and License Revenue

During the three months ended June 30, 2024, we recognized $33.3 million of collaboration and license revenue, compared to $5.2 million for the three months ended June 30, 2023, an increase of $28.1 million, or 540%. The increase was primarily due to an increase in revenue recognized under the Sobi License resulting from the $30.0 million unconstrained development milestone recognized during the three months ended June 30, 2024.

Grant revenue

During the three months ended June 30, 2024, we recognized $0.2 million of grant revenue. We received funding approval from NINDS during the three months ended June 30, 2024, and as such there was no grant revenue during the three months ended June 30, 2023.

Research and Development Expenses

For the three months ended June 30, 2024, our research and development expenses were $12.7 million, consisting of $2.9 million of manufacturing expenses, $4.9 million of clinical expenses and $4.9 million of research and other expenses, compared to $17.8 million for the three months ended June 30, 2023, consisting of $1.4 million of manufacturing expenses, $5.7 million of clinical expenses, and $10.7 million of research and

other expenses, a decrease of $5.1 million, or 29%. The decrease in cost primarily resulted from reductions in expenses due to a one-time cash charge to salaries and benefits as a result of our headcount reduction in April 2023 and decreased contract license and milestone payments.

General and Administrative Expenses

For the three months ended June 30, 2024, our general and administrative expenses were $7.0 million compared to $6.1 million for the three months ended June 30, 2023, an increase of $0.9 million, or 15%. The increase in cost was primarily the result of expenses incurred for personnel expenses.

Investment Income

Investment income for the three months ended June 30, 2024 was $1.2 million, compared to $1.4 million for the three months ended June 30, 2023. The decrease in investment income was due to decreased investment balance.

Foreign Currency Transaction Gain (Loss)

We recognized de minimis foreign currency fluctuations during each of the three months ended June 30, 2024 and 2023.

Interest Expense

We recognized no interest expense for the three months ended June 30, 2024, compared to $0.8 million for the three months ended June 30, 2023, representing interest expense and amortization of the carrying costs of our credit facilities that were extinguished during the year ended December 31, 2023.

Change in Fair Value of Warrant Liabilities

For the three months ended June 30, 2024, we recognized a $3.9 million charge from the increase in the fair value of warrant liabilities, compared to $6.3 million of income from the decrease in the fair value of warrant liabilities for the three months ended June 30, 2023, a decrease of $10.2 million, or 162%. Fair value of warrant liabilities was determined utilizing the Black-Scholes valuation methodology. The increase in warrant value was primarily driven by an increase in the per-share price of our Common Stock.

Change in Fair Value of Contingent Value Right Liability

For the three months ended June 30, 2024, we recognized $2.5 million of income from the decrease in the fair value of the CVR liability. The fair value of the CVR liability as of June 30, 2024 was determined utilizing a Monte Carlo simulation model. The decrease in the fair value of CVR liability was primarily due to changes in the amount and timing of anticipated payments and the passage of time. There was no CVR liability prior to the Merger and as such, no change in the fair value of the CVR liability is reflected in our unaudited consolidated financial statements for the three months ended June 30, 2023.

Change in Fair Value of Series A Preferred Stock Forward Contract Liabilities

The remaining Series A Preferred Stock forward contract liability was settled during the three months ended March 31, 2024, and there was no Series A Preferred Stock forward contract liability prior to the Merger. As such, no change in the fair value of the Series A Preferred Stock forward contract liability is reflected in our unaudited consolidated financial statements for each of the three months ended June 30, 2024 and 2023.

Other Income, Net

During the three months ended June 30, 2024, we recognized other income, net of $0.3 million, compared to $0.2 million for the three months ended June 30, 2023, an increase of $0.1 million, or 50%. The increase was primarily driven by sublease income.

Net Income (Loss)

Net income for the three months ended June 30, 2024 was $13.8 million as compared to net loss of $11.4 million for the three months ended June 30, 2023, an increase of $25.2 million or 221%. The change was primarily due to revenue recognized under the Sobi License and decreased research and development expenses, partially offset by expenses associated with the change in the fair value of the warrant liabilities.

Comparison of the Six Months Ended June 30, 2024 and 2023

Collaboration and License Revenue

During the six months ended June 30, 2024, we recognized $39.1 million of collaboration and license revenue, compared to $11.2 million for the six months ended June 30, 2023, an increase of $27.9 million, or 249%. The increase was primarily due to an increase in revenue recognized under the Sobi License resulting from the $30.0 million unconstrained development milestone recognized during the three months ended June 30, 2024 and an increase for revenue recognized under the Astellas Agreement upon notice of termination during the six months ended June 30, 2024.

Grant Revenue

During the six months ended June 30, 2024, we recognized $0.2 million of grant revenue. We received funding approval from NINDS during the six months ended June 30, 2024, and as such there was no grant revenue during the six months ended June 30, 2023.

Research and Development Expenses

For the six months ended June 30, 2024, our research and development expenses were $22.4 million, consisting of $5.4 million of manufacturing expenses, $6.8 million of clinical expenses and $10.2 million of research and other expenses, compared to $36.4 million for the six months ended June 30, 2023, consisting of $2.9 million of manufacturing expenses, $11.4 million of clinical expenses, and $22.1 million of research and other expenses, a decrease of $14.0 million, or 38%. The decrease in cost primarily resulted from reductions in expenses due to a one-time cash charge to salaries and benefits as a result of our headcount reduction in April 2023 and decreased contract license and milestone payments.

General and Administrative Expenses

For the six months ended June 30, 2024, our general and administrative expenses were $16.5 million compared to $11.8 million for the six months ended June 30, 2023, an increase of $4.7 million, or 40%. The increase in cost was primarily the result of expenses incurred for personnel expenses and professional fees incurred in connection with the Merger.

Investment Income

Investment income for the six months ended June 30, 2024 was $2.4 million, compared to $2.7 million for the six months ended June 30, 2023. The decrease in investment income was due to decreased investment balance.

Foreign Currency Transaction Gain (Loss)

We recognized de minimis foreign currency fluctuations during each of the six months ended June 30, 2024 and 2023, respectively.

Interest Expense

We recognized no interest expense for the six months ended June 30, 2024, compared to $1.6 million for the six months ended June 30, 2023, representing interest expense and amortization of the carrying costs of our credit facilities that were extinguished during the year ended December 31, 2023.

Change in Fair Value of Warrant Liabilities

For the six months ended June 30, 2024, we recognized $2.9 million charge from the increase in the fair value of warrant liabilities, compared to $2.3 million of income from the decrease in the fair value of warrant liabilities for the six months ended June 30, 2023, a decrease of $5.2 million, or 226%. Fair value of warrant liabilities was determined utilizing the Black-Scholes valuation methodology. The increase in warrant value was primarily driven by an increase in the per-share price of our Common Stock.

Change in Fair Value of Contingent Value Right Liability

For the six months ended June 30, 2024, we recognized $36.8 million of expense associated with the increase in the fair value of the CVR liability. The fair value of the CVR liability as of June 30, 2024 was determined utilizing a Monte Carlo simulation model. The increase in the fair value of CVR liability was primarily due to changes in the amount and timing of anticipated payments and the passage of time. There was no CVR liability prior to the Merger and as such, no change in the fair value of the CVR liability is reflected in our unaudited consolidated financial statements for the six months ended June 30, 2023.

Change in Fair Value of Series A Preferred Stock Forward Contract Liabilities

For the six months ended June 30, 2024, we recognized $6.9 million of expense associated with the increase in the fair value of Series A Preferred Stock forward contract liabilities. The increase in Series A Preferred Stock value was primarily driven by an increase in the per-share price of our Common Stock since December 31, 2023 through settlement. The remaining Series A Preferred Stock forward contract liability was settled during the six months ended June 30, 2024. There was no Series A Preferred Stock forward contract liability prior to the Merger and as such, no change in the fair value of the Series A Preferred Stock forward contract liability is reflected in our unaudited consolidated financial statements for the six months ended June 30, 2023.

Other Income, Net

During the six months ended June 30, 2024, we recognized other income, net of $0.8 million, compared to $0.5 million for the six months ended June 30, 2023, an increase of $0.3 million, or 60%. The increase was primarily driven by sublease income.

Net Income (Loss)

Net loss for the six months ended June 30, 2024 was $43.0 million as compared to net loss of $33.1 million for the six months ended June 30, 2023, a decrease of $9.9 million or 30%. The change was primarily due to expenses associated with the change in the fair value of the CVR liability, Series A Preferred Stock forward contract liability, and warrant liabilities and increased general and administrative expenses, partially offset by revenue recognized under the Sobi License and decreased research and development expenses.

Comparison of the Years Ended December 31, 2023 and 2022

Collaboration and License Revenue

During the year ended December 31, 2023, we recognized $26.0 million of collaboration and license revenue, compared to $110.8 million for the year ended December 31, 2022, a decrease of $84.8 million, or 77%. The decrease was primarily due to a decrease of revenue recognized under the Sobi License resulting from both the shipment of clinical supply and the reimbursement of costs incurred for the Phase 3 DISSOLVE clinical program partially offset by an increase for revenue recognized under the Astellas Agreement.

Research and Development Expenses

For the year ended December 31, 2023, our research and development expenses were $71.8 million, consisting of $6.2 million of manufacturing expenses, $24.2 million of clinical expenses, and $41.4 million of research and other expenses, compared to $72.4 million for the year ended December 31, 2022, consisting of $6.8 million of manufacturing expenses, $31.4 million of clinical expenses, and $34.2 million of research and other expenses, a decrease of $0.6 million, or 1%. The decrease in cost was primarily the result of reductions in expenses incurred for preclinical and clinical programs due to the strategic reprioritization (that is, the shift in the Company's focus following the Merger to devote substantially all of its resources and efforts to developing mRNA-based therapies for the treatment of autoimmune diseases) partially offset by expenses incurred for stock compensation and personnel expenses.

General and Administrative Expenses

During the year ended December 31, 2023, our general and administrative expenses were $40.6 million, compared to $23.9 million for the year ended December 31, 2022, an increase of $16.7 million, or 70%. The increase in costs was primarily the result of expenses incurred for stock compensation, personnel expenses, and professional fees incurred in connection with the Merger.

Investment Income

Investment income for the year ended December 31, 2023 was $5.0 million, compared to $2.1 million for the year ended December 31, 2022, an increase of $2.9 million, or 138%. The increase in investment income was due to increased investment balances and higher interest rates.

Foreign Currency Transaction Gain (Loss)

We recognized de minimis foreign currency translation adjustments during each of the years ended December 31, 2023 and 2022.

Interest Expense

Interest expense for the year ended December 31, 2023 was $2.8 million compared to $3.0 million for the year ended December 31, 2022, a decrease of $0.2 million, or 7%. Interest expense for the year ended December 31, 2023 comprised interest expense and amortization of the carrying costs of our credit facilities and loss on extinguishment of debt.

Change in Fair Value of Warrant Liabilities

For the year ended December 31, 2023, we recognized $12.7 million of income from the decrease in the fair value of warrant liabilities, compared to $20.9 million for the year ended December 31, 2022, a decrease of $8.2 million or 39.2%. Fair value of warrant liabilities was determined utilizing the Black-Scholes valuation methodology. The decrease in warrant value was primarily driven by a decrease in the per-share price of our Common Stock.

Change in Fair Value of Contingent Value Right Liability

For the year ended December 31, 2023 we recognized $18.3 million of expense associated with the increase in the fair value of CVR liability. The fair value of the CVR liability was determined utilizing a discounted cash flow valuation methodology. The increase in CVR value was primarily driven by the decrease in interest rates from the Merger to December 31, 2023 and the corresponding impact on the discount rate used in our discounted cash flow valuation. There was no CVR liability prior to the Merger and as such no CVR liability is reflected in our consolidated financial statements as of or for any period prior to the year ended December 31, 2023.

Change in Fair Value of Series A Preferred Stock Forward Contract Liabilities

For the year ended December 31, 2023 we recognized $149.6 million of expense associated with the increase in the fair value of Series A Preferred Stock forward contract liabilities. The increase in Series A Preferred Stock value was primarily driven by an increase in the per-share price of our Common Stock since the date of the Merger and November 2023 Private Placement. A portion of the Series A Preferred Stock forward contract liability was settled during the year ended December 31, 2023 and there was no such forward contract liability prior to the Merger. There was no Series A Preferred Stock forward contract liability prior to the Merger and as such no Series A Preferred Stock forward contract liability is reflected in our consolidated financial statements as of or for any period prior to the year ended December 31, 2023.

Other Income, Net

During the year ended December 31, 2023, we recognized other income, net of $0.7 million, compared to $0.3 million for the year ended December 31, 2022, an increase of $0.4 million, or 133%. The increase was primarily driven by sublease income.

Income Taxes

During the year ended December 31, 2023, we recognized a current tax benefit of $19.0 million relating to the benefit of legacy Selecta tax attributes that reduced deferred tax liabilities during the year. For the year ended December 31, 2022, we recognized a $0.6 million benefit for penalty abatements received.

Net (Loss) Income

Net loss for the year ended December 31, 2023 was $219.7 million as compared to net income of $35.4 million for the year ended December 31, 2022, a decrease of $255.1 million, or 721%. The change was primarily due to decreased collaboration and license revenue and expenses associated with the change in fair value of the CVR liability and Series A Preferred Stock forward contract liability, and increased general and administrative expenses, partially offset by an increase in income tax benefit.

Liquidity and Capital Resources

Except for net income of $13.8 million for the quarter ended June 30, 2024 and $35.4 million for the year ended December 31, 2022, we have incurred recurring net losses since our inception. We expect that we will continue to incur losses and that such losses will increase for the foreseeable future. We expect that our research and development and general and administrative expenses will continue to increase and, as a result, we will need additional capital to fund our operations, which we may raise through a combination of equity offerings, debt financings, third-party funding, potential royalty and/or milestone monetization transactions and other collaborations and strategic alliances.

As of June 30, 2024, our cash, cash equivalents, and restricted cash were $88.9 million, of which $1.7 million was restricted cash related to lease commitments and $0.2 million was held by our Russian subsidiary designated solely for use in its operations. On a pro forma basis, giving effect to the receipt of $124.4 million of net proceeds from our Private Placement received subsequent to June 30, 2024, our cash, cash equivalents, and restricted cash were $213.3 million as of June 30, 2024.

In addition to our existing cash equivalents, we from time to time have received and may receive in the future research and development funding pursuant to our collaboration and license agreements. Currently, funding from payments under our collaboration agreements represent our only source of committed external funds.

The liability associated with the contingent value rights agreement ("CVR Agreement"), entered into on December 6, 2023, will be settled solely through cash flow received under the Sobi License and any other Gross Proceeds (as such term is defined in the CVR Agreement) net of certain agreed deductions. Under the CVR Agreement, 100% of all milestone payments, royalties, and other amounts paid to us or our controlled entities under the Sobi License, and any other Gross Proceeds, in each case net of certain agreed deductions, will be distributed to holders of the CVRs. There is no contractual obligation for us to fund any amount related to the CVR liability.

Collaboration and License Agreements

In-licenses

In September 2023, we entered into a non-exclusive, sublicensable, worldwide, perpetual patent license agreement (the "Biogen Agreement"), with Biogen MA, Inc. ("Biogen"), to research, develop, make, use, offer, sell and import products or processes containing or using an engineering T-cell modified with an mRNA comprising, or encoding a protein comprising, certain sequences licensed under the Biogen Agreement for the prevention, treatment, palliation and management of autoimmune diseases and disorders, excluding cancers, neoplastic disorders, and paraneoplastic disorders. We are not obligated to pay Biogen any expenses, fees, or royalties. For further description of the Biogen Agreement, see Note 15 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Effective September 2019, we entered into a nonexclusive, worldwide license agreement (the "NCI Agreement"), with the U.S. Department of Health and Human Services, represented by the National Cancer Institute of the National Institutes of Health ("NCI"). Under the NCI Agreement, we were granted a license under certain NCI patents and patent applications designated in the agreement, to make, use, sell, offer and import products and processes within the scope of the patents and applications licensed under the NCI Agreement when developing and manufacturing anti-BCMA CAR-T cell products for the treatment of MG, pemphigus vulgaris, and immune thrombocytopenic purpura according to methods designated in the NCI Agreement. In connection with our entry into the NCI Agreement, we paid to NCI a one-time $0.1 million license royalty payment. Under the NCI Agreement, we are further required to pay NCI a low five-digit annual royalty. We must also pay earned royalties on net sales in a low single-digit percentage and pay up to $0.8 million in benchmark royalties upon our achievement of designated benchmarks that are based on the commercial development plan agreed between the parties. For further description of the NCI Agreement, see Note 15 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

In October 2021, we and Ginkgo Bioworks Holdings, Inc. ("Ginkgo"), entered into a Collaboration and License Agreement (the "First Ginkgo Agreement"), and paid Ginkgo a $0.5 million one-time upfront payment. In June 2022, we paid $0.5 million and issued 29,761 shares of our Common Stock then-valued at $1.0 million to Ginkgo for the achievement of certain preclinical milestones under the First Ginkgo Agreement. In January 2022, we entered into a Collaboration and License Agreement (the "Second Ginkgo Agreement"), and paid Ginkgo a

$1.5 million one-time upfront payment. In July 2023, we paid $1.0 million and issued 44,642 shares of our Common Stock then-valued at $1.5 million to Ginkgo for the achievement of certain preclinical milestones under the Second Ginkgo Agreement. For further description of the First Ginkgo Agreement and the Second Ginkgo Agreement, see Note 15 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Additionally, in October 2021, we entered into an Exclusive License Agreement with Genovis (the "Genovis Agreement"), and paid Genovis a $4.0 million one-time upfront payment. In February 2023, as a result of the sublicense of Xork to Astellas, we made a $4.0 million payment to Genovis. In March 2024, we informed Genovis of our intent to terminate the Genovis Agreement, effective September 13, 2024. For further description of the Genovis Agreement, see Note 15 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

On September 7, 2021, we entered into a Collaboration and License Agreement (the "Cyrus Agreement"), with Cyrus Biotechnology, Inc. ("Cyrus"), and purchased 2,326,934 shares of Cyrus' Series B Preferred Stock, par value $0.0001 per share, at a purchase price of $0.8595 per share, for an aggregate purchase price of $2.0 million. In October 2023, we notified Cyrus of our termination of the Cyrus Agreement, effective December 29, 2023. For further description of the Cyrus Agreement, see Note 15 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Out-licenses

In January 2023, we entered into the Astellas Agreement with Astellas. Under this agreement, Astellas obtained the sole and exclusive right to commercialize Xork for use in Pompe disease in combination with an Astellas gene therapy investigational or authorized product, with a current focus on AT845. In connection with entry into this agreement, we received a $10 million upfront payment and are eligible to receive $340.0 million for certain additional development and commercial milestones plus royalties on any potential commercial sales where Xork is used as a pre-treatment for AT845. As a result of the sublicense of Xork to Astellas, we made a $4.0 million payment to Genovis in February 2023. The Astellas Agreement was terminated effective June 6, 2024. For further description of the Astellas Agreement, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part. Amounts paid and remaining obligations with regard to the Xork product candidate not reimbursed by Astellas through the Astellas Agreement are subject to potential reimbursement through deductions to CVR distributions as described in Note 5 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

On October 1, 2021, we entered into a License Agreement (the "Takeda Agreement"), with Takeda Pharmaceuticals USA, Inc. ("Takeda"). We received a $3.0 million upfront payment and were entitled to receive up to $1.124 billion in future additional payments over the course of the partnership that were contingent on the achievement of development or commercial milestones or Takeda's election to continue its activities at specified development stages. The Takeda Agreement was terminated effective July 25, 2023. For further description of the Takeda Agreement, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

In June 2020, we entered into the Sobi License. Sobi paid us a one-time, upfront payment of $75 million, and upon the closing of a private placement of our Common Stock to Sobi at a price of $138.468 per share, we received an additional $25 million from Sobi. We are eligible to receive $630 million in milestone payments upon the achievement of various development and regulatory milestones and sales thresholds for annual net sales of SEL-212, and tiered royalty payments ranging from the low double digits on the lowest sales tier to the high teens on the highest sales tier. Sobi has agreed to fund the Phase 3 clinical program of SEL-212, which commenced in September 2020. In July 2022, we received $10.0 million for the completion of the enrollment of the DISSOLVE II trial. In June 2024, we recorded a $30.0 million receivable for the milestone associated with the initiation of a rolling biologics license application to the FDA for SEL-212 for the potential treatment of chronic refractory gout by Sobi. Proceeds from milestone payments and royalties on sales of SEL-212, if any, are required to be distributed, net of certain agreed deductions, to holders of the CVRs. For further description of the Sobi License, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Additionally, in June 2020, we and Sarepta Therapeutics, Inc. ("Sarepta"), entered into a Research License and Option Agreement (the "Sarepta Agreement"). Sarepta paid us a $2.0 million upfront payment upon closing and $3.0 million for the achievement of certain pre-clinical milestones in June 2021. In August 2022, we received a payment of $2.0 million in exchange for a nine-month extension to Sarepta's options to both Duchenne muscular dystrophy and certain limb-girdle muscular dystrophies and a payment of $4.0 million for the achievement of certain non-clinical milestones. In March 2023, we were notified by Sarepta that Sarepta would not be exercising its exclusive option under the Sarepta Agreement. The Sarepta Agreement terminated upon the expiration of the option in March 2023. For further description of the Sarepta Agreement, see Note 13 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Financings

On October 25, 2021, we entered into a Sales Agreement (the "2021 Sales Agreement"), with Leerink Partners LLC ("Leerink Partners," then known as SVB Leerink LLC), to sell shares of our Common Stock, from time to time, through an "at the market" equity offering program under which Leerink Partners will act as sales agent. The shares of Common Stock sold pursuant to the 2021 Sales Agreement, if any, would be issued and sold pursuant to a registration statement filed with the Securities and Exchange Commission (the "SEC") for remaining aggregate gross sales proceeds of up to $51.0 million.

During the six months ended June 30, 2024 and the year ended December 31, 2023, we sold no shares of our Common Stock pursuant to the 2021 Sales Agreement. During the year ended December 31, 2022, we sold 25,818 shares of our Common Stock pursuant to the 2021 Sales Agreement for aggregate net proceeds of $2.1 million, after deducting commissions and other transaction costs.

On November 13, 2023, we entered into the November 2023 Securities Purchase Agreement with (i) Dr. Timothy A. Springer, a member of our Board of Directors; (ii) TAS Partners LLC, an affiliate of Dr. Springer, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat Kalayoglu, a co-founder and the former chief executive officer of Old Cartesian, who joined our Board of Directors effective immediately after the effective time of the Merger, providing for the November 2023 Private Placement. In the November 2023 Private Placement, we issued and sold an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million, of which 50,189.789 shares of Series A Preferred Stock were issued and sold in the year ended December 31, 2023 for gross proceeds of $20.25 million, and 99,140.326 shares of Series A Preferred Stock were issued and sold during the six months ended June 30, 2024 for gross proceeds of $40.0 million.

On July 2, 2024, we entered into the Securities Purchase Agreement pursuant to which we issued and sold an aggregate of 3,563,247 shares of Common Stock and 2,937,903 shares of Series B Preferred Stock for which we generated gross proceeds of approximately $130.0 million.

Indebtedness

We previously maintained a term loan of up to $35.0 million, of which $25.0 million was funded in August 2020. In September 2023, we entered into a payoff letter with Oxford Finance LLC and Silicon Valley Bank, a division of First-Citizens Bank & Trust Company (successor by purchase to the Federal Deposit Insurance Corporation as Receiver for SVBB (as successor to Silicon Valley Bank)), the lenders under the term loan, pursuant to which we paid all outstanding amounts under such term loan, together with accrued interest and a prepayment penalty, resulting in the full extinguishment of such term loan. The total payoff amount was $22.3 million, consisting of the remaining principal amount due of $19.8 million, the final payment fee of $2.3 million, the prepayment penalty of $0.2 million, and less than $0.1 million of accrued interest.

If in the future we seek debt financing, the terms of such debt could restrict our operating and financial flexibility by imposing liens on our assets and covenants on the operation of our business.

Future Funding Requirements

As of the date of this prospectus, we have not generated any revenue from product sales. We do not know when, or if, we will generate revenue from product sales. We will not generate significant revenue from product sales unless and until we obtain regulatory approval and commercialize one of our current or future product

candidates. Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, third-party clinical research and development services, laboratory and related supplies, clinical costs, legal and other regulatory expenses, milestone and royalty payments for in-licenses, and general overhead costs. We expect that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates, and begin to commercialize any approved products. We are subject to risks in the development of our products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. We expect that we will need substantial additional funding to support our continuing operations.

As of June 30, 2024, we had an accumulated deficit of $657.6 million. We anticipate operating losses to continue for the foreseeable future due to, among other things, costs related to research, development of our product candidates, conducting preclinical studies and clinical trials, and our administrative organization. We will require substantial additional financing to fund our operations and to continue to execute our strategy, and we will pursue a range of options to secure additional capital.

We regularly evaluate various potential sources of additional funding such as strategic collaborations, license agreements, debt issuance, potential royalty and/or milestone monetization transactions and the issuance of equity instruments to fund our operations. If we raise additional funds through strategic collaborations and alliances, which may include existing collaboration partners, we may have to relinquish valuable rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us. To the extent that we raise additional capital through the sale of equity instruments, the ownership interest of our existing stockholders will be diluted, and other preferences may be necessary that adversely affect the rights of existing stockholders.

We believe that our existing cash, cash equivalents, and restricted cash as of June 30, 2024, combined with net proceeds from the Private Placement received subsequent to June 30, 2024, will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months. We may pursue additional cash resources through public or private equity or debt financings, by establishing collaborations with other companies or through the monetization of potential royalty and/or milestone payments pursuant to our existing collaboration and license arrangements. Management's expectations with respect to our ability to fund current and long-term planned operations are based on estimates that are subject to risks and uncertainties. If actual results are different from management's estimates, we may need to seek additional strategic or financing opportunities sooner than would otherwise be expected. However, there is no guarantee that any of these strategic or financing opportunities will be executed on favorable terms, and some could be dilutive to existing stockholders. If we are unable to obtain additional funding on a timely basis, we may be forced to significantly curtail, delay, or discontinue one or more of our planned research or development programs or be unable to expand our operations, meet long-term obligations or otherwise capitalize on our commercialization of our product candidates.

Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of our clinical trials, preclinical development, manufacturing, laboratory testing and logistics;
- the number of product candidates that we pursue and the speed with which we pursue development;
- our headcount growth and associated costs;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;

- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates.

Cash Requirements Due to Contractual Obligations and Other Commitments

We are under agreement to lease approximately 32,294 square feet of laboratory and office space in Watertown, Massachusetts through May 2028. Remaining lease payments from June 30, 2024 through the end of the lease term total approximately $11.0 million. Payments made and remaining obligations on this lease liability are subject to potential reimbursement through deductions to CVR distributions as described in Note 5 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

In November 2023, in connection with the Merger, we acquired two leases for office and laboratory space in Gaithersburg, Maryland, which expire in January 2027. Annualized rent is approximately $0.3 million and remaining lease payments total $0.8 million through the end of the lease term.

In February 2024, we entered into an agreement to lease approximately 19,199 square feet of integrated manufacturing and office space in Fredericksburg, Maryland. In May 2024, we entered into an amendment to lease an additional approximately 7,842 square feet. The leases expire coterminous in June 2031. Annualized base rent under the leases is approximately $1.2 million and is subject to annual increases in accordance with the terms of the lease agreement. The leases provide for a tenant improvement allowance of $0.8 million.

We are also party to certain license and collaboration agreements with Biogen, NCI, and Shenyang Sunshine Pharmaceutical Co., Ltd. ("3SBio"). We may be obligated to make certain future payments which are contingent upon future events such as our achievement of specified regulatory and commercial milestones, or royalties on net product sales under these agreements. As of June 30, 2024, we were unable to estimate the timing or likelihood of achieving these milestones or generating future product sales. Payments made and remaining obligations on the license agreement with 3SBio are subject to potential reimbursement through deductions to CVR distributions as described in Note 5 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Summary of Cash Flows

Six Months Ended June 30, 2024 and 2023

The following table summarizes our cash flows for the six months ended June 30, 2024 and 2023:

	Six Months Ended June 30,	
(In thousands)	**2024**	**2023**
Cash (used in) and provided by:		
Operating activities	$(30,363)	$(18,660)
Investing activities	(2,189)	28,112
Financing activities	43,151	(2,437)
Effect of exchange rate changes on cash	9	(49)
Net change in cash, cash equivalents, and restricted cash	$ 10,608	$ 6,966

Operating Activities

Net cash used in operating activities for the six months ended June 30, 2024 was $30.4 million compared to $18.7 million for the six months ended June 30, 2023. The increase in cash used in operating activities of $11.7 million was primarily due to $8.1 million of net income, adjusted for non-cash items, and approximately $38.5 million cash used in changes in operating assets and liabilities for the six months ended June 30, 2024 compared to $27.6 million of net loss, adjusted for non-cash items, and approximately $8.9 million cash provided by changes in operating assets and liabilities for the six months ended June 30, 2023.

Investing Activities

Net cash used in investing activities for the six months ended June 30, 2024 was $2.2 million compared to net cash provided by investing activities of $28.1 million for the six months ended June 30, 2023, a decrease of

$30.3 million. The net cash used in investing activities for the six months ended June 30, 2024 consisted primarily of purchases of property and equipment. The net cash provided by investing activities for the six months ended June 30, 2023 was primarily proceeds from the maturities of marketable securities offset by purchases of property and equipment.

Financing Activities

Net cash provided by financing activities for the six months ended June 30, 2024 was $43.2 million compared to net cash used in financing activities of $2.4 million for the six months ended June 30, 2023, an increase of $45.6 million. The net cash provided by financing activities in the six months ended June 30, 2024 was primarily the result of proceeds of the November 2023 Private Placement. The net cash provided by financing activities in the six months ended June 30, 2023 was primarily the result of repayments of principal on outstanding debt offset by proceeds from issuance of Common Stock under the 2016 ESPP.

Years Ended December 31, 2023 and 2022

The following table summarizes our cash flows for the years ended December 31, 2023 and 2022:

	Year Ended December 31,		
(In thousands)	**2023**	**2022**	**2021**
Cash (used in) and provided by:			
Operating activities	$(51,161)	$(31,631)	$(60,382)
Investing activities	34,609	(15,002)	(17,140)
Financing activities	(13,145)	39,215	52,897
Effect of exchange rate changes on cash	(53)	20	(3)
Net change in cash, cash equivalents, and restricted cash	$(29,750)	$ (7,398)	$(24,628)

Operating Activities

Net cash used in operating activities for the year ended December 31, 2023 was $51.2 million compared to $31.6 million in the same period in 2022. The increase in net cash used in operating activities of $19.6 million was primarily due to $56.2 million of net loss, adjusted for non-cash items, and $5.0 million of cash provided by changes in operating assets and liabilities, in each case during the year ended December 31, 2023.

Investing Activities

Net cash provided by investing activities for the year ended December 31, 2023 was $34.6 million compared to net cash used in investing activities of $15.0 million in the same period in 2022, an increase of $49.6 million. The net cash provided by investing activities for the year ended December 31, 2023 was primarily proceeds from the maturities of marketable securities and cash assumed in the Merger offset by purchases of property and equipment. The net cash used in investing activities for the year ended December 31, 2022 was to purchase marketable securities and property and equipment, offset by proceeds from the maturities of marketable securities.

Financing Activities

Net cash used in financing activities for the year ended December 31, 2023 was $13.1 million compared to net cash provided by financing activities of $39.2 million in the same period in 2022, a decrease of $52.3 million. The net cash used in financing activities for the year ended December 31, 2023 was primarily the result of repayments of principal on outstanding debt and settlement of equity awards in the Merger partially offset by proceeds from the November 2023 Private Placement. The net cash provided by financing activities for the year ended December 31, 2022 was primarily the result of net proceeds from issuance of Common Stock and warrants to purchase Common Stock and the issuance of Common Stock in the “at-the-market” offering contemplated by the 2021 Sales Agreement.

Recent Accounting Pronouncements

For a discussion of recently adopted or issued accounting pronouncements please see Note 2 to our unaudited consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

Off-Balance Sheet Arrangements

As of June 30, 2024, we did not have any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of our 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 of America ("U.S. GAAP"). The preparation of these consolidated financial statements requires us to make estimates and judgements that affect the reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities in our consolidated financial statements. Actual results may differ from these estimates under different assumptions or conditions and could have a material impact on our reported results. While our significant accounting policies are more fully described in the notes to our consolidated financial statements and unaudited consolidated financial statements, both appearing elsewhere in the registration statement of which this prospectus forms a part, we believe the following accounting policies to be the most critical in understanding the judgments and estimates we use in preparing our consolidated financial statements:

Revenue Recognition

Revenue is recognized when a customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. Pursuant to ASC Topic 606, *Revenue from Contracts with Customers (ASC 606)*, a customer is a party that has contracted with an entity to obtain goods or services that are an output of the entity's ordinary activities in exchange for consideration. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, we perform the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract, including whether they are distinct in the context of the contract; (iii) determine the transaction price, including the constraint on variable consideration; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) we satisfy each performance obligation. We only apply the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, we assess the goods or services promised within each contract and determine those that are performance obligations, and assess whether each promised good or service is distinct. If a promised good or service is not distinct, it is combined with other promised goods or services into a performance obligation. We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied. For example, certain performance obligations associated with the Astellas Agreement, (see Note 14 to our consolidated financial statements and Note 13 unaudited consolidated financial statements elsewhere in the registration statement of which this prospectus forms a part) will be satisfied over time, and revenue will be recognized utilizing the input method.

Collaboration and License Revenue: We currently generate revenue through collaboration and license agreements with strategic collaborators for the development and commercialization of product candidates. Collaboration and license agreements with customers are generally accounted for in accordance with ASC 606. We analyze collaboration arrangements by first assessing whether they are within the scope of ASC Topic 808, *Collaborative Arrangements (ASC 808*), and evaluate 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 that are dependent on the commercial success of such activities. Collaboration agreements with customers that are not within the scope of ASC 808 are accounted for in accordance with ASC 606. To the extent the collaboration agreement is within the scope of ASC 808, we also assess whether any aspects of the agreement are within the scope of other accounting literature (specifically ASC 606). If we conclude that some or all aspects of the agreement are distinct and represent a transaction with a customer, we account for those aspects of the arrangement within the scope of ASC 606. We recognize the shared costs incurred that are not within the scope of other accounting literature as a component of the related expense in the period incurred by analogy to ASC Topic 730, *Research and Development (ASC 730)*, and record reimbursements from counterparties as an offset to the related research and development costs. In determining the appropriate amount of revenue to be recognized as we fulfill our obligations under the agreements in accordance with ASC 606, we perform the five steps above.

As part of the accounting for the arrangement, we must develop assumptions that require judgment to determine the stand-alone selling price for each performance obligation identified in the contract. We use key assumptions to determine the stand-alone selling price, which may include market conditions, reimbursement rates for personnel costs, development timelines and probabilities of regulatory success. The assumptions used to determine the stand-alone selling price and our satisfaction of performance obligations have a material effect on our collaboration and license revenue and may prove to be wrong.

The terms of our arrangements typically include one or more of the following: (i) upfront fees; (ii) milestone payments related to the achievement of development, regulatory, or commercial goals; (iii) royalties on net sales of licensed products; (iv) reimbursements or cost-sharing of research and development expenses; and (v) profit/loss sharing arising from co-promotion arrangements.

Licenses of Intellectual Property: If the license to our intellectual property is determined to be distinct from the other promised goods and services identified in the arrangement, we recognize revenues from non-refundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. If not distinct, the license is combined with other promised goods and services in the contract. For licenses that are combined with other promised goods and services, we assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition. Optional licenses are evaluated to determine if they are issued at a discount, and therefore, represent material rights and should be accounted for as separate performance obligations.

Milestone Payments: At the inception of each arrangement that includes developmental and regulatory milestone payments, we evaluate whether the achievement of each milestone specifically relates to our efforts to satisfy a performance obligation or transfer a distinct good or service within a performance obligation. If the achievement of a milestone is considered a direct result of our efforts to satisfy a performance obligation or transfer a distinct good or service and the receipt of the payment is based upon the achievement of the milestone, the associated milestone value is allocated to that distinct good or service. If the milestone payment is not specifically related to our efforts to satisfy a performance obligation or transfer a distinct good or service, the amount is allocated to all performance obligations using the relative standalone selling price method. We also evaluate the milestone to determine whether they 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 to be allocated, otherwise, such amounts are constrained and excluded from the transaction price. At the end of each subsequent reporting period, we re-evaluate the probability of achievement of such development milestones and any related constraint, and if necessary, adjust our estimate of the transaction price. Any such adjustments to the transaction price are allocated to the performance obligations on the same basis as at contract inception. Amounts allocated to a satisfied performance obligation shall be recognized as revenue, or as a reduction of revenue, in the period in which the transaction price changes.

Manufacturing Supply Services: Arrangements that include a promise for future supply of drug substance or drug product for either clinical development or commercial supply at the customer's discretion are evaluated to determine if they are distinct and optional. For optional services that are distinct, we assess if they are priced at a discount, and therefore, provide a material right to the licensee to be accounted for as separate performance obligations.

Royalties: For arrangements 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 will recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied) in accordance with the royalty recognition constraint.

Clinical Trial Costs

Clinical trial expenses are a significant component of research and development expenses, and we outsource a significant portion of these costs to third parties. Third party clinical trial expenses include patient costs, clinical research organization costs and costs for data management. The accrual for site and patient costs includes inputs

such as estimates of patient enrollment, patient cycles incurred, clinical site activations, and other pass-through costs. 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 on the consolidated balance sheets as a prepaid asset or accrued clinical trial cost. These third party agreements are generally cancellable, and related costs are recorded as research and development expenses as incurred. Non-refundable advance clinical payments for goods or services that will be used or rendered for future research and development activities are recorded as a prepaid asset and recognized as expense as the related goods are delivered or the related services are performed. We also record accruals for estimated ongoing clinical research and development costs. When evaluating the adequacy of the accrued liabilities, we analyze progress of the studies, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates may be made in determining the accrued balances at the end of any reporting period. Actual results could differ from the estimates made by us materially affecting our results of operations. The historical clinical accrual estimates made by us have not been materially different from the actual costs.

Warrant Liabilities

In December 2019, we issued common warrants in connection with a securities purchase agreement between us and a group of institutional investors and certain members of our Board of Directors (the "2019 Warrants"). Pursuant to the terms of the 2019 Warrants, we could be required to settle the 2019 Warrants in cash in the event of certain acquisitions of us and, as a result, the 2019 Warrants are required to be measured at fair value and reported as a liability on the balance sheet.

In April 2022, we issued warrants in connection with an underwritten offering of shares of common stock and warrants to purchase shares of common stock (the "2022 Warrants"). Pursuant to the terms of the 2022 Warrants, we could be required to settle the 2022 Warrants in cash in the event we are acquired under certain circumstances and, as a result, the 2022 Warrants are required to be measured at fair value and reported as a liability on the balance sheet.

We recorded the fair value of the 2019 Warrants and 2022 Warrants upon issuance using the Black-Scholes valuation model, and are required to revalue the common warrants at each reporting date with any changes in fair value recorded on our statement of operations. In December 2022, we amended the terms of the outstanding 2019 Warrants held by certain members of our Board of Directors to remove the cash settlement provision (as so amended, the "Amended 2019 Warrants"). As a result, the Amended 2019 Warrants were remeasured at fair value on December 20, 2022 and reclassified from a liability to equity on the balance sheet.

Inputs used to determine estimated fair value of the common warrant liabilities include the estimated fair value of the underlying stock at the valuation date, the estimated term of the warrants, risk-free interest rates, expected dividends and the expected volatility of the underlying stock. The estimates used to determine the fair value of these common warrants represent our best estimates, but may prove to be wrong. Therefore, the change in fair value of warrant liabilities could be materially different in the future.

Contingent Value Right Liability

The CVRs distributed pursuant to the terms of the CVR Agreement represent financial instruments that are accounted for under the fair value option election in ASC 825, *Financial Instruments*, or ASC 825. Under the fair value option election, the CVRs are initially measured at the aggregate estimated fair value of the CVRs and will be subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. The estimated fair value of the CVR liability was determined using a discounted cash flow methodology as of December 31, 2023 and a Monte Carlo simulation model as of June 30, 2024 to estimate future cash flows associated with the legacy assets, including the expected milestone and royalty payments under the Sobi License, net of deductions. Changes in fair value of the CVR liability are presented in the consolidated statements of operations and comprehensive income (loss). The liability value is based on significant inputs not observable in the market such as estimated cash flows, estimated probabilities of success, expected volatility of future revenues (Monte Carlo simulation model) and risk-adjustment discount rates (discounted cash flow methodology), which represent a Level 3 measurement within the fair value hierarchy.

Stock-Based Compensation

We account for all stock-based compensation granted to employees and non-employees using a fair value method. Stock-based compensation is measured at the grant date fair value and is recognized over the requisite

service period of the awards, usually the vesting period, on a straight-line basis, net of estimated forfeitures. To the extent that actual forfeitures differ from our estimates, the differences are recorded as a cumulative adjustment in the period the estimates were adjusted. Stock-based compensation expense recognized in the consolidated financial statements is based on awards that ultimately vest.

The assumptions used in determining the fair value of stock-based awards represent our best estimates, but the estimates involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use significantly different assumptions or estimates, our stock-based compensation expense could be materially different in the future.

Smaller Reporting Company

We qualify as a "smaller reporting company" under the rules of the Securities Act and the Exchange Act. As a result, we may choose to take advantage of certain scaled disclosure requirements available specifically to smaller reporting companies. We will remain a smaller reporting company until the last day of the fiscal year in which the aggregate market value of our Common Stock held by non-affiliated persons and entities, or our public float, is more than $700 million as of the last business day of our most recently completed second fiscal quarter, or until the fiscal year following the year in which we have at least $100 million in revenue and at least $250 million in public float as of the last business day of our most recently completed second fiscal quarter.

CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

BUSINESS

Our Corporate History and Background

The Company (formerly known as Selecta Biosciences, Inc.) was incorporated in Delaware on December 10, 2007, and is headquartered in Gaithersburg, Maryland. On November 13, 2023, the Company and the Delaware corporation which then known as Cartesian Therapeutics, Inc., entered into the Merger Agreement. Pursuant to the Merger Agreement, and simultaneously with execution thereof, (i) First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation, and became a wholly owned subsidiary of the Company, and (ii) immediately following the First Merger, Old Cartesian (as the First Step Surviving Corporation) merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving company, and continued under the name "Cartesian Bio, LLC." In connection with the Merger and pursuant to the Merger Agreement, the Company (which was known as Selecta Biosciences, Inc. until immediately prior to the Merger) changed its corporate name to Cartesian Therapeutics, Inc.

Overview

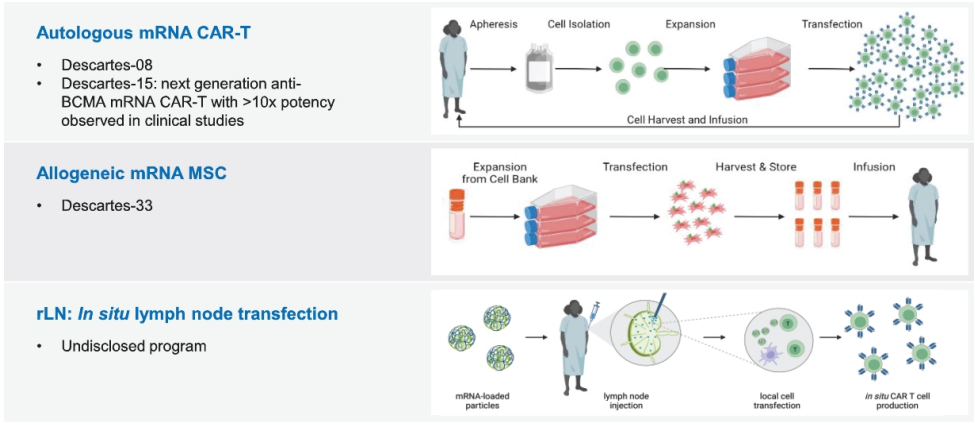
We are a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases. We leverage our proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. Unlike DNA, mRNA degrades naturally over time without integrating into the cell's genetic material. Therefore, our mRNA cell therapies are distinguished by their capacity to be dosed repeatedly like conventional drugs, administered in an outpatient setting, and given without pre-treatment chemotherapy required with many conventional cell therapies. In an open-label Phase 2 clinical trial in patients with MG, a chronic autoimmune disease that causes disabling muscle weakness and fatigue, we observed that our lead product candidate, Descartes-08, generated a deep and durable clinical benefit, with all seven participants maintaining improvements in MG severity scales considered clinically meaningful by expert consensus at nine months, and five of the seven participants maintaining improvements in MG severity scales considered clinically meaningful by expert consensus at 12 months. Durability of response in MG is commonly measured over a period of 26 to 52 weeks, and maintenance of response over that period is considered durable.

Autoimmune diseases, where the immune system mistakenly attacks the body, are a family of more than 80 disorders. Autoimmune diseases are typically treated with immunosuppressant medications, such as steroids. These treatments must be administered continually and carry risks, including infection, osteoporosis, and metabolic disease. Newer agents that block the complement pathway or inhibit the neonatal Fc receptor ("FcRn"), must also typically be administered continually. We believe there is a significant unmet need for outpatient treatments, completed over a short period of time, that provide deep, durable clinical benefit.

Cell therapies have the potential to provide this benefit, but conventional cell therapies that use DNA are associated with toxicities, including cytokine release syndrome, neurotoxicity, transformation to cancer, and death. Further, conventional cell therapies typically require pre-treatment with chemotherapy, which suppresses the immune system and increases the risk of infection, anemia, and neurotoxicity. As a result, conventional DNA cell therapies typically require close monitoring in an inpatient setting, increasing the total cost of care and generally limiting their reach to only the sickest patients.

We believe our mRNA cell therapies have the potential to deliver deep, durable clinical benefit to a broad group of patients with autoimmune diseases because they can be administered over a short period of time, in an outpatient setting, and without pre-treatment chemotherapy.

We are leveraging our proprietary technology and manufacturing platform, RNA Armory®, to develop mRNA cell therapies for autoimmune diseases across three modalities. Our mRNA CAR-T modality is a personalized approach that collects a patient's T-cells and uses mRNA to introduce a chimeric antigen receptor ("CAR"), into the cell. The CAR redirects the T-cells to target and destroy pathogenic self-reactive cells. Our mRNA MSC modality is an allogeneic approach that introduces one or more mRNAs into donor-sourced mesenchymal stem cells ("MSCs"), enabling them to produce proteins that target key pathways involved in autoimmunity. These cells are banked and are designed to be administered off-the-shelf to any patient. Our mRNA *in situ* modality is designed to deliver mRNA into a patient's lymph node to generate CAR-T cells and other proteins that target autoimmunity. The figure below illustrates each modality.



The table below summarizes key information about our development pipeline.

Asset	Indications	Discovery/Preclinical	Phase 1	Phase 2	Pivotal
Descartes-08 Autologous mRNA CAR-T	Myasthenia Gravis (MG)				
	Systemic Lupus Erythematosus (SLE)				
	Pediatric Autoimmune Diseases*				
Descartes-15 Autologous mRNA CAR-T	Autoimmune Diseases**				

* IND for pediatric basket trial expected by year-end 2024, includes juvenile SLE, juvenile MG and other conditions
** Dosing in Phase 1 dose escalation trial in myeloma underway

Our lead product candidate, Descartes-08, is an autologous mRNA CAR-T directed against the B cell maturation antigen ("BCMA"), that we are developing for the treatment of autoimmune diseases. Descartes-08 has been granted Orphan Drug Designation and RMAT Designation by the FDA for the treatment of MG.

In July 2024, we reported topline results from a Phase 2b randomized, double-blind, placebo-controlled trial in patients with MG. The trial achieved its primary endpoint with statistical significance in the pre-specified modified intent-to-treat ("mITT") efficacy population, with 71% (10/14) of patients treated with Descartes-08 observed to have 5-point or greater improvements in MG Composite ("MGC") score at Month 3 compared to 25% (3/12) of patients treated with placebo (p=0.018). In addition, the trial also achieved its primary endpoint with statistical significance in the per-protocol population, with 69% (11/16) of patients treated with Descartes-08 observed to have 5-point or greater improvements in MGC score at Month 3 compared to 33% (5/15) of patients treated with placebo (p=0.048).

Consistent with previously reported results from the Phase 2a open-label portion of the trial, Descartes-08 responders experienced deep improvements across the MG severity scales at Month 3 (average MG-ADL (Activities of Daily Living) = -5.6; MGC= -8.3; QMG (Quantitative MG) = -5.0; QoL-15r (Quality of Life Revised Scale) = -7.9). A 2-point improvement in MG-ADL and 3-point improvement in MGC and QMG scales are considered to be "clinically meaningful" by expert consensus published in peer-reviewed journals. The improvements seen at Month 3 persisted or further improved in patients evaluated at their Month 4 (n=5) and Month 6 (n=3) follow-up visits, as of the June 19, 2024 data cutoff date. Consistent with findings from the Phase 2a open-label portion of the trial, Descartes-08 was observed to be well tolerated, and adverse events were transient and mostly mild, supporting outpatient administration without the need for lymphodepleting

chemotherapy. There were three serious adverse events reported: a Grade 2 infusion-related reaction, a Grade 3 infusion-related reaction and a Grade 3 herpes simplex reactivation. Notably, there were no cases of cytokine release syndrome, and no cases of immune effector cell-associated neurotoxicity syndrome.

Previously, Descartes-08 was observed to be well-tolerated in a Phase 1b/2a trial of 14 patients with MG who received outpatient treatment without pre-treatment chemotherapy. All seven participants who received six once-weekly infusions at the highest dose continued to experience marked and long-lasting clinical improvement across validated MG disease scoring systems at month nine follow-up. At month 12, five of these seven participants maintained improvement considered clinically meaningful by expert consensus. One participant, who lost response after one year, experienced rapid improvement in clinical scores after re-treatment, which was ongoing at month six of follow-up. Clinical responses correlated with large reductions in autoantibody titers.

We are also developing Descartes-08 for the treatment of other autoimmune diseases. We have received FDA allowance for our investigational new drug application ("IND") for a Phase 2 trial of Descartes-08 for the treatment of patients with systemic lupus erythematosus ("SLE"), a chronic autoimmune disease that causes systemic inflammation affecting multiple organ systems, and announced dosing of the first patient in the trial in July 2024.

Descartes-15 is our next-generation autologous anti-BCMA mRNA CAR-T. In preclinical studies, we have observed Descartes-15 to be 10-fold more potent than Descartes-08. We intend to test the safety of Descartes-15 in an open label, single-arm Phase 1 trial in patients with relapsed/refractory multiple myeloma. This program has already received IND allowance from the FDA and in September 2024, we announced that the first patient had been dosed in this Phase 1 trial. We expect that these Phase 1 trial data will inform our clinical development plan for Descartes-15 in autoimmune diseases.

Descartes-33 is an allogeneic mRNA MSC in preclinical development for treatment of autoimmune diseases. We are developing Descartes-33 to deliver a combination of therapeutic proteins that target key drivers in the pathogenesis of autoimmunity.

Limitations of Current DNA-Based Cell Therapy Treatments in Autoimmune Disease

Conventional DNA cell therapies have been associated with cytokine release syndrome, neurological toxicities and Parkinsonism, infection, risk of secondary malignancy, and death. The acute toxicities are from exponential amplification of the modified cell, and the pre-treatment chemotherapy administered to enable cell amplification.

Conventional DNA-engineered CAR-T cells are in clinical development for several autoimmune diseases. DNA CAR-T cells are typically administered to patients in a subtherapeutic dose, which means that the cells must proliferate to reach therapeutic numbers in the body. However, this proliferation is not controlled in magnitude or duration, varies from patient to patient, and can be unpredictable. This proliferation occurs because the CAR gene is irreversibly integrated into the T-cell's genome, causing a cascade in which every daughter cell carries the same CAR as the parent cells. The resulting unconstrained proliferation frequently exceeds the toxicity threshold, leading to serious adverse events. In November 2023, the FDA announced that it is investigating the risk of T-cell malignancies in approved DNA CAR-T cell immunotherapies.

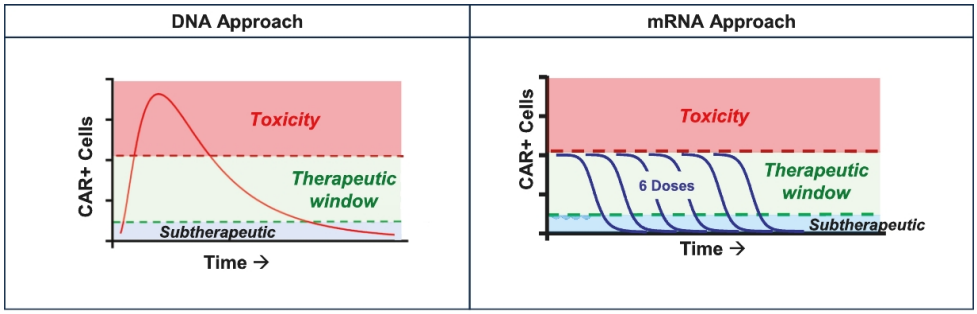
The proliferation of DNA CAR-T cells has typically required pre-treatment chemotherapy, usually fludarabine and cyclophosphamide administered for several days before CAR-T cell treatment. This chemotherapy is toxic, suppressing the immune system and increasing the risk of infection, anemia, and neurotoxicity.

Given these risks and requirements, conventional DNA cell therapies are administered under close monitoring in an inpatient setting, increasing their cost and limiting their reach to only the sickest patients.

Our Autoimmune Disease Solution

We believe that mRNA cell therapy has the potential to be a potent yet safer alternative to DNA cell therapy for treating autoimmune diseases. We believe the mRNA cell therapies we are developing have the potential to deliver deep, durable clinical benefit to many patients with autoimmune diseases because they can be administered over a short period of time, in an outpatient setting, and without pre-treatment chemotherapy. These attributes may extend the reach and potential of mRNA cell therapy to a broader group of patients with autoimmunity.

mRNA CAR-T cells locate their target, become activated, and proliferate like DNA CAR-T cells. However, because mRNA does not replicate and degrades naturally over time, the maximum number of mRNA molecules can be determined by the dose. The actual number of mRNA molecules declines to zero over time. The number of mRNA molecules determines the degree of CAR protein expression, and the persistence of the mRNA molecules determines the duration of mRNA CAR-T cell activity. Thus, unlike DNA CAR-T cells, our mRNA CAR-T cells provide pharmacokinetic control. In other words, a patient's exposure to our cells is determined by the dose. The time, course and duration of that exposure are substantially determined by the nature of the mRNA we use. Therefore, while DNA CAR-T therapies are administered at subtherapeutic levels, we can administer a therapeutic number of mRNA CAR-T cells and re-dose these cells over time, much like a conventional drug. Because the mRNA cannot be replicated, we believe, and have thus far observed, that mRNA CAR-T cells do not cause the types of severe toxicity associated with DNA CAR-T cells. Also, because mRNA CAR-T is dosed at a therapeutic dose and does not rely on cell proliferation to reach the therapeutic window, there is no need to administer pre-treatment chemotherapy. The graphs below contrast our mRNA cell therapy approach with that of conventional DNA cell therapy.



As of the 2023 safety cutoff date, we have administered Descartes-08 to over 60 patients suffering from one of MG, multiple myeloma, and other diseases in open-label trials on an outpatient basis, many at community clinics. We have not observed product-related cytokine release syndrome, neurotoxicity or infection of any grade. The most common product-related adverse events observed-headache, nausea and fever-were self-limited and resolved within 72 hours of onset. One participant with MG with a history of allergic reaction to biologics developed hives after the third infusion and was hospitalized for monitoring. The patient's hives resolved completely after a brief course of steroids.

Our Product Candidates

Descartes-08

Our lead product candidate is Descartes-08, an mRNA CAR-T that targets BCMA, which exists on the surface of long-lived plasma cells ("LLPCs"), and plasmacytoid dendritic cells ("pDCs"). LLPCs, which can survive for decades, are the main producers of disease-causing autoantibodies. pDCs, which secrete type-I interferons, may also play a critical role in autoimmunity. While the lead indication for Descartes-08 is MG, we believe that Descartes-08 has potential to treat other autoimmune diseases, such as lupus. Several properties of Descartes-08 observed in the Phase 1/2 trials may make it more amenable for use in this disease category compared to conventional, commercially available CAR-Ts, including no requirement for lymphodepleting chemotherapy, lack of integrating viral vectors, administration in an outpatient setting and feasibility of retreatment.

Descartes-08 for the Treatment of MG

Overview

Descartes-08 has been granted Orphan Drug Designation by the FDA for the treatment of MG. We chose MG as our lead indication because the pathogenesis for MG is common to many autoimmune diseases.

Background Information About MG

MG is a rare autoimmune disease that causes debilitating muscle weakness and fatigue. It is estimated to affect over 120,000 patients in the U.S. and Europe. MG patients develop antibodies that lead to an immunological

attack on critical signaling proteins at the junction between nerve and muscle cells, thereby inhibiting the ability of nerves to communicate properly with muscles. This results in muscle weakness in tissues throughout the body, potentially manifesting in partial paralysis of eye movements, problems in chewing and swallowing, respiratory problems, speech difficulties and weakness in skeletal muscles. The symptoms of the disease can be transient and in the early stages of the disease can remit spontaneously. However, as the disease progresses, symptom-free periods become less frequent and disease exacerbations can last for months. Disease symptoms reach their maximum levels within two to three years in approximately 80% of patients. Up to 20% of MG patients experience a respiratory crisis at least once in their lives. During the crisis phase, decline in respiratory function can become life-threatening. Patients in crisis often require intubation and mechanical ventilation.

There are no known cures for MG and the current standard of care consists of chronic use of steroids and other immunosuppressants. These treatments must be administered continually and carry risks such as infection, osteoporosis, and metabolic diseases. Newer agents, such as those that block the complement pathway or inhibit FcRn, are typically administered continually.

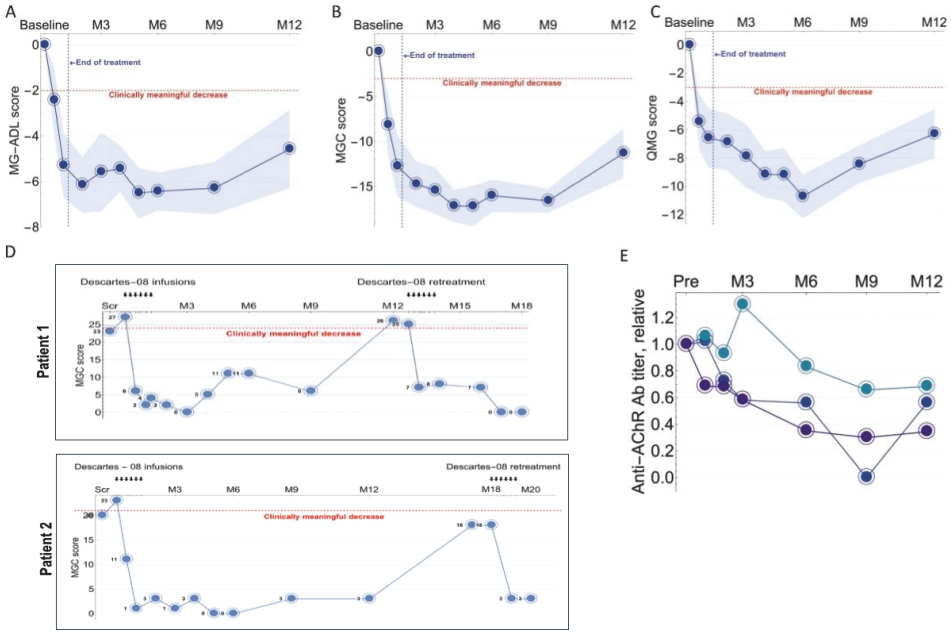
Clinical Development

To date, we have completed the Phase 1b portion of the Phase 1/2 trial of Descartes-08 in MG, as well as the primary readout of the Phase 2a portion of the trial and topline results from the Phase 2b portion of this trial.

The primary objective of the Phase 1b portion of the trial was to determine the maximum tolerated dose of Descartes-08 for patients with MG. To assess the safety and manufacturability of Descartes-08, the product candidate was administered in three ascending doses (3.5 x106 cells/kg; 17.5 x106 cells; 52.5 x106 cells/kg) to three patients with MG. After each infusion, patients were observed for at least one week, and a higher dose level was administered if there were no significant adverse effects observed at the initial dose. We observed Descartes-08 to be well-tolerated by the three patients who participated in this portion of the trial with no cytokine release syndrome or other serious product-related adverse events.

The primary objective of the Phase 2a portion of the trial was to determine the optimal dosing schedule for patients with MG using the highest dose level tested in Phase 1b (52.5 x106 cells/kg). This portion of the trial was designed to assess the safety and preliminary efficacy of Descartes-08 when administered across three different treatment schedules (six doses given twice-weekly, once-weekly, or once-monthly). This portion of the trial evaluated 11 patients with particularly advanced disease as assessed by both patient and clinician-reported outcomes. 79% of the 14 patients included in the Phase 1b and Phase 2a portions of the trial were classified at screening to have Class III or IV disease, as defined by the Myasthenia Gravis Foundation of America, indicating they have moderate-to-severe weakness affecting their muscles.

The results of the Phase 2a portion of the trial, published in the *Lancet Neurology* in July 2023, indicated that after six weekly infusions of Descartes-08, the average improvement in all disease severity scores was three-to-five-fold greater than what is considered clinically meaningful by expert consensus. As shown in the figure below, clinical improvements persisted in all patients at month nine, and in five of the seven remaining patients at a final, 12-month follow-up. Of the two participants who lost response, one was retreated and experienced rapid improvement in clinical scores which was durable after 24 months of total follow-up. A third participant lost their response after approximately 18 months and experienced another deep response after treatment that was ongoing at the most recent, 23-month follow-up. Descartes-08 was observed to be well-tolerated with no reports of dose-limiting toxicities, cytokine release syndrome or neurotoxicity.



A-C: Mean change from Baseline (line) and standard error (bands) in Myasthenia Gravis Activities of Daily Living Score (MG-ADL, A), Quantitative Myasthenia Gravis Score (QMG, B), Myasthenia Gravis Composite Score (MGC, C) during 12 months of follow-up for MG-001 participants who received six once-weekly doses (n=7). MG-ADL is self-reported; MGC and QMG are neurologist-assessed. D: Change from Baseline in MGC Score after initial dosing and retreatment in participants experiencing relapses at Month 12 and Month 18, respectively.
E: Relative change in serum anti-acetylcholine receptor antibody levels in the three participants with detectable antibodies at baseline. Each line represents one patient.

All three participants with detectable anti-acetylcholine receptor antibody levels before treatment had an average 42% reduction in antibody levels by month six. These reductions deepened to 68% by month nine and persisted at month 12. In summary, we observed continued clinical improvement and autoantibody reductions after BCMA-directed mRNA CAR-T treatment for MG that persisted through the one-year follow-up period.

We are also conducting a Phase 2b randomized, double-blind, placebo-controlled portion of the Phase 1/2 trial, for which we reported topline results in July 2024. The trial is designed to assess the primary endpoint of the proportion of patients achieving a five-point or greater reduction in their MGC score at day 85. Patients will receive six weekly infusions at the dose established in Phase 1b (52.5 x106 cells/kg). The trial also involves a crossover component, in which any patient originally assigned to placebo will be given the opportunity to receive Descartes-08 after completing trial treatment.

Secondary endpoints are designed to assess a variety of additional clinical outcomes, including determining safety and tolerability, quantifying the clinical effect of Descartes-08 over one year, assessing changes through day 85 in QMG, MG QoL 15R, MG Composite and MG post-intervention status and comparing the effect of Descartes-08 versus placebo on MG scales through day 85 in patients who cross over from placebo to Descartes-08.

In this portion of the trial, a total of 36 heavily pre-treated, highly symptomatic patients with MG were randomized and the pre-specified primary efficacy dataset (n=26) consisted of a modified intent-to-treat (“mITT”) population of all subjects enrolled at academic medical centers who received at least one dose of Descartes-08 (n=14) or placebo (n=12) and completed at least one post-baseline MG Composite (“MGC”) score follow-up assessment. The safety dataset comprised all subjects who received at least one dose of Descartes-08 (n=19) or placebo (n=17).

The trial achieved its primary endpoint with statistical significance in the pre-specified mITT efficacy population, with 71% (10/14) of patients treated with Descartes-08 observed to have 5-point or greater improvements in

MGC score at Month 3 compared to 25% (3/12) of patients treated with placebo (p=0.018). In addition, the trial also achieved its primary endpoint with statistical significance in the per-protocol population, with 69% (11/16) of patients treated with Descartes-08 observed to have 5-point or greater improvements in MGC score at Month 3 compared to 33% (5/15) of patients treated with placebo (p=0.048).

Consistent with previously reported results from the Phase 2a open-label portion of the trial, Descartes-08 responders experienced deep improvements across the MG severity scales at Month 3 (average MG-ADL (Activities of Daily Living) = -5.6; MGC= -8.3; QMG (Quantitative MG) = -5.0; QoL-15r (Quality of Life Revised Scale) = -7.9). The improvements seen at Month 3 persisted or further improved in patients evaluated at their Month 4 (n=5) and Month 6 (n=3) follow-up visits, as of the June 19, 2024 data cutoff date. Consistent with findings from the Phase 2a open-label portion of the trial, Descartes-08 was observed to be well tolerated, and adverse events were transient and mostly mild, supporting outpatient administration without the need for lymphodepleting chemotherapy. There were three serious adverse events reported: a Grade 2 infusion-related reaction, a Grade 3 infusion-related reaction and a Grade 3 herpes simplex reactivation. Notably, there were no cases of cytokine release syndrome, and no cases of immune effector cell-associated neurotoxicity syndrome.

	Descartes-08 (n=19)			Placebo (n=17)		
	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
Headache	6 (32%)	4 (21%)		2 (12%)	3 (18%)	
Chills	7 (37%)	4 (21%)		1 (6%)		
Nausea	2 (11%)	5 (26%)		2 (12%)	2 (12%)	
Fever	6 (32%)	3 (17%)	1 (6%)			
Fatigue	5 (26%)	1 (5%)		1 (6%)		
Myalgia	3 (16%)	3 (16%)		1 (6%)		
Infusion related reaction	1 (5%)	2 (11%)*	1 (6%)*	1 (6%)		
Muscle weakness	1 (5%)	1 (5%)		1 (6%)		
Arthralgia		1 (5%)		1 (6%)	1 (6%)	
Tachycardia	3 (16%)					
Herpes simplex reactivation	2 (11%)		1 (6%)*			
Dysgeusia	3 (16%)					
Diarrhea	1 (5%)				1 (6%)	
Sweating	1 (5%)			1 (6%)		
Limb edema	1 (5%)	1 (5%)				
Flushing	2 (11%)					
Dyspnea	1 (5%)	1 (5%)				
Insomnia	2 (11%)					
Vomiting	2 (11%)					
Tremor	2 (11%)					

Safety dataset comprises all subjects who received at least one dose of Descartes-08 (n=19) or placebo (n=17)
All Grade 1–2 adverse events deemed possibly, probably or definitely related to the study drug with a cumulative incidence ≥10% and all Grade 3 adverse events deemed possibly, probably or definitely related to the study drug are reported. There were no Grade 4 adverse events.
AE, Adverse event
* Reported as a serious adverse event (SAE)

Descartes-08 for the Treatment of Systemic Lupus Erythematosus

Overview

We are also developing Descartes-08 for the treatment of SLE, a chronic autoimmune disease that causes systemic inflammation which affects multiple organ systems.

Background Information About Systemic Lupus Erythematosus

SLE is a chronic, immune-mediated connective tissue disease that can impact nearly all major organ systems. The most common manifestations of SLE are cutaneous and musculoskeletal symptoms, although neurological, gastrointestinal, hematological, and renal symptoms are regularly observed as well. Patients with SLE are at a substantially increased risk of infection and cardiovascular disease, contributing to estimated 10- and 15-year mortality rates of 9% and 15%, respectively. SLE is the most common form of lupus, representing approximately 70% of lupus patients, and approximately three million adults worldwide are estimated to have SLE.

Next Steps

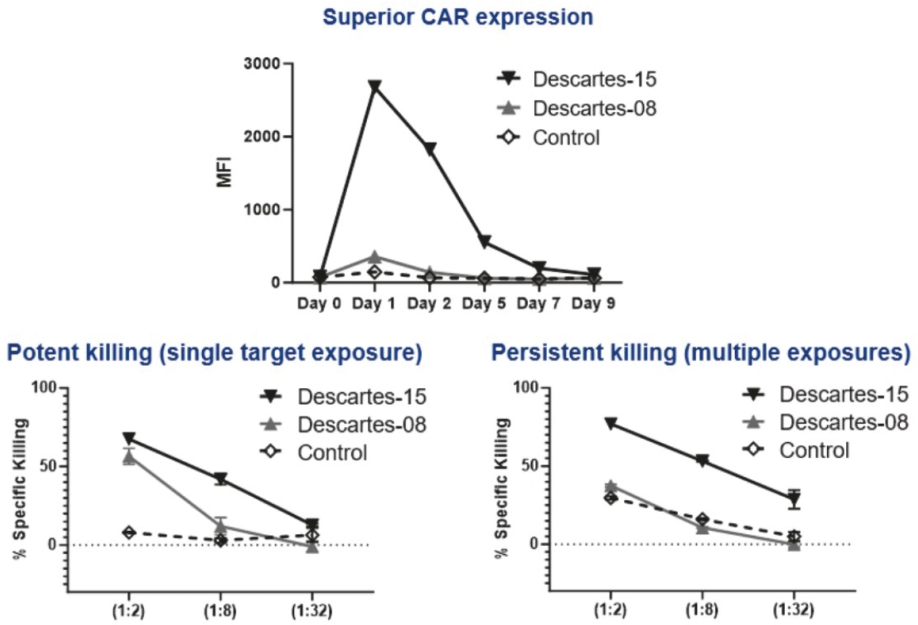
We recently initiated a multi-center open-label single-arm Phase 2 trial, for which we have received FDA IND allowance. The primary objective of this trial is to evaluate the safety, tolerability, and manufacturing feasibility of Descartes-08 mRNA CAR-T cells administered as six once-weekly outpatient infusions of 52.5x106 cells/kg without pre-treatment chemotherapy in approximately 30 patients with SLE. We also plan to amend our existing IND application in SLE to include pediatric autoimmune disease by year-end 2024.

We plan to initiate a Phase 1/2 basket trial in juvenile MG, juvenile SLE, juvenile non-systemic idiopathic arthritis ("JIA") and juvenile dermatomyositis ("JDM"). All four are chronic autoimmune conditions with limited treatment options. Juvenile MG and SLE are similar to the adult variants, with a more severe phenotype and greater chance of long-term disability. Non-systemic JIA is characterized by persistent joint inflammation resulting in pain, swelling, and potential long-term damage if untreated. JDM is a rare autoimmune disease in children that causes inflammation of the muscles and skin, leading to muscle weakness, skin rashes, and potential difficulty in performing daily activities if not properly managed.

We expect to hold our next meeting with the FDA before year-end 2024 to discuss plans for initiating a phase 3 clinical trial.

Descartes-15

Descartes-15 is a next-generation, autologous anti-BCMA mRNA CAR-T. Using our proprietary technology and manufacturing platform, we designed Descartes-15 to be more resistant than Descartes-08 to recycling of the CAR upon multiple antigen exposures. We believe this is a particularly important feature to increase the durability of CAR expression on the surface of these cells. We observed that Descartes-15 was 10-fold more potent than Descartes-08 in preclinical studies, as illustrated in the below charts. In November 2023, we received IND allowance from the FDA to initiate the Phase 1 trial to test the safety of Descartes-15 in patients with multiple myeloma. In September 2024, we announced that the first patient had been dosed in this Phase 1 trial.



The top panel in the above graphic shows the expression of the CAR protein on Descartes-15 cells as measured by flow cytometry over a period of nine days, which is higher compared to Descartes-08 and the CAR-negative control at every time point tested. The bottom left panel shows the percentage of BCMA-positive cells killed by Descartes-15, Descartes-08 and a CAR-negative control at different ratios of CAR and target cells (1:2, 1:8 and 1:32). The bottom right panel shows the percentage of BCMA-positive targets killed by Descartes-15, Descartes-08 and a CAR-negative control cells upon second encounter with BCMA-positive targets ("repeat exposure"), and illustrates that unlike Descartes-08, Descartes-15 cells maintained their capacity to kill BCMA-positive targets.

Next Steps

We intend to leverage our preclinical and clinical observations from the Descartes-08 development program and the Descartes-15 Phase 1 program to inform our clinical strategy for Descartes-15 for the treatment of autoimmune diseases.

Allogeneic Product Candidate

Descartes-33 is our allogeneic mRNA MSC in preclinical development for treatment of autoimmune diseases. We are developing Descartes-33 to deliver a combination of therapeutic proteins that target key drivers in the pathogenesis of autoimmunity.

Manufacturing

We have established wholly owned internal manufacturing and research and development capabilities, which allow us to optimize processes rapidly and in an iterative manner. Our main manufacturing facility is located in Gaithersburg, Maryland and operates under current good manufacturing practice ("cGMP"). This facility enhances our control of product quality and production schedules and costs, allowing us to move assets from discovery to preclinical to clinical development quickly. We also entered into an agreement to lease additional manufacturing space located in Frederick, Maryland to transition and expand our clinical and commercial manufacturing capabilities for our maturing pipeline of innovative mRNA cell therapies for the treatment of autoimmune disease.

Our cGMP cell manufacturing facilities, with their dedicated quality management system, are also capable of mRNA production used in Descartes-08. We manufacture Descartes-08 in-house and are typically able to process and release lots for infusion within approximately three weeks. Our autologous cell therapy product candidates, including Descartes-08, are manufactured on a patient-by-patient basis. We have optimized our manufacturing processes through over 200 cGMP runs. We also maintain FDA-reviewed human umbilical cord MSC cell collection and banking operations.

Intellectual Property

Our success depends in part on our ability to obtain, maintain, protect, defend and enforce proprietary protection for our drug candidates and other discoveries, inventions, trade secrets and know-how that are critical to our business operations. Our success also depends in part on our ability to operate without infringing, misappropriating or otherwise violating the proprietary rights of others, and in part on our ability to prevent others from infringing, misappropriating or violating our proprietary rights. A discussion of risks relating to intellectual property is provided under the section titled "Risk Factors—Risks Related to Our Intellectual Property."

We intend to continue developing intellectual property, and we intend to aggressively protect our position in key technologies. Our patents are focused on several key technologies, including the use of our mRNA CAR-T technology and other developments in our mRNA cell therapy pipeline. As of December 31, 2023, we had three issued patents worldwide, including two patents issued in the United States (U.S. Patent Nos. 10,934,337 and 11,220,535) and one issued outside the United States (Japanese Patent No. 7,379,654), all three of which are composition-of-matter patents and are set to expire on March 13, 2040. Additionally, as of December 31, 2023, we had seven patent applications pending worldwide, including four U.S. applications and three applications outside the United States. A patent granted on U.S. Patent Application No. 17/540,947 will be set to expire on March 13, 2040, and a patent granted on U.S. Patent Application No. 17/919,092 will be set to expire on April 15, 2041, barring any potential patent term adjustment or terminal disclaimers. Both of these U.S. patent applications are directed to compositions of matter. In addition, PCT/US2024/020251 was filed on March 15, 2024 and claimed priority to U.S. provisional application No. 63/491,038, a composition-of-matter and method-of-use provisional application that was pending as of December 31, 2023, and any national stage application based on PCT/US2024/020251 will be set to expire on March 15, 2044. Also, PCT/US2024/020815 was filed on March 20, 2024 and claimed priority to U.S. provisional application No. 63/491,282, a composition-of-matter and method-of-use provisional application that was pending as of December 31, 2023, and any national stage applications based on PCT/US2024/020815 will be set to expire on March 20, 2044. In addition, a patent granted on EP patent application 20773688.5 will be set to expire on March 13, 2040; a patent granted on EP patent application 21789568.9 will be set to expire on April 14, 2041; and any patent granted on a national stage application based on PCT/US2022/074244, will be set to expire on July 28, 2042. All three of these patent applications were pending as of December 31, 2023, and are composition-of-matter applications. In addition, we had two registered marks protecting our brand and prospective products both domestically and internationally. With respect to the legacy Selecta assets, as of December 31, 2023, we had (i) 233 issued patents worldwide, including 20 patents issued in the United States and 213 issued outside the United States, set to expire on various dates in 2032 through 2043, (ii) 476 patent applications pending worldwide, including 42 U.S. applications and 434 applications outside the United States and (iii) two registered marks.

In addition to patent protection, we also rely on trade secrets, know-how, trademarks, confidential information, other proprietary information and continuing technological innovation to develop, strengthen and maintain our competitive position. We seek to protect and maintain the confidentiality of proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees, consultants, contractors and collaborators, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. Thus, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality and invention assignment agreements upon the commencement of employment or consulting relationships with us. However, such confidentiality agreements can be breached, and we may not have adequate remedies for any such breach. For more information regarding the risks related to our intellectual property, see the section titled "Risk Factors—Risks Related to Our Intellectual Property."

Key Agreements

Biogen License Agreement

On September 8, 2023, we entered into the Biogen Agreement with Biogen to research, develop, make, use, offer, sell and import products or processes containing or using an engineering T-cell modified with an mRNA comprising, or encoding a protein comprising, certain sequences licensed under the Biogen Agreement for the prevention, treatment, palliation and management of autoimmune diseases and disorders, excluding cancers, neoplastic disorders, and paraneoplastic disorders. We are not obligated to pay Biogen any expenses, fees, or royalties.

We may terminate the Biogen Agreement for any reason or no reason, and Biogen may terminate the agreement after a notice-and-cure period of 30 days if we fail to pay a fee owed to Biogen or for any other material breach of the agreement. The Biogen Agreement will otherwise expire when all claims of all issued patents within the patents and patent applications licensed to us under the Biogen Agreement have expired or been finally rendered revoked, invalid or unenforceable by a decision of a court or government agency.

The Biogen Agreement encompasses patents and patent applications in the PCT/US2010/026825 patent family, which was filed March 10, 2010. In general, all patents that issue in this family have an expected expiration date of March 10, 2030, subject to potential patent term adjustments and/or extensions. For the U.S. patents and applications in this family, U.S. Patent 9,034,324 was awarded 677 days of patent term adjustment, which would extend the expiration date of this patent to January 16, 2032, absent any challenges to the patent term. The other issued patent in this family was not awarded any patent term adjustment, so its expected expiration date is March 10, 2030.

NCI License Agreement

Effective September 16, 2019, we entered into the NCI Agreement with NCI.

Under the NCI Agreement, we were granted a license under certain NCI patents and patent applications designated in the agreement, to make, use, sell, offer and import products and processes within the scope of the patents and applications licensed under the NCI Agreement when developing and manufacturing anti-BCMA CAR-T cell products for the treatment of MG, pemphigus vulgaris, and immune thrombocytopenic purpura according to methods designated in the NCI Agreement.

In connection with our entry into the NCI Agreement, we paid to NCI a one-time $100,000 license royalty payment. Under the NCI Agreement, we are further required to pay NCI a low five-digit annual royalty. We must also pay earned royalties on net sales in a low single-digit percentage and pay up to $0.8 million in benchmark royalties upon our achievement of designated benchmarks that are based on the commercial development plan agreed between the parties.

Under the NCI Agreement, we must use reasonable commercial efforts to bring licensed products and licensed processes to the point of Practical Application (as defined in the NCI Agreement). Upon our first commercial sale, we must use reasonable commercial efforts to make licensed products and licensed processes reasonably accessible to the United States public. After our first commercial sale, we must make reasonable quantities of licensed products or materials produced via licensed processes available to patient assistance programs and develop educational materials detailing the licensed products. Unless we obtain a waiver from NCI, we must have licensed products and licensed processes manufactured substantially in the United States. Prior to the first commercial sale, upon NCI's request, we are obligated to provide NCI with commercially reasonable quantities of licensed products made through licensed processes to be used for in vitro research.

Additionally, we must use reasonable commercial efforts to initiate a Phase 3 clinical trial of a licensed product by the fourth quarter of 2024, submit a biologics license application ("BLA"), with respect to a licensed product by the fourth quarter of 2026, and make a first commercial sale of a licensed product by the fourth quarter of 2028.

The NCI Agreement terminates upon the expiration of the last to expire of the patent rights licensed thereunder, if not sooner terminated. The NCI License Agreement encompasses patents and patent applications in the PCT/US2013/032029 patent family, which was filed March 15, 2013. In general, all patents that issue in this family have an expected expiration of March 15, 2033, subject to potential patent term adjustments and/or extensions. For the U.S. patents and applications in this family, only two patents were awarded patent term adjustments. U.S. Patent 9,765,342 was awarded 297 days of patent term adjustment, which would extend the expiration date of this patent to January 6, 2034, absent any challenges to the patent term. The other patent, U.S.

Patent 10,876,123, was awarded three days of patent term adjustment, but this patent is subject to terminal disclaimers filed against other family members, so this patent will not extend beyond the March 15, 2033 date. The other issued patents in this family were not awarded any patent term adjustment, so the expected expiration date for these patents also remains March 15, 2033. There is also a pending patent application which, if issued, will expire on March 15, 2033, but could also be subject to patent term adjustment and to any potential future terminal disclaimers. NCI has the right to terminate this agreement, after giving written notice and providing a cure period in accordance with its terms, if we are in default of a material obligation. We have the unilateral right to terminate the agreement in any country or territory by giving NCI 60 days' written notice. We agreed to indemnify NCI against any liability arising out of our, sublicensees' or third parties' use of the licensed patent rights and licensed products or licensed processes developed in connection with the licensed patent rights.

Sobi License Agreement

On June 11, 2020, we entered into the Sobi License with Sobi. Pursuant to the Sobi License, we agreed to grant Sobi an exclusive, worldwide (except as to Greater China) license to develop, manufacture and commercialize the SEL-212 drug candidate, which is currently in development for the treatment of chronic refractory gout. The SEL-212 drug candidate is a pharmaceutical composition containing a combination of SEL-037, which we refer to as the Compound, and ImmTOR. Pursuant to the Sobi License, in consideration of the license, Sobi agreed to pay us a one-time, upfront payment of $75.0 million. Sobi has also agreed to make milestone payments totaling up to $630.0 million to us upon the achievement of various development and regulatory milestones and, if commercialized, sales thresholds for annual net sales of SEL-212, and tiered royalty payments ranging from the low double digits on the lowest sales tier to the high teens on the highest sales tier. Any proceeds received from milestone payments or royalties relating to the Sobi License would be required to be distributed to holders of CVRs, net of certain deductions.

Pursuant to the Sobi License, we agreed to supply (at cost) quantities of the Compound and ImmTOR as necessary for completion of the two Phase 3 clinical trials of SEL-212 (DISSOLVE I and DISSOLVE II) and a six-month placebo extension. We were required to supply quantities of the Compound until all rights to the Compound and any materials needed to manufacture the Compound were transferred to Sobi, which transfer occurred upon the execution of Amendment No. 1 to the License and Development Agreement on October 31, 2023. Sobi agreed to reimburse us for all budgeted costs incurred to complete development of SEL-212, including but not limited to costs incurred while conducting and completing the Phase 3 DISSOLVE trials, except for any costs of additional development activities required that are related to ImmTOR and that are unrelated to SEL-212. Sobi will have control and responsibility over all regulatory filings, including any IND, BLA, and marketing authorization applications relating to the licensed product.

The transactions contemplated by the Sobi License were consummated on July 28, 2020. Sobi may terminate the Sobi License for any reason upon 180 days' written notice, whereby all rights granted under the Sobi License would revert back to us. In addition, if Sobi were to terminate the Sobi License, we have the option to obtain a license to all patents and know-how necessary to exploit SEL-212 in existence as of the termination date from Sobi in return for making an equitable royalty payment to Sobi.

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition, and a strong emphasis on proprietary products. We face potential competition from many different sources, including pharmaceutical and biotechnology companies, academic institutions, governmental agencies, and public and private research institutions. Product candidates that we successfully develop and commercialize may compete with existing therapies and new therapies that may become available in the future.

Our competitors may have significantly greater financial resources, established presence in the market, expertise in research and development, manufacturing, preclinical 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 scientific, sales, marketing and management personnel, 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.

The key competitive factors affecting the success of any other cell therapy product candidates that we develop, if approved, are likely to be their efficacy, safety, convenience, price, the level of generic competition and the availability of reimbursement from government and other third-party payors.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic or biosimilar products.

Descartes-08 may compete with products of other companies in the MG market, including Argenx SE, UCB S.A., Johnson & Johnson, Alexion Pharmaceuticals, Inc. and Cabaletta Bio, Inc.

Other companies developing CAR-T therapies include large, fully integrated pharmaceutical companies such as Novartis AG, Gilead Sciences, Inc., through its Kite Pharma, Inc. subsidiary, Bristol-Myers Squibb Company, AstraZeneca PLC and Janssen Pharmaceuticals, Inc. and biopharmaceutical companies such as Kyverna Therapeutics, Inc. and Cabaletta Bio, Inc.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of products such as those we are developing.

We believe our cell therapy product candidates are subject to regulation in the United States as "biologics" or "biological products." We expect to seek approval of Descartes-08 through a single BLA reviewed by FDA's Center for Biologics Evaluation and Research ("CBER").

Biological products are subject to regulation under the Federal Food, Drug, and Cosmetic Act ("FD&C Act") and the Public Health Service Act ("PHS Act"), and other federal, state, local and foreign statutes and regulations. Descartes-08 and any other product candidates that we develop must be approved by the FDA before they may be legally marketed in the United States and by the appropriate foreign regulatory agency before they may be legally marketed in foreign countries.

We regard our mRNA-modified products as cell therapy products and not as genetic engineering or gene therapy products, because mRNA modifications are not embodied in DNA or incorporated into a genome. However, it is possible that in some jurisdictions, regulations on genetic engineering or genetic therapy may intentionally or unintentionally apply to our technology. This could create additional regulatory burden.

U.S. Biological Products Development Process

The process required by the FDA before a biologic, including a cell therapy, may be marketed in the United States is summarized below.

Biological product candidates are preclinically tested before any testing is done in humans. These tests, or non-clinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal requirements including good laboratory practices ("GLPs").

The clinical study sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND which must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA places the clinical study on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical study can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns, non-compliance with regulatory requirements, or other issues. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA. In addition to these requirements, biological product candidates may also require evaluation and assessment by an institutional biosafety committee ("IBC"), that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at an institution participating in a clinical trial.

Clinical trials are conducted under protocols detailing the objectives of the clinical study, dosing procedures, patient selection and exclusion criteria, and the parameters to be used to monitor patient safety. Each protocol and any amendments to the protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted and

monitored in accordance with the FDA's regulations, including with respect to GCP requirements, including the requirement that all research subjects provide informed consent. Further, each clinical study must be reviewed and approved by an IRB at or servicing each institution at which the clinical study will be conducted. Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

Phase 1. The biological product candidate is evaluated in a limited population of patients or healthy volunteers to identify the maximum tolerated dose, recommended Phase 2 dose, possible adverse effects and safety risks. For the types of products and therapeutic areas we focus on, Phase 1 studies will generally be done in patients and not healthy volunteers.

Phase 2. The biological product candidate is evaluated in a broader population to evaluate safety further and preliminarily evaluate the efficacy of the product for specific targeted diseases, and to determine the optimal dosing schedule.

Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical study sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product candidate and provide an adequate basis for product labeling.

Cell and gene therapy products may differ from the traditional clinical trial phases. For example, clinical trials for cell and gene therapy products are often structured as a hybrid Phase 1/2 study where a small group of participants with the disease are enrolled and both safety and efficacy tests are performed.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up.

The FDA or the sponsor or a separate data safety monitoring board may suspend or terminate a clinical study at any time on various grounds. Similarly, an IRB can suspend or terminate approval of a clinical study at its institution if the clinical study is not being conducted in accordance with the IRB's requirements or if the biological product candidate has been associated with unexpected serious harm to patients or otherwise in the interest of patient welfare.

Sponsors of clinical trials of FDA-regulated products, including biologics, are also required to register and disclose certain clinical trial information, which is publicly available at www.clinicaltrials.gov.

After the completion of clinical trials of a biological product candidate, FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA must include results of product development, laboratory and animal trials, human trials, information on the manufacture and composition of the product, proposed labeling and other relevant information. In addition, under the Pediatric Research Equity Act ("PREA"), a BLA or supplement to a BLA must contain a pediatric assessment unless the applicant has obtained a waiver or deferral. Pediatric assessment contains data gathered from pediatric studies using appropriate formulations for each age group for which the assessment is required and other data adequate to assess the safety and effectiveness of the biological product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. Sponsors with an application for a new active ingredient, new indication, new dosage form, new dosing regimen, or new route of administration must submit an initial Pediatric Study Plan ("PSP") (or a deferral or waiver, as appropriate) within 60 days of an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

Under the Prescription Drug Fee User Act, as amended ("PDUFA"), each BLA must be accompanied by a substantial user fee. Fee waiver or reductions are available under certain circumstances, including for the first application filed by a small business. In addition, no user fees are assessed on BLAs on products designated as orphan drugs unless the product also includes a non-orphan indication.

Within 60 days following submission of the application, the FDA conducts a preliminary review of a BLA to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information before deciding whether to accept a BLA for filing. The FDA may refuse to file any BLA that it deems incomplete or otherwise not reviewable and may request additional information. If the submission is

accepted for filing, the FDA substantively reviews the BLA to determine, among other things, whether the proposed product is safe, pure and potent, and manufactured in accordance with appropriate procedures and controls to ensure product quality. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a non-binding recommendation on approval. The FDA may waive the review by an advisory committee and is not bound by the recommendation of an advisory committee, but it often follows such recommendations. During the biological product approval process, the FDA also will review proposed product labeling and will determine whether a REMS is necessary to assure the safe use of the biological product candidate. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required.

Before approving a BLA, the FDA will inspect the facilities in which the product is manufactured to determine whether the manufacturing processes and facilities are in compliance with cGMPs. The FDA may also audit the clinical investigation sites to determine that they have complied with good clinical practices.

Notwithstanding the submission of relevant data and information, the FDA may ultimately deny approval or seek additional information from the applicant. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than the applicant interprets the same data. The FDA may also raise questions about product manufacturing and quality control. If the FDA denies approval of a BLA in its then-current form, the FDA will issue a complete response letter detailing deficiencies in the application. If a response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

One of the performance goals agreed to by the FDA under PDUFA is to review 90% of standard BLAs in 10 months from the filing date and 90% of priority BLAs in six months from the filing date, whereupon a review decision is to be made. Two additional months are added to these timelines for new molecular entities. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs.

Orphan Designation

Prior to the submission of a BLA, the FDA may grant orphan designation to drugs or biologics intended to treat a rare disease or condition that affects fewer than 200,000 individuals in the United States, or if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and marketing the product for this type of disease or condition will be recovered from sales in the United States. After the FDA grants orphan designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

In the United States, orphan designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. In addition, if a product receives the first FDA approval for the indication for which it has orphan designation, the product is entitled to orphan exclusivity, which means the FDA may not approve any other application to market the “same drug” for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity or where the manufacturer with orphan exclusivity is unable to assure sufficient quantities of the approved orphan product. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same biological product as defined by the FDA or if our product candidate is determined to be contained within the competitor’s product for the same indication or disease.

Descartes-08 has been granted Orphan Drug Designation for the treatment of MG.

Expedited Development and Review Programs

The FDA offers various programs, including the Fast Track program, Breakthrough Therapy designation, and the RMAT designation that are intended to expedite or facilitate the process for reviewing new biological products that meet certain criteria. Specifically, new biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet

medical needs for the disease or condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new biologic may request that the FDA designate the biologic as a Fast Track product at any time during the clinical development of the product.

Any product submitted to the FDA for marketing, including under a Fast Track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review if it treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness of treatment, diagnosis, or prevention compared to available therapies.

Additionally, a product may be eligible for accelerated approval. The FDA may approve a product for a serious or life-threatening disease or condition based on a determination that the 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 that a sponsor of a biological product subject to accelerated approval perform adequate and well-controlled post-marketing clinical studies to confirm such benefit. The Food and Drug Omnibus Reform Act of 2022 ("FDORA"), added the failure to conduct post-approval studies with due diligence or to submit timely progress reports on such studies to the list of prohibited acts under the FD&C Act, which means that any such failures, whether they result from a sponsor's actions or the actions of third parties, could provide the basis for enforcement actions. In addition, the FDA currently requires as a condition for accelerated approval that promotional materials be submitted prior to use, which could adversely impact the timing of the commercial launch of the product.

In addition, under the provisions of The Food and Drug Safety and Innovation Act ("FDASIA"), the FDA established a Breakthrough Therapy Designation which is intended to expedite the development and review of products that treat serious or life-threatening diseases or conditions. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the features of Fast Track designation, as well as more intensive FDA interaction and guidance. Fast Track, priority review, accelerated approval, and breakthrough therapy designations do not change the standards for approval and may not necessarily expedite the development or approval process.

In 2016, the 21st Century Cures Act established what the FDA describes as a regenerative medicine adventure therapy ("RMAT") designation. The RMAT designation program is intended to facilitate an efficient development program for, and expedite review of, any product that meets the following criteria: (i) the product qualifies as an RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (ii) the product is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (iii) preliminary clinical evidence indicates that the product has the potential to address unmet medical needs for such a disease or condition. RMAT designation provides all the benefits of Breakthrough Therapy Designation, including early interactions to discuss any potential surrogate or intermediate endpoints to be used to support accelerated approval, eligibility for rolling review and potential eligibility for priority review. Product candidates granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of clinical trial sites, including through expansion of trials to additional sites, as appropriate. Descartes-08 has been granted RMAT designation for the treatment of MG.

Post-approval Requirements

Rigorous and extensive FDA regulation of biological products continues after approval, particularly with respect to cGMP requirements. Manufacturers of our products are required to comply with applicable requirements in the cGMP regulations, including quality control and quality assurance and maintenance of records and documentation. Other post-approval requirements applicable to biological products include record-keeping requirements, reporting of adverse effects and reporting updated safety and efficacy information.

We also must comply with the FDA's advertising and promotion requirements, such as the prohibition on promoting products for uses or in patient populations that are not described in the product's approved labeling, known as "off-label use," and the requirement to balance information provided about a product's benefits with important safety information. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as possible civil or criminal sanctions. Failure to comply may subject an applicant or manufacturer to administrative or judicial civil or criminal sanctions, expensive and onerous government investigations, and adverse publicity.

Conventional DNA-modified CAR-T cell products have been subject to extensive post-approval surveillance requirements. Because the mRNA of our products is temporary, we do not believe that our mRNA-modified products will be subject to requirements of this nature, although other post-approval requirements will apply.

Biosimilars and Exclusivity

The ACA includes a subtitle called the BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product.

Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity and potency, can be shown through analytical studies, animal studies and a clinical study or studies. The FDA has approved a number of products under these provisions.

To the Company's knowledge, the definition of "biosimilar" with regard to an mRNA-modified cell therapy has not been expressly stated in statute, regulation, or guidance, and has not been reviewed by a court. The regulatory pathway for a biosimilar to one of our products thus remains somewhat uncertain.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. A biological product may also obtain pediatric exclusivity in the United States. For a biological product, pediatric exclusivity, if granted, adds six months to existing regulatory exclusivity periods. This six-month exclusivity, which runs from the end of other exclusivity protection, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study or studies.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. As a result, the ultimate impact, implementation and meaning of the BPCIA is subject to significant uncertainty.

Government Regulation Outside of the United States

Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in countries outside the United States prior to the commencement of clinical studies or marketing of the product in those countries.

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

In the European Economic Area ("EEA"), which is composed of the 27 member states of the European Union ("EU"), plus Norway, Iceland and Liechtenstein, medicinal products can only be commercialized after obtaining a Marketing Authorization ("MA"). There are two types of MAs.

The EU MA, which is issued by the European Commission through the Centralized Procedure, is based on the opinion of the Committee for Medicinal Products for Human Use ("CHMP") of the European Medicines Agency ("EMA"), and which is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced therapy medicinal products (comprising gene therapy, somatic cell therapy and tissue engineered products),

among others. The Centralized Procedure is optional for other products containing a new active substance not yet authorized in the EEA, or for other products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU. Under the Centralized Procedure the maximum timeframe for the evaluation of a marketing authorization application is 210 days (excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP). Accelerated evaluation might be granted by the CHMP in exceptional cases. Under the accelerated procedure the standard 210 days review period is reduced to 150 days.

National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure.

To obtain regulatory approval of medical product under EU regulatory systems, we must submit a marketing authorization application, which is similar to the U.S. BLA. The EU also provides opportunities for market exclusivity. Upon receiving marketing authorization, "new active substances" generally receive eight years of data exclusivity, which prevents regulatory authorities in the EU from referencing the innovator's data to assess a generic or biosimilar application, and an additional two years of market exclusivity, during which no generic or biosimilar product can be marketed. However, there is no guarantee that a product will be considered by the EU's regulatory authorities to be a new active substance, and products may not qualify for data exclusivity. Products receiving orphan designation in the EU can receive ten years of market exclusivity, during which time no marketing authorization application shall be accepted, and no marketing authorization shall be granted for a similar medicinal product for the same indication. An orphan product can also obtain an additional two years of market exclusivity in the EU for pediatric studies. No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications.

The criteria for designating an "orphan medicinal product" in the EU are similar in principle to those in the United States. Under Article 3 of Regulation (EC) 141/2000, a medicinal product may be designated as orphan if (i) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; (ii) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) the product, without the benefits derived from orphan status, would not generate sufficient return in the EU to justify investment; and (iii) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition, as defined in Regulation (EC) 847/2000. Orphan medicinal products are eligible for certain financial and exclusivity incentives.

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

When conducting clinical trials in the EU, we must adhere to the provisions of the EU Clinical Trials Directive (Directive 2001/20/EC) and the laws and regulations of the EU Member States implementing them. These provisions require, among other things, that the prior authorization of an Ethics Committee and the competent Member State authority is obtained before commencing the clinical trial. In 2014, the EU passed the Clinical Trials Regulation (Regulation 536/2014), which will replace the current Clinical Trials Directive, to ensure that the rules for clinical trials are identical throughout the EU.

We are also subject to data privacy and security laws in the jurisdictions outside of the U.S. in which we are established, run clinical trials or in which we sell or market our products once approved. For example, in Europe we are subject to Regulation (EU) 2016/679 (GDPR) in relation to our collection, control, processing and other use of personal data (i.e., data relating to an identifiable living individual). We process personal data in relation to participants in our clinical trials in the EEA, including the health and medical information of these participants. The GDPR is directly applicable in each EU Member State, however, it provides that EU Member States may introduce further conditions, including limitations which could limit our ability to collect, use and share personal data (including health and medical information), or could cause our compliance costs to increase,

ultimately having an adverse impact on our business. The GDPR imposes accountability and transparency obligations regarding personal data. We are also subject to EU rules with respect to cross-border transfers of personal data out of the EU and EEA. We are subject to the supervision of local data protection authorities in those EU jurisdictions where we are established or otherwise subject to the GDPR. A breach of the GDPR could result in significant fines, regulatory investigations, reputational damage, orders to cease/ change our use of data, enforcement notices, as well potential civil claims including class action type litigation where individuals suffer harm. Moreover, the United Kingdom leaving the EU could also lead to further legislative and regulatory changes. It remains unclear how the United Kingdom data protection laws or regulations will develop in the medium to longer term and how data transfer to the United Kingdom from the EU will be regulated. However, the United Kingdom has transposed the GDPR into domestic law with the Data Protection Act 2018, which remains in force following the United Kingdom's departure from the EU.

Other Healthcare Laws

The federal Anti-Kickback Statute prohibits, among other things, any person or entity from knowingly (regardless of knowledge of this specific statute) and willfully offering, paying, soliciting, receiving or providing any remuneration, directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, formulary managers, and other third parties on the other. The majority of states also similar have anti-kickback laws, which in some cases apply to items and services reimbursed by private insurance.

The federal false claims and civil monetary penalties laws, including the civil False Claims Act, prohibit any person or entity from, among other things, knowingly presenting, or causing to be presented, a false, fictitious or fraudulent claim for payment to, or approval by, the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government, or from knowingly making a false statement to avoid, decrease or conceal an obligation. A claim includes "any request or demand" for money or property presented to the U.S. government. Manufacturers can be held liable under false claims laws, even if they do not submit claims to the government, where they are found to have caused submission of false claims by, among other things, providing incorrect coding or billing advice about their products to customers that file claims, or by engaging or off-label promotion to customers that file claims. Violation of the federal Anti-Kickback Statute may also constitute a false or fraudulent claim for purposes of the federal civil False Claims Act. Actions under the civil False Claims Act may be brought by the Department of Justice or as a qui tam action by a private individual in the name of the government. Many states also have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

HIPAA prohibits, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

In addition, the Physician Payments Sunshine Act requires applicable manufacturers to annually report certain payments and "transfers of value" provided to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other health care providers, as well as ownership and investment interests held by physicians and their immediate family members.

Sanctions under these federal and state fraud and abuse laws may include civil monetary penalties and criminal fines, exclusion from government healthcare programs, and imprisonment.

We may also be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by HITECH and their respective implementing regulations, impose specified requirements relating to the privacy, security and transmission of individually identifiable health information held by covered entities and their business associates. Among other things, HITECH made HIPAA's

security standards directly applicable to, as well as imposed certain other privacy obligations on, "business associates," defined as independent contractors or agents of covered entities that create, receive, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. Even when HIPAA does not apply, according to the Federal Trade Commission ("FTC"), failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, 15 U.S.C § 45(a).

Coverage and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any pharmaceutical or biological products for which we obtain regulatory approval. In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Sales of any products for which we receive regulatory approval for commercial sale will therefore depend, in part, on the availability of coverage and adequate reimbursement from third-party payors. Third-party payors include government authorities, managed care plans, private health insurers and other organizations.

The process for determining whether a third-party payor will provide coverage for a pharmaceutical or biological product typically is separate from the process for setting the price of such product or for establishing the reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the FDA-approved products for a particular indication.

A decision by a third-party payor not to cover our product candidates could reduce physician utilization of our products once approved and have a material adverse effect on our sales, results of operations and financial condition. Moreover, a third-party payor's decision to provide coverage for a pharmaceutical or biological product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

Healthcare Reform

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medical products.

Federal, state and local governments in the U.S. have established and continue to consider policies to limit the growth of healthcare costs, including the cost of prescription drugs. Recently there has also 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 to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for prescription drugs.

At the federal level, for example, the Inflation Reduction Act of 2022 ("IRA"), was signed into law. Key provisions of the IRA include the following, among others:

- The IRA requires manufacturers to pay rebates for Medicare Part B and Part D drugs whose price increases exceed inflation.
- The IRA eliminates the so-called "donut hole" under Medicare Part D beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and requiring manufacturers to subsidize, through a newly established manufacturer discount program, 10% of Part D enrollees' prescription costs for brand drugs below the out-of-pocket maximum and 20% once the out-of-pocket maximum has been reached.
- The IRA delays the rebate rule that would require pass through of pharmacy benefit manager rebates to beneficiaries.

- The IRA directs the Centers for Medicare and Medicaid Services ("CMS"), to engage in price-capped negotiation for certain Medicare Part B and Part D products. Specifically, the IRA's Price Negotiation Program applies to high-expenditure single-source drugs and biologics that have been approved for at least seven or 11 years, respectively, among other negotiation selection criteria, beginning with 10 high-cost drugs paid for by Medicare Part D starting in 2026, followed by 15 Part D drugs in 2027, 15 Part B or Part D drugs in 2028, and 20 Part B or Part D drugs in 2029 and beyond. The negotiated prices will be capped at a statutorily determined ceiling price. There are certain statutory exemptions from the IRA's Price Negotiation Program, such as for a drug that has only a single orphan drug designation and is approved only for an indication or indications within the scope of such designation. The IRA's Price Negotiation Program is currently the subject of legal challenges.

Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties or a potential excise tax. The IRA permits the Secretary of Health and Human Services (the "HHS Secretary") to implement many of the IRA's provisions through guidance, as opposed to regulation, for the initial years. The effect of the IRA is anticipated to have significant effects on the pharmaceutical industry and may reduce the prices pharmaceutical manufacturers can charge and reimbursement pharmaceutical manufacturers can receive for approved products, among other effects.

In addition, other legislative changes have been proposed and adopted in the United States. This included aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013, and, due to subsequent legislative amendments, will stay in effect through 2027 unless additional Congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act was signed into law, which, among other things, further reduced Medicare payments to several providers, including hospitals and imaging centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

The Biden administration has indicated that lowering prescription drug prices is a priority. On October 14, 2022, President Biden signed an executive order to lower prescription drug costs for Americans. In response to this directive, the HHS Secretary announced and the Center for Medicare and Medicaid Innovation is developing three new models intended to lower drug costs under Medicare and Medicaid, including establishing a new approach for administering outcomes-based agreements for cell and gene therapies. President Biden also signed an executive order on July 9, 2021 affirming the administration's policy to, among other things, support legislative reforms that would lower the prices of prescription drugs, including by supporting the development and market entry of lower-cost generic drugs and biosimilars, and support the enactment of a public health insurance option. Among other things, the executive order directs the HHS Secretary to provide a report on actions to combat excessive pricing of prescription drugs, continue to clarify and improve the approval framework for generic drugs and identify and address any efforts to impede generic drug competition, enhance the domestic drug supply chain, reduce the price that the federal government pays for drugs, and address price gouging in the industry. The executive order also directs the FDA to work with states and Indian Tribes that propose to develop section 804 Importation Programs in accordance with the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, and the FDA's implementing regulations. The FDA released such implementing regulations on September 24, 2020, which went into effect on November 30, 2020, providing guidance for states to build and submit importation plans for drugs from Canada. In response, authorities in Canada have passed rules designed to safeguard the Canadian drug supply from shortages. On January 5, 2024, the FDA authorized Florida's Agency for Health Care Administration's drug importation proposal, the first step toward Florida facilitating importation of certain prescription drugs from Canada.

Employees and Human Capital Resources

At Cartesian Therapeutics, we consider human capital to be an essential driver of our business and successful strategy creation and execution. Our people, driven by our collaborative, pioneering, and patient-focused culture, propel our business forward, strengthening us for long-term success.

As of December 31, 2023, we had 38 employees, 26 of whom are primarily engaged in research and development activities and 12 in corporate functions. 37 of our employees are employed by us on a full-time basis. 73.6% of our employees have at least one of a Masters, PhD, or MD degree. All employees reside and work in the United States and our employees are not represented by a labor union. We consider our employee relations to be strong and in good standing.

Our goal is to continually engage our talented and diverse workforce to drive value creation both for our business and ultimately our patient populations. We believe in a proactive approach to talent management focusing on retention of key talent, critical role successor identification, and impactful employment development. Additional priority areas intended to drive engagement include successful recruitment of diverse talent, continual promotion of professional development at all levels, introduction, and evolution of business-friendly human resources solutions, coupled with an intentional culture dialog aimed to drive a high engagement, high performance, patient centric culture.

To further drive attraction and retention of our high-quality, experienced, and diverse workforce, we invest in the physical, emotional, and financial well-being of our employees. These investments include a competitive mix of compensation and generous insurance benefits. To assist employees with the rising cost of healthcare, we pay 100% of an employee's deductible and co-insurance payments. All employees are eligible to participate in our equity compensation programs. All employees are awarded new hire equity and annual equity. Employees are also eligible to receive an annual cash bonus and to participate in a 401(k) retirement plan with an industry competitive company match.

Properties

Our corporate headquarters are currently located at 704 Quince Orchard Road, Gaithersburg, Maryland and consists of 7,909 total square feet of leased office, laboratory, and manufacturing space under a lease that expires in January 2027. Additionally, we lease approximately 29,050 square feet consisting of integrated manufacturing and office space in Frederick, Maryland under a lease that expires in June 2031, and we lease approximately 32,294 total square feet of office and laboratory space in Watertown, Massachusetts under a lease that expires in May 2028.

Legal Proceedings

We are not party to any material legal proceedings.

MARKET PRICE AND DIVIDENDS

Our Common Stock is listed on the Nasdaq Global Market under the ticker symbol "RNAC." We have not applied to list, and we do not plan to list, the Series A Preferred Stock or Series B Preferred Stock on any national securities exchange. As of September 3, 2024, there were 115 holders of record of our Common Stock.

Equity Compensation Plan Information

The following table provides information on our equity compensation plans as of December 31, 2023.

Plan category	Number of securities to be issued upon exercise of outstanding stock options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights[1]	Number of securities remaining available for future issuance under equity compensation plans[2]
	(a)	(b)	(c)
Equity compensation plans approved by security holders[3]	—[4]	$ —[4]	795,941[5]
Equity compensation plans not approved by security holders[6]	790,977.299[7]	$4.34	278,360[8]
Total	790,977.299	$4.34	1,074,301

(1) Represents the weighted-average exercise price of outstanding options and is calculated without taking into account outstanding RSUs.

(2) Pursuant to the terms of the 2016 Plan, the number of shares of Common Stock available for issuance under the 2016 Plan automatically increases on each January 1, until and including January 1, 2034, by an amount equal to the lesser of: (a) 4% of the number of shares of the Company's Common Stock outstanding on the last day of the applicable preceding calendar year and (b) such smaller number of shares as is determined by our Board of Directors. Pursuant to the terms of the 2016 ESPP, the number of shares of Common Stock available for issuance under the 2016 ESPP automatically increases on each January 1, until and including January 1, 2026, by an amount equal to the lesser of: (a) 1% of the number of shares of the Company's Common Stock outstanding on the last day of the applicable preceding calendar year and (b) such smaller number of shares as is determined by our Board of Directors.

(3) Includes the 2016 Plan and the 2016 ESPP.

(4) There were no outstanding stock options, warrants or rights under the 2016 Plan and the 2016 ESPP as of December 31, 2023.

(5) Represents 750,146 shares of Common Stock available for issuance under the 2016 Plan and 45,795 shares of Common Stock available for issuance under the 2016 ESPP.

(6) Includes the 2018 Plan and the Old Cartesian Plan. 1,247,268 shares of Common Stock are issuable upon exercise of outstanding stock options under the Old Cartesian Plan at a weighted-average exercise price of $2.76. See Note 13 to our consolidated audited financial statements as of and for the year ended December 31, 2023 included elsewhere in the registration statement of which this prospectus forms a part for a description of the material features of the 2018 Plan and the Old Cartesian Plan.

(7) Includes outstanding options to purchase 776,865 shares of Common Stock and to purchase 14,112.299 shares of Series A Preferred Stock, convertible to 470,403 shares of Common Stock, under the Old Cartesian Plan and no outstanding stock options, warrants or rights under the 2018 Plan as of December 31, 2023. Following the automatic conversion of the majority of our Series A Preferred Stock into Common Stock on April 8, 2024 (the "Series A Preferred Stock Automatic Conversion"), the options exercisable for 14,112.299 shares of Series A Preferred Stock became exercisable for Common Stock.

(8) Represents 150,043 shares of Common Stock available for issuance under the 2018 Plan and 128,317 shares of Common Stock available for issuance under the Old Cartesian Plan.

MANAGEMENT

Directors

Our Board of Directors currently consists of nine directors and is divided into three classes. Each class serves for three years, with the terms of office of the respective classes expiring in successive years. Directors in Class III will stand for election at our Annual Meeting expected to be held in 2025. The terms of office of directors in Class I and Class II do not expire until the annual meetings of stockholders to be held in 2026 and 2027, respectively.

Our current directors, and their ages as of July 29, 2024, position with Cartesian and length of board service are provided in the table below. Additional biographical descriptions of each director are set forth in the text below the table. These descriptions include the primary individual experience, qualifications, qualities and skills of each of our directors.

Name of Director	Age	Served as a Director Since	Position(s) with Cartesian
Class I Directors:			
Michael Singer, M.D., Ph.D.	50	2023	Director
Timothy A. Springer, Ph.D.	76	2016	Director
Patrick Zenner	77	2017	Director
Class II Directors:			
Carrie S. Cox	66	2019	Chairman of the Board
Murat Kalayoglu, M.D., Ph.D.	51	2023	Director
Kemal Malik, MBBS	61	2024	Director
Class III Directors:			
Timothy C. Barabe	71	2016	Director
Carsten Brunn, Ph.D.	54	2018	President and Chief Executive Officer, Director
Nishan de Silva, M.D., M.B.A.	51	2021	Director

Michael Singer, M.D., Ph.D. Dr. Singer co-founded and served as Chief Scientific Officer, later Chief Strategy Officer, and Chairman of the Board of Old Cartesian from 2016 until its acquisition by the Company in 2023. Prior to Old Cartesian, Dr. Singer co-founded and served as Chief Scientific Officer of Topokine Therapeutics, Inc. from 2012 to 2016. Prior to Topokine, he served as a medical director at Novartis from 2009 to 2012 and co-founded and served as Chief Scientific Officer of HealthHonors Corporation from 2006 to 2009. He has served as a member of the board of Bioporto A/S since 2019, Pykus Therapeutics since 2019, and Anodyne Nanotech since 2020. Dr. Singer received his B.S. in biology, M.Phil and Ph.D. in neuroscience, and M.D. from Yale University and completed internship and residency at Harvard. He is a registered U.S. patent agent. Dr. Singer's extensive knowledge of our business and our product candidates contributed to the Board of Directors' conclusion that he should serve as a director of our Company.

Timothy A. Springer, Ph.D. Timothy A. Springer, Ph.D. has served as a member of our Board of Directors since June 2016 and as a scientific advisor to us since December 2008. Since 1989, Dr. Springer has served as the Latham Family Professor at Harvard Medical School. He has also served as Senior Investigator in the Program in Cellular and Molecular Medicine at Boston Children's Hospital since 2012, and as Professor of Biological Chemistry and Molecular Pharmacology at Harvard Medical School and Professor of Medicine at Boston Children's Hospital since 2011. Dr. Springer was the Founder of LeukoSite, a biotechnology company acquired by Millennium Pharmaceuticals in 1999. Additionally, he is a founder, investor and board member of Morphic Therapeutic and a founder, investor and former director of Scholar Rock, where he served as a director until May 2019. Dr. Springer is a member of the National Academy of Sciences and his honors include the Crafoord Prize, the American Association of Immunologists Meritorious Career Award, the Stratton Medal from the American Society of Hematology, and the Basic Research Prize from the American Heart Association. In 2022, Dr. Springer received the Albert Lasker Basic Medical Research Award. Dr. Springer received a B.A. from the University of California, Berkeley, and a Ph.D. from Harvard University. Dr. Springer's extensive knowledge of our business and the nanomedicine field contributed to our Board of Directors' conclusion that he should serve as a director of our company.

Patrick Zenner. Patrick Zenner has served as a member of our Board of Directors since June 2017, also serving as our Lead Director from June 2018 to November 2019. Mr. Zenner retired in 2001 from the position of President and Chief Executive Officer of Hoffmann-La Roche Inc., North America, based in Nutley, N.J. Mr. Zenner held various executive positions during his 32-year career with the company. Mr. Zenner is currently a member of the board of trustees of Creighton University and is Chairman Emeritus of the board of trustees of Fairleigh Dickinson University. In addition, Mr. Zenner served as Chairman of the board and a director of West Pharmaceutical Services, Inc. from 2002 until May 2022. From 2002 until January 2020, Mr. Zenner served as Chairman of the board and a director of ArQule, Inc. Until its sale in 2012, Mr. Zenner was a director of Par Pharmaceuticals, Inc. In 2010, he resigned from the boards of Geron Corporation, Xoma Ltd. and Exact Sciences, Inc. Until its sale in September 2009, Mr. Zenner was a director of CuraGen Corporation. Mr. Zenner received a B.S./B.A. from Creighton University and an M.B.A. from Fairleigh Dickinson University. Mr. Zenner's extensive experience as a senior pharmaceutical executive and board member to numerous companies in the biotechnology industry contributed to our Board of Directors' conclusion that he should serve as a director of our company.

Carrie S. Cox. Carrie S. Cox has served as a member of our Board of Directors and as chairman of the Board of Directors since November 2019. Ms. Cox has also served as chairman and a member of the board of directors of Organon & Co. since June 2021. Ms. Cox most recently served as the Chief Executive Officer of Humacyte, Inc., a regenerative medicine company based in Durham, North Carolina, from 2010 to June 2018, and served as a member of its board of directors from 2010 to August 2021, serving as chairman from 2011 to June 2019. Ms. Cox has served on the board of directors of Texas Instruments Incorporated since 2004. Ms. Cox previously served as the chairman of the board of directors of electroCore, Inc. from July 2018 to March 2020 and Array BioPharma, Inc. from August 2018 to July 2019, and served on the boards of directors of Celgene Corporation from December 2009 to November 2019, and Cardinal Health from December 2009 to November 2023. Ms. Cox received a B.S. from the Massachusetts College of Pharmacy and was a registered pharmacist. The Company believes Ms. Cox's vast experience as a pharmaceutical executive and member of multiple boards of directors in the biotechnology industry as well as her knowledge of corporate strategy contributed to our Board of Directors' conclusion that she should serve as a director of our Company.

Murat Kalayoglu, M.D., Ph.D. Dr. Kalayoglu co-founded and served as Chief Executive Officer of Old Cartesian from 2016 until its acquisition by the Company in 2023. Prior to co-founding Old Cartesian, Dr. Kalayoglu co-founded and served as Chief Executive Officer of Topokine Therapeutics, Inc., which was acquired by Allergan plc in 2016. Dr. Kalayoglu was also co-founder and Chief Operating Officer of HealthHonors Corporation, which was acquired by Healthways, Inc. in 2009. Dr. Kalayoglu completed his medical residency in ophthalmology at the Massachusetts Eye and Ear Infirmary at Harvard Medical School. Dr. Kalayoglu received his B.S. and Ph.D. in medical microbiology and immunology and M.D. from the University of Wisconsin-Madison, and M.B.A. from the MIT Sloan School of Management. Dr. Kalayoglu's extensive knowledge of our business and our product candidates contributed to the Board's conclusion that he should serve as a director of our Company.

Kemal Malik, MBBS. Kemal Malik has served on the board of directors of Syncona Ltd. since June 2020. Dr. Malik previously served on the board of directors of Acceleron Pharma Inc. until its acquisition by Merck Sharp & Dohme Corp. in 2021. From February 2014 to December 2019, Dr. Malik served on the Board of Management of Bayer AG and was responsible for Innovation and the Asia/Pacific Regions. Dr. Malik joined Bayer in 1995 as Head of Metabolism and Oncology Europe in the then Pharmaceuticals Business Group. He subsequently served as Head of Global Medical Development before being appointed Head of Global Development and a member of the Executive Committee of Bayer Healthcare AG until his appointment to the Board of Management of Bayer AG. Dr. Malik received his Bachelor of Medicine, Bachelor of Surgery from the University of London. The Company believes Dr. Malik's experience as a pharmaceutical industry executive, vast industry knowledge and experience serving on the board of directors of multiple biotechnology and pharmaceutical companies contributed to our Board of Directors' conclusion that he should serve as a director of our Company.

Timothy C. Barabe. Timothy C. Barabe has served as a member of our Board of Directors since July 2016. Mr. Barabe also served on the boards of Veeva Systems Inc. from September 2015 to June 2021 and serves on the board of directors of Vigilant Biosciences, Inc., a private company, as well as Heartflow, Inc., also a private company. From 2001 to January 2020, Mr. Barabe served on the board of directors of ArQule, Inc., and from

2014 to 2017, Mr. Barabe served on the board of directors of Opexa Therapeutics, Inc. Mr. Barabe retired in June 2013 from his position as Executive Vice President and Chief Financial Officer of Affymetrix, Inc. Previously, from July 2006 until March 2010, he was Senior Vice President and Chief Financial Officer of Human Genome Sciences, Inc. From 2004 to 2006, he served as Chief Financial Officer of Regent Medical Limited, a U.K.-based, privately owned, surgical supply company. Mr. Barabe served with Novartis AG from 1982 through August 2004 in a succession of senior executive positions in finance and general management, most recently as the Chief Financial Officer of Sandoz GmbH, the generic pharmaceutical subsidiary of Novartis. Mr. Barabe received his B.B.A. degree from the University of Massachusetts (Amherst) and his M.B.A. degree from the University of Chicago. Mr. Barabe's experience as a senior financial executive of life sciences companies and knowledge of the pharmaceutical and biotech industries contributed to our Board of Directors' conclusion that he should serve as a director of our Company.

Carsten Brunn, Ph.D. Carsten Brunn, Ph.D. has served as our President, Chief Executive Officer and member of our Board of Directors since December 2018. Dr. Brunn previously served as a member of the Board of Directors of Surface Oncology, Inc., a public oncology company, from June 2022 until September 2023. Prior to joining Cartesian Therapeutics, Inc., Dr. Brunn was the President of Pharmaceuticals for the Americas Region and a member of the Global Pharmaceutical Executive Committee at Bayer AG, a pharmaceutical company, since January 2017. Previously, he served as President of Bayer Pharmaceuticals in Japan, a role he held since March 2013. He also served as the Chairman of the European Federation of Pharmaceutical Industries and Associations (EFPIA) Japan, an organization representing innovative pharmaceutical companies in Japan. Dr. Brunn has held a number of senior leadership positions at Eli Lilly, Novartis, Basilea and Bausch and Lomb in Europe, Asia and the United States. He also currently serves on the board of directors of the Biotechnology Innovation Organization (BIO), a private organization. Dr. Brunn holds a Ph.D. in Chemistry from the University of Hamburg and a Master of Science in Pharmaceutical Sciences from the University of Freiburg. He also studied at the University of Washington under a research scholarship and completed his executive education at London Business School. Dr. Brunn's experience as a senior executive of life sciences companies and knowledge of the pharmaceutical and biotechnology industries contributed to our Board of Directors' conclusion that he should serve as a director of our Company.

Nishan de Silva, M.D., M.B.A. Nishan de Silva, M.D., M.B.A. has served as a member of our Board of Directors since June 2021. Dr. de Silva most recently served as Chief Executive Officer of Radionetics Oncology, a private company, from March 2022 to July 2023. Prior to joining Radionetics Oncology, Dr. de Silva had served as Chief Executive Officer of AFYX Therapeutics, a private biotechnology company from April 2018 to February 2022, and served as a director at AFYX Therapeutics since May 2020 to February 2022. Previously, Dr. de Silva served as President, Chief Operating Officer, and director of Poseida Therapeutics, a cell- and gene therapy-focused biopharmaceutical company, from June 2015 to March 2018. Dr. de Silva also previously served as Vice President Finance and Strategy, and Chief Financial Officer at Ligand Pharmaceuticals. Dr. de Silva also previously served on the board of directors at CONNECT, a private organization, until November 2019. Dr. de Silva graduated Summa Cum Laude with a Bachelor of Arts degree in Biology from Harvard University, and received his M.D. degree from the University of Pennsylvania School of Medicine, as well as an M.B.A. degree from The Wharton School of the University of Pennsylvania. Dr. de Silva's experience in the biotechnology industry, and his knowledge of gene therapies and clinical development contributed to our Board of Directors' conclusion that he should serve as a director of our Company.

Director Independence

All of our directors and our former directors, Göran Ando, M.D., Scott D. Myers, and Aymeric Sallin, other than Carsten Brunn, Ph.D. and Timothy A. Springer, Ph.D., 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 Dr. Springer is affiliated with one of our significant stockholders. Dr. Brunn is not

independent because he is the President and Chief Executive Officer of Cartesian. Dr. Springer is not independent because of his affiliation with one of our significant stockholders, his significant direct stockholding, and his history as a scientific advisor to the Company. There are no family relationships among any of our directors or executive officers.

All members of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee must be independent directors under the applicable rules, regulations and listing standards of Nasdaq. Members of the Audit Committee also must satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act. Members of the Compensation Committee also must satisfy the independence criteria set forth in Rule 10C under the Exchange Act, and related Nasdaq listing standards with respect to their affiliation with Cartesian and any consulting, advisory or other fees they may have received from Cartesian. Our Board of Directors has determined that all members of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee are independent and satisfy the relevant SEC, Exchange Act and Nasdaq independence requirements for such committees.

Director Candidates

The Nominating and Corporate Governance Committee is primarily responsible for searching for qualified director candidates for election to the Board of Directors and filling vacancies on the Board of Directors. To facilitate the search process, the Nominating and Corporate Governance Committee may solicit current directors and executives of the Company for the names of potentially qualified candidates or ask directors and executives to pursue their own business contacts for the names of potentially qualified candidates. The Nominating and Corporate Governance Committee may also consult with outside advisors or retain search firms to assist in the search for qualified candidates, or consider director candidates recommended by our stockholders. Once potential candidates are identified, the Nominating and Corporate Governance Committee reviews the backgrounds of those candidates, evaluates candidates' independence from the Company and potential conflicts of interest and determines if candidates meet the qualifications desired by the Nominating and Corporate Governance Committee of candidates for election as a director.

In evaluating the suitability of individual candidates (both new candidates and current members of the Board of Directors), the Nominating and Corporate Governance Committee, in recommending candidates for election, and the Board of Directors, in approving (and, in the case of vacancies, appointing) such candidates, may take into account many factors, including: personal and professional integrity, ethics and values; experience in corporate management, such as serving as an officer or former officer of a public company; strong finance experience; experience relevant to the Company's industry; experience as a board member or executive officer of another public company; relevant academic expertise or other proficiency in an area of the Company's operations; diversity of expertise and experience in substantive matters pertaining to the Company's business relative to other board members; diversity of background and perspective, including, but not limited to, with respect to age, gender, race, place of residence and specialized experience; practical and mature business judgment, including, but not limited to, the ability to make independent analytical inquiries; and any other relevant qualifications, attributes or skills as may be determined by the Nominating and Corporate Governance Committee from time to time. The Board of Directors evaluates each individual in the context of the Board of Directors as a whole, with the objective of assembling a group that can best perpetuate the success of the business and represent stockholder interests through the exercise of sound judgment using its diversity of experience in these various areas. In determining whether to recommend a director for re-election, the Nominating and Corporate Governance Committee may also consider the director's past attendance at meetings and participation in and contributions to the activities of the Board of Directors.

Stockholders may recommend individuals to the Nominating and Corporate Governance Committee for consideration as potential director candidates by submitting the names of the recommended individuals, together with appropriate biographical information and background materials, to the Nominating and Corporate Governance Committee, c/o Secretary, Cartesian Therapeutics, Inc., 704 Quince Orchard Road, Gaithersburg, Maryland 20878. In the event there is a vacancy, and assuming that appropriate biographical and background material has been provided on a timely basis, the Nominating and Corporate Governance Committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others.

Communications from Stockholders

The Board of Directors will give appropriate attention to written communications that are submitted by stockholders to the Company, and will respond if and as appropriate. Our Secretary is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the directors as he or she considers appropriate. Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that our Secretary and Chairman of the Board of Directors consider to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters as to which we tend to receive repetitive or duplicative communications. Stockholders who wish to send communications on any topic to the Board of Directors should address such communications to the Board of Directors in writing: c/o Secretary, Cartesian Therapeutics, Inc., 704 Quince Orchard Road, Gaithersburg, Maryland 20878.

Board Leadership Structure and Role in Risk Oversight

Our Bylaws and Corporate Governance Guidelines provide our Board of Directors with flexibility to combine or separate the positions of Chairman of the Board of Directors and Chief Executive Officer in accordance with its determination that utilizing one or the other structure would be in the best interests of the Company. Currently, the role of Chairman of the Board of Directors is separate from the role of Chief Executive Officer, with Carrie S. Cox serving as Chairman of the Board of Directors and Dr. Brunn serving as Chief Executive Officer. The Board of Directors evaluates whether the positions of Chairman of the Board of Directors and Chief Executive Officer should be combined or separated on an ongoing basis based on factors such as the experience of the applicable individuals and the current business environment of the Company. After considering these factors, the Board of Directors determined that continuing to separate the positions of Chairman and Chief Executive Officer was appropriate for the Company at this time.

If, in the future, the Chairman of the Board of Directors is a member of management or does not otherwise qualify as independent, our Corporate Governance Guidelines provide for the appointment by the independent directors of a lead director. The lead director's responsibilities would include, but would not be limited to, presiding over all meetings of the Board of Directors at which the Chairman of the Board of Directors is not present, including any executive sessions of the independent directors, approving the Board of Directors' meeting schedules and agendas, and acting as liaison between the independent directors of the Board and the Chief Executive Officer and the Chairman of the Board of Directors. Our Board of Directors is comprised of individuals with extensive experience in the biotechnology and pharmaceutical industries and, with the exception of Drs. Brunn and Springer, is comprised of directors who meet the independence standards of Nasdaq. For these reasons and because of the strong leadership of Dr. Brunn as President and Chief Executive Officer and Ms. Cox as Chairman of the Board of Directors, our Board of Directors has concluded that our current leadership structure is appropriate at this time. However, our Board of Directors will continue to periodically review our leadership structure and may make such changes in the future as it deems appropriate.

Risk assessment and oversight are an integral part of our governance and management processes. Our Board of Directors encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Management discusses strategic and operational risks at regular management meetings and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing the Company. Throughout the year, senior management reviews these risks with the Board of Directors at regular board meetings as part of management presentations that focus on particular business functions, operations or strategies, and presents the steps taken by management to mitigate or eliminate such risks. Our Board of Directors does not have a standing risk management committee, but rather administers this oversight function directly through the Board of Directors as a whole, as well as through various standing committees of the Board of Directors that address risks inherent in their respective areas of oversight. In particular, our Board of Directors is responsible for monitoring and assessing strategic risk exposure, including business continuity risks, and our Audit Committee is responsible for overseeing our major financial risk exposures and the steps our management has taken to monitor and control these exposures. The Audit Committee also monitors compliance with legal and regulatory requirements and considers and approves or disapproves any related person transactions. Our Nominating and Corporate Governance Committee monitors the

effectiveness of the Corporate Governance Guidelines. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. The Board of Directors does not believe that its role in the oversight of our risks affects the Board of Directors' leadership structure.

Annual Board Evaluation

Our Corporate Governance Guidelines require the Nominating and Corporate Governance Committee to periodically oversee an assessment of the Board of Directors and its committees.

Code of Ethics

We have a written Code of Business Conduct and Ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the Code of Business Conduct and Ethics is posted on our website, www.cartesiantherapeutics.com. In addition, we intend to post on our website all disclosures that are required by law or the rules of Nasdaq concerning any amendments to, or waivers from, any provision of the Code of Business Conduct and Ethics.

Diversity Commitment

Diversity and inclusion of the Board of Directors is critical to the success of Cartesian. Our Board of Directors is committed to ensuring its membership has sufficient diversity of expertise, experience, background and perspective to support the long-term success of the Company. As presently constituted, the Board of Directors represents a deliberate mix of members who have a deep understanding of our business as well as members who have different skill sets and points of view on substantive matters pertaining to the Company's business. Our nomination process and our Board of Directors' approach to assessment and evaluation of our nominees support our commitment to diversity and inclusion.

Our Corporate Governance Guidelines include director qualification standards that contain a wide variety of factors the Nominating and Corporate Governance Committee is to take into account to ensure that the director nomination process considers a diverse mix of age, gender, race, place of residence and specialized experience. Additionally, the Nominating and Corporate Governance Committee's evaluation of director nominees includes consideration of their ability to contribute to the diversity of personal and professional experiences, opinions, perspectives and backgrounds on the Board of Directors. The Board of Directors continually assesses the size and the mix of experiences and backgrounds of its members, including gender, ethnic, and racial composition. Cartesian evaluates the effectiveness of this policy through annual self-evaluations completed by the Board of Directors and each of its committees.

The Board of Directors firmly believes that it plays a key role in the oversight of Cartesian's culture and in holding management accountable for the creation and stewardship of that culture. One of the ways the Board of Directors accomplishes this is by setting qualitative annual objectives for Dr. Brunn. Historically, Dr. Brunn's annual objectives have included recruiting and retaining a high caliber and diverse executive team; establishing and fostering a strong, purpose-driven corporate culture to drive employee engagement; strengthening governance and ensuring transparent and timely communication with the Board of Directors, and acting as a role model and conducting business with high integrity. These objectives are meant, in part, to drive and maintain a positive corporate culture to attract, engage, and retain key talent for the Company. Additionally, the Board of Directors believes an engaged and empowered workforce contributes significantly to the creation of stockholder value.

In evaluating the suitability of individual candidates for internal positions and to serve on our Board of Directors, Cartesian is proud to consider many factors, including diversity of expertise and experience in substantive matters pertaining to our company's business, as well as diversity of background and perspective, including, but not limited to, with respect to age, gender, race, sexual orientation, religion, and relevant experience.

Diversity Matrix

The following board diversity matrix presents information as of July 29, 2024 regarding the diversity characteristics of our Board of Directors in accordance with Nasdaq listing standard 5606, as self-reported by our directors.

	Female	Male	Non-Binary	Did Not Disclose Gender
Directors	1	7	0	1
Number of Directors Who Identify in Any of the Categories Below				
African American or Black	0	0	0	0
Alaskan Native or Native American	0	0	0	0
Asian	0	2	0	0
Hispanic or Latinx	0	0	0	0
Native Hawaiian or Pacific Islander	0	0	0	0
White	1	4	0	0
Two or More Races or Ethnicities	0	0	0	0
LGBTQ+	0	0	0	0
Did Not Disclose Demographic Background	0	1	0	1

Anti-Hedging Policy

Our Board of Directors has adopted an Insider Trading Policy, which applies to all of our directors, officers and employees. The Insider Trading Policy prohibits our directors, officers and employees and any entities they control from engaging in all hedging or monetization transactions, such as zero-cost collars and forward sale contracts.

Attendance By Members Of The Board At Meetings

There were eighteen meetings of the Board of Directors during the fiscal year ended December 31, 2023. Our independent directors also held regularly scheduled executive sessions. During the fiscal year ended December 31, 2023, each director attended at least 75% of the aggregate of (i) all meetings of the Board of Directors and (ii) all meetings of the committees on which the director served, in each case during the period in which he or she served as a director.

Under our Corporate Governance Guidelines, which are available on the "Corporate Governance" section of the "Investors & News" page of our website at www.cartesiantherapeutics.com, a director is expected to spend the time and effort necessary to properly discharge his or her responsibilities. Accordingly, a director is expected to regularly prepare for and attend meetings of the Board of Directors and all committees on which the director sits (including separate meetings of the independent directors), with the understanding that, on occasion, a director may be unable to attend a meeting. A director who is unable to attend a meeting of the Board of Directors or a committee of the Board of Directors is expected to notify the Chairman of the Board of Directors or the Chairman of the appropriate committee in advance of such meeting, and, whenever possible, participate in such meeting via teleconference in the case of an in-person meeting. Currently, we do not maintain a formal policy regarding director attendance at the Annual Meeting; however, it is expected that absent compelling circumstances each director will attend. All of our then-incumbent directors attended the 2024 Annual Meeting of Stockholders.

Committees of the Board

Our Board of Directors has established four standing committees—Audit, Compensation, Nominating and Corporate Governance, and Science, IP and Quality.

The current members of each of the committees of the Board of Directors and committee Chairs are set forth in the following chart.

Name	Audit	Compensation	Nominating and Corporate Governance	Science, IP and Quality
Timothy C. Barabe	Chair	—	X	—
Carsten Brunn, Ph.D.	—	—	—	—
Carrie S. Cox	X	Chair	—	—
Nishan de Silva, M.D., M.B.A.	X	—	—	X
Murat Kalayoglu, M.D., Ph.D.	—	—	—	Chair
Kemal Malik, MBBS	—	X	—	X
Michael Singer, M.D., Ph.D.	—	—	X	X
Timothy A. Springer, Ph.D.	—	—	—	X
Patrick Zenner	X	X	Chair	—

Audit Committee

Our Audit Committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from such firm;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies and conducting regular risk assessments related to all matters affecting the enterprise, including cybersecurity, and receives periodic reports on our cybersecurity risks and activities;
- establishing policies regarding hiring employees from the independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our internal auditing staff, if any, independent registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the Audit Committee report required by the SEC rules.

The Audit Committee charter is available on the "Corporate Governance" section of the "Investors & News" page of our website at www.cartesiantherapeutics.com. The members of the Audit Committee are Timothy C. Barabe, Carrie S. Cox, Nishan de Silva, M.D., M.B.A, and Patrick Zenner. Mr. Barabe serves as the Chairman of the Audit Committee. Our Board of Directors has affirmatively determined that each of Mr. Barabe, Ms. Cox, Dr. de Silva and Mr. Zenner is independent for purposes of serving on an audit committee under Rule 10A-3 promulgated under the Exchange Act and the Nasdaq rules. The members of our Audit Committee meet the requirements for financial literacy under the applicable rules of Nasdaq. Our Board of Directors has determined that each of Mr. Barabe and Mr. Zenner qualifies as an "audit committee financial expert" as defined by Item 407(d)(5)(ii) of Regulation S-K.

In 2023, the Audit Committee met six times.

Compensation Committee

Our Compensation Committee is responsible for assisting the Board of Directors in the discharge of its responsibilities relating to the compensation of our executive officers. In fulfilling its purpose, our Compensation Committee has the following principal duties:

- annually reviewing and approving corporate goals and objectives relevant to Chief Executive Officer compensation;
- reviewing and approving, or making recommendations to our Board of Directors with respect to, the compensation of our Chief Executive Officer and other executive officers;
- overseeing an evaluation of our senior executives;
- administering our cash and equity incentive plans;
- reviewing and making recommendations to our Board of Directors with respect to director compensation;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis"; and
- preparing the annual compensation committee report, if required by SEC rules.

The Compensation Committee has the authority to retain or obtain the advice of compensation consultants, legal counsel and other advisors to assist it in carrying out its responsibilities.

The Compensation Committee may delegate its authority under its charter to one or more subcommittees as it deems appropriate from time to time as further described in its charter, which is available on the "Corporate Governance" section of the "Investors & News" page of our website at www.cartesiantherapeutics.com. The Compensation Committee may also delegate to an officer the authority to grant equity awards to certain employees, as further described in its charter and subject to the terms of our equity plans.

In 2023, the Compensation Committee engaged Compensia, Inc. ("Compensia"), a compensation consulting firm, to assess and make recommendations with respect to the amount and types of compensation to provide our executives and directors. Compensia reported directly to the Compensation Committee; however, our Chief Executive Officer consulted with Compensia with respect to its assessments of the compensation of executive officers other than the Chief Executive Officer. The Compensation Committee reviewed compensation assessments provided by Compensia comparing our compensation to that of a group of peer companies within our industry and met with Compensia to discuss compensation of our executive officers and our Board of Directors, including the Chief Executive Officer, and to receive input and advice. The Compensation Committee has considered the adviser independence factors required under SEC rules as they relate to Compensia and does not believe Compensia's prior work in 2022 or work in 2023 raised a conflict of interest.

The Compensation Committee uses competitive compensation data from an annual total compensation study of peer companies performed by Compensia to inform the Compensation Committee's decisions about overall compensation opportunities and specific compensation elements. Additionally, the Compensation Committee uses multiple reference points when establishing targeted compensation levels. The Compensation Committee does not benchmark specific compensation elements or total compensation to any specific percentile relative to the peer companies or the broader United States market. Instead, the Compensation Committee applies judgment and discretion in establishing targeted pay levels, taking into account not only competitive market data, but also factors such as Company, business and individual performance, scope of responsibility, critical needs and skill sets, leadership potential and succession planning.

The members of the Compensation Committee are Carrie S. Cox, Kemal Malik, MBBS, and Patrick Zenner. Carrie S. Cox serves as Chairman of the Compensation Committee. Our Board of Directors has determined that each of Ms. Cox, Dr. Malik, and Mr. Zenner and our former directors and Compensation Committee members Göran Ando, M.D., Scott D. Myers, and Aymeric Sallin, is independent under the applicable SEC and Nasdaq rules, including the heightened standard for independence specific to members of a compensation committee, and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

In 2023, the Compensation Committee met eleven times.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee's responsibilities include:

- identifying individuals qualified to become board members;
- recommending to our Board of Directors the persons to be nominated for election as directors and to each board committee;
- reviewing and making recommendations to our Board of Directors with respect to management succession planning;
- developing and recommending to our Board of Directors corporate governance principles; and
- overseeing a periodic assessment of our Board of Directors.

The Nominating and Corporate Governance Committee charter is available on the "Corporate Governance" section of the "Investors & News" page of our website at www.cartesiantherapeutics.com. The members of the Nominating and Corporate Governance Committee are Timothy C. Barabe, Michael Singer, M.D., Ph.D., and Patrick Zenner. Mr. Zenner serves as the Chairman of the Nominating and Corporate Governance Committee. Our Board of Directors has determined that each of Mr. Barabe, Dr. Singer, and Mr. Zenner, and our former director and Nominating and Corporate Governance Committee member, Scott D. Myers, is independent under the applicable Nasdaq rules.

In 2023, the Nominating and Corporate Governance Committee met four times.

Science, IP and Quality Committee

The Science, IP and Quality Committee of the Board of Directors (the "SIPQ Committee") does not maintain a charter in order to preserve maximum flexibility for its activities. Some of the activities undertaken by the SIPQ Committee include:

- reviewing the Company's research and development strategy as well as the Company's long-term strategic goals and objectives, and monitoring the Company's progress in achieving such goals and objectives;
- advising the Board of Directors on scientific, technological, and research and development matters, and on strategic issues associated with the Company's product pipeline and technology;
- reviewing and discussing the effectiveness and competitiveness of the Company's position and strategies in relation to emerging scientific and technology trends and activities relevant to the success of the Company's product pipeline and technology;
- reviewing the quality, direction, and competitiveness of the Company's research and development programs, and product pipeline;
- reviewing the organization, resources and capabilities of the Company's research, analytical, chemistry, manufacturing, and controls, and clinical departments;
- reviewing strategies and approaches to acquiring, in licensing, out licensing, and maintaining innovation and technology positions;
- advising the Board of Directors on the scientific, medical, and technical aspects of significant acquisitions, in licenses, out licenses, and other strategic business development transactions;
- assisting the Company in reviewing, as requested, the capabilities of the Company's current and prospective key scientific, clinical, medical, or technical personnel and engagement with key opinion leaders, and the depth and breadth of the Company's scientific resources;
- advising the Board of Directors, and the committees of the Board of Directors, as requested, with regard to performance and succession planning of the Company's officers and other leadership of the research and development, manufacturing, medical, and other technical or scientific functions within the Company;
- reviewing and opining on the strategy for the Company's intellectual property portfolio;

- providing counsel and know-how to the Company's management in the area of research and development and the Company's product pipeline and technology; and
- carrying out other tasks or providing other advice related to the Company's product pipeline and technology as may be requested by the Board of Directors.

The SIPQ Committee was formed on March 20, 2024, and consequently did not meet in 2023. The members of the SIPQ Committee are Nishan de Silva, M.D., M.B.A, Murat Kalayoglu, M.D., Ph.D., Kemal Malik, MBBS, Michael Singer, M.D., Ph.D., and Timothy A. Springer, Ph.D. Dr. Kalayoglu serves as the Chairman of the SIPQ Committee.

Compensation Committee Interlocks and Insider Participation

No member of our Compensation Committee is currently, or has been at any time, a current or former officer or employee. None of our executive officers served as a director or a member of a compensation committee (or other committee serving an equivalent function) of any other entity, one of whose executive officers served as a director or member of our Compensation Committee during the last completed fiscal year.

Executive Officers

The names of our current executive officers, their ages as of July 29, 2024, and their positions are shown below.

Name	Age	Position
Carsten Brunn, Ph.D.(1)	54	President and Chief Executive Officer, Director
Blaine Davis	50	Chief Financial Officer
Metin Kurtoglu, M.D., Ph.D.	46	Chief Technology Officer
Chris Jewell, Ph.D.	43	Chief Scientific Officer
Milos Miljkovic, M.D.	40	Chief Medical Officer
Emily English, Ph.D.	44	Senior Vice President, Head of Manufacturing

(1) For Dr. Brunn's biographical information, see "Directors" above.

Our Board of Directors chooses executive officers, who then serve at the Board of Directors' discretion.

Blaine Davis. Blaine Davis has served as our Chief Financial Officer since November 2022. Prior to joining the Company, Mr. Davis served as Chief Financial Officer at Protara Therapeutics, Inc., a publicly-traded biotechnology company, from February 2020 to September 2022. Before joining Protara Therapeutics, Inc., Mr. Davis served as Vice President, Head of Investor Relations & Corporate Communications for Insmed Incorporated from July 2017 to January 2020. Previously, Mr. Davis held multiple executive leadership positions at Endo International plc, including Senior Vice President and General Manager, Specialty Pharmaceuticals; President of Endo Ventures; and Senior Vice President, Investor Relations and Corporate Communications. Prior to his tenure at Endo International plc, Mr. Davis held senior positions in corporate and business development and investor relations at Bristol-Myers Squibb Company. Mr. Davis holds a B.A. in Biology and Psychology with a minor in Economics from Middlebury College.

Metin Kurtoglu, M.D, Ph.D. Dr. Kurtoglu has served as the Chief Technology Officer of the Company since March 2024, prior to which Dr. Kurtoglu served as the Company's Chief Operations Officer from November 2023 to March 2024. Prior to becoming the Company's Chief Operating Officer, Dr. Kurtoglu served as the Chief Operating Officer from 2021 to November 2023, Chief Medical Officer and Chief GMP Manufacturing from 2019 to 2021 and Chief Medical Officer from 2016 to 2019 of Old Cartesian. Dr. Kurtoglu's clinical and basic science research career spans over 20 years and has focused on developing novel targets for drug-resistant cancer cells and cancer stem cells, including multiple myeloma. He has also been an investigator in various cancer immunotherapy trials. Dr. Kurtoglu is a medical oncologist board certified in internal medicine. He completed his residency and graduate training at the University of Miami, and clinical and research fellowship at the NCI / NIH.

Chris Jewell, Ph.D. Dr. Jewell has served as the Chief Scientific Officer of the Company since November 2023. Prior to assuming his role as the Company's Chief Scientific Officer, Dr. Jewell served as the Chief Scientific Officer of Old Cartesian from January 2023 to November 2023 and previously collaborated with Old Cartesian through sponsored research. Dr. Jewell established his laboratory at the University of Maryland in 2012, where

he was promoted to Associate Professor in 2017 and to Full Professor in 2020, a position he served until April 2024. His expertise in bioengineering, immunology, and nanotechnology spans two decades of experience, including as a double-endowed MPower Professor and Minta Martin Professor at the University of Maryland and as a Consultant with the Boston Consulting Group. Dr. Jewell's research has resulted in substantial funding and numerous publications, including works in Nature, Nature Materials, The Proceedings of the National Academy of Sciences (PNAS), and Nature Biotechnology. He has received over 50 professional awards and is an elected Fellow of the American Institute for Medical and Biological Engineering and the Biomedical Engineering Society. Dr. Jewell completed his Ph.D. in Chemical Engineering at the University of Wisconsin and was a Ragon Postdoctoral Fellow at MIT and Harvard.

Milos Miljkovic, M.D. Dr. Miljkovic has served as the Chief Medical Officer of the Company since November 2023. He is board-certified in hematology, medical oncology, and internal medicine. Prior to serving as Old Cartesian's Chief Medical Officer from 2021 to November 2023, he served at the National Cancer Institute as an Assistant Research Physician from 2017 to 2021, Chief Fellow, Hematology/Oncology from 2016 to 2017 and as a Clinical Fellow, Hematology/Oncology from 2014 to 2017. While working at the National Cancer Institute, Dr. Miljkovic specialized in early-stage trials in immuno-oncology. He is currently a Special Volunteer at the National Cancer Institute's Lymphoid Malignancies Branch. He also works as an Instructor at University of Maryland Baltimore County, where he co-leads an introductory course in clinical trials for the UMBC graduate program in bioengineering.

Emily English, Ph.D. Dr. English has served as the Senior Vice President, Head of Manufacturing Operations of the Company since April 2024, and as its Vice President, Quality from November 2023 to April 2024. Dr. English served as Vice President, Quality at Old Cartesian from December 2022 to November 2023, and had previously served as Old Cartesian's Senior Director, Quality, from December 2021 to December 2022, and its Director, Quality from April 2021 to December 2021. Dr. English served as Venture Partner at Baltimore Venture Partners, a private investment firm, from August 2020 to April 2021. She also served as Chief Executive Officer of Gemstone Biotherapeutics, a private biotechnology company, from June 2018 to June 2020, and as Chief Operating Officer at Gemstone from June 2017 to May 2018. Dr. English also served on the Board of Directors of the BioTechnical Institute of Maryland, Inc. from December 2018 to June 2021, and served on the advisory board of the University of Maryland's Department of Bioengineering from July 2019 to June 2021. Dr. English holds a bachelor's of science degree in Chemistry from the University of Maryland, and a Ph.D. in Chemistry from the University of Wisconsin-Madison.

None of our executive officers are related to any other executive officer or to any of our directors.

Pursuant to the Merger Agreement, the Company previously agreed to appoint each of Dr. Jewell, Dr. Miljkovic and Dr. Kurtoglu to their roles as Chief Scientific Officer, Chief Medical Officer and Chief Operating Officer, respectively. Other than pursuant to the Merger Agreement, there are no known arrangements or understandings between Dr. Jewell, Dr. Miljkovic or Dr. Kurtoglu and any other person pursuant to which any of them were selected as an officer.

COMPENSATION DISCUSSION AND ANALYSIS

This Compensation Discussion and Analysis is intended to assist our stockholders in understanding our executive compensation program by providing an overview of our executive compensation-related policies, practices, and decisions for 2023. It also explains how we determined the material elements of compensation for our principal executive officer, our principal financial officer, the two executive officers (other than our principal executive officer and principal financial officer) who were our most highly compensated currently serving executive officers for the year ended December 31, 2023, and the two executive officers who would have been among our two highly compensated executive officers for the year ended December 31, 2023 but for the fact that such individuals were not serving as executive officers at the end of the year ended December 31, 2023, whom we refer to collectively as our "Named Executive Officers." For 2023, our Named Executive Officers were:

- Carsten Brunn, Ph.D., our President and Chief Executive Officer (our "CEO");
- Blaine Davis, our Chief Financial Officer (our "CFO");
- Metin Kurtoglu, M.D., Ph.D., our Chief Technology Officer;
- Chris Jewell, Ph.D., our Chief Scientific Officer;
- Peter G. Traber, M.D., our former Chief Medical Officer; and
- Lloyd Johnston, Ph.D., our former Chief Operations Officer.

Specifically, this Compensation Discussion and Analysis provides an overview of our executive compensation philosophy, the overall objectives of our executive compensation program, and each compensation element that we provide to our executive officers. In addition, it explains how and why the Compensation Committee arrived at the specific compensation decisions for our executive officers, including our Named Executive Officers, in 2023.

Overview

We are a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases. We leverage our proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. Unlike DNA, mRNA degrades naturally over time without integrating into the cell's genetic material. Therefore, our mRNA cell therapies are distinguished by their capacity to be dosed repeatedly like conventional drugs, administered in an outpatient setting, and given without pre-treatment chemotherapy required with many conventional cell therapies. We believe our mRNA cell therapies have the potential to deliver deep, durable clinical benefit to a broad group of patients with autoimmune diseases because they can be administered over a short period of time, in an outpatient setting, and without pre-treatment chemotherapy.

2023 Business Highlights

- On November 13, 2023, we announced our Merger with Old Cartesian, a clinical-stage biotechnology company pioneering mRNA cell therapies for autoimmune diseases. In connection with the Merger, we also announced a $60.25 million private placement financing led by Timothy A. Springer, Ph.D., a member of our Board of Directors. Since consummating the Merger, we have been focused on continuing to advance our pipeline of innovative cell therapies, with several clinical milestones expected in 2024.
- In August 2023, we announced a strategic initiative designed to maximize stockholder value associated with our legacy product candidate, SEL-212. As part of the initiative, we announced plans to halt further investments in our pipeline programs outside of SEL-212 and Xork and to stop or discontinue non-essential activities. SEL-212 is a combination of our ImmTOR immune tolerance platform and a therapeutic uricase enzyme (pegadricase). In March 2023, we and our SEL-212 development partner, Sobi, reported positive Phase 3 data from the DISSOLVE I and II Phase 3, placebo-controlled, randomized clinical trials of SEL-212 for the treatment of patients with chronic refractory gout. Both trials met their primary endpoint, and SEL-212 was observed to be well-tolerated. In October 2023, we announced that we entered into an agreement to transition the manufacturing and development rights and remaining clinical operations of ImmTOR for SEL-212 to Sobi. Under the terms of the agreement, 15 of our employees transferred their employment to full-time positions at Sobi.

2023 Executive Compensation Highlights

Consistent with our performance and compensation philosophy, the Compensation Committee took the following compensation actions for our Named Executive Officers for 2023:

Named Executive Officer	2023 Base Salary Increase from 2022	2023 Annual Bonus Target as a Percentage of Base Salary	2023 Annual Time-Based Stock Options (# of shares)	2023 Annual Time-Based RSU Awards (# of shares)
Carsten Brunn, Ph.D.	5.4%	55%	42,499	9,426
Blaine Davis(1)	—	40%	—	—
Metin Kurtoglu, M.D., Ph.D.(2)	—	40%	—	—
Chris Jewell, Ph.D.(3)	—	40%	—	—
Peter G. Traber, M.D.(4)	9.0%	40%	29,999	6,666
Lloyd Johnston, Ph.D.(5)	4.5%	40%	15,833	3,333

(1) Mr. Davis was appointed Chief Financial Officer on November 28, 2022, and per the terms of his employment agreement was not eligible for a base salary increase, annual time-based stock options, or annual time-based RSU awards in 2022. Mr. Davis received a one-time grant of 41,666 options upon his hiring on November 28, 2022.

(2) Dr. Kurtoglu was appointed Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(3) Dr. Jewell was appointed Chief Scientific Officer on November 13, 2023.

(4) Dr. Traber ceased to serve as our Chief Medical Officer on November 13, 2023.

(5) Dr. Johnston ceased to serve as our Chief Operations Officer on November 13, 2023.

Emphasis on Variable and Performance-Based Compensation

The annual compensation of our executive officers, including our Named Executive Officers, varies from year to year based on our corporate financial and operational results and individual performance. Our executive compensation program emphasizes "variable" pay over "fixed" pay and seeks to balance short-term and long-term incentives, as well as performance-based and time-based incentives. In 2023, the majority of the target total direct compensation of our CEO consisted of variable pay, including cash awarded under our annual bonus plan and long-term incentives in the form of equity awards for which value is likely to be variable. In particular, 18.4% of our CEO's 2023 target total direct compensation was delivered in stock options, which derive their value from potential increases in our stock price. Fixed pay, primarily consisting of base salary, made up only 10.1% of our CEO's target total direct compensation in 2023, while variable pay, consisting of annual incentives in the form of an annual bonus program and long-term incentives in the form of equity awards, made up 89.9% of his target total direct compensation. Similar allocations applied to our other executive officers, including our other Named Executive Officers. The following chart shows the percentages of target variable pay versus target fixed pay for our CEO and our other Named Executive Officers in 2023:

Named Executive Officer	Title	Total Pay (2023)	Percentage of Pay (Fixed)	Percentage of Pay (Variable)
Carsten Brunn, Ph.D.	President and Chief Executive Officer	$6,111,883	10.1%	89.9%
Blaine Davis	Chief Financial Officer	$2,494,759	17.6%	82.4%
Metin Kurtoglu, M.D., Ph.D.(1)	Chief Technology Officer	$ 71,243	70.6%	29.4%
Chris Jewell, Ph.D.(2)	Chief Scientific Officer	$ 53,100	70.6%	29.4%
Peter G. Traber, M.D.(3)	Former Chief Medical Officer	$3,780,920	12.1%	87.9%
Lloyd Johnston, Ph.D.(4)	Former Chief Operations Officer	$2,697,590	16.0%	84.0%

(1) Dr. Kurtoglu was appointed Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(2) Dr. Jewell was appointed Chief Scientific Officer on November 13, 2023.

(3) This row represents Dr. Traber's total pay at target. Upon his departure as a full-time employee in December 2023, Dr. Traber forfeited his 2023 annual target bonus opportunity of $200,000. However, as discussed under "—Post-Employment Compensation" below, Dr. Traber was paid an amount of $200,000 as a term of his separation agreement, which was approved separately from the cash bonus plan for 2023 (the "2023 Bonus Plan") by the Compensation Committee.

(4) This row represents Dr. Johnston's total pay at target. Upon his departure as a full-time employee in December 2023, Dr. Johnston forfeited his 2023 annual target bonus opportunity of $173,888. However, as discussed under "—Post-Employment Compensation" below, Dr. Johnston was paid an amount of $173,888 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee.

Merger

On November 13, 2023 we entered into the Merger Agreement, pursuant to which Sakura Merger Sub I, Inc., a Delaware corporation and wholly owned subsidiary of ours merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation and became a wholly owned subsidiary of ours. Immediately following the First Merger, Old Cartesian merged with and into Sakura Merger Sub II, LLC, a Delaware limited liability company and wholly owned subsidiary of ours, pursuant to which Second Merger Sub was the surviving entity.

Treatment of Equity Awards

The Merger Agreement provides that, among other things, upon the consummation of the First Merger:

- each option to acquire shares of Common Stock (a "Company Stock Option") and each RSU award with respect to shares of Common Stock, in each case that was outstanding and unvested immediately prior to the Effective Time (as defined in the Merger Agreement), vested in full at the Effective Time;
- each Company Option was canceled at the Effective Time, and in exchange therefor, former holders of such canceled Company Stock Options became entitled to receive (without interest), in consideration of the cancellation of such Company Stock Option, an amount in cash (less applicable tax withholdings) equal to the product of (A) the total number of shares of Common Stock subject to the unexercised portion of such Company Stock Option immediately prior to the Effective Time (determined after giving effect to the accelerated vesting) multiplied by (B) the excess, if any, of $2.06 (the "Cash-out Amount") over the applicable exercise price per share of Common Stock under such Company Stock Option; provided, however, that, if the exercise price per share of Common Stock of any Company Stock Option was equal to or greater than the Cash-out Amount, such Company Stock Option was canceled and terminated without any consideration in respect thereof; and
- each RSU award with respect to shares of Common Stock was cancelled at the Effective Time, and the former holder of such canceled RSU became entitled, in exchange therefor, to receive (without interest) an amount in cash (less applicable tax withholdings) equal to the product of (A) the total number of shares of Common Stock deliverable under such RSU immediately prior to the Effective Time (determined after giving effect to the accelerated vesting) multiplied by (B) the Cash-out Amount.

The table below illustrates the impact of these provisions on awards held by our Named Executive Officers:

Named Executive Officer	Company Stock Options Subject to Accelerated Vesting	RSUs Subject to Accelerated Vesting	Company Stock Options Canceled	RSUs Canceled	Cash Received for Canceled Company Stock Options	Cash Received for Canceled RSUs
Carsten Brunn, Ph.D.	2,154,651	521,125	5,569,100	521,125	$1,309,750	$1,073,518
Blaine Davis	1,250,000	—	1,250,000	—	$ 987,500	—
Peter G. Traber, M.D.	1,339,155	291,200	2,250,300	291,200	$ 837,000	$ 599,872
Lloyd Johnston, Ph.D.	738,752	173,000	1,667,357	173,000	$ 497,550	$ 356,380
Metin Kurtoglu, M.D., Ph.D.	—	—	—	—	—	—
Chris Jewell, Ph.D.	—	—	—	—	—	—

Old Cartesian Options and Adoption of Old Cartesian's 2016 Stock Incentive Plan

At the Effective Time, each option to purchase shares of Old Cartesian common stock (an "Old Cartesian Option"), other than Old Cartesian Options held by Drs. Kurtoglu, Miljkovic, and Jewell, that was outstanding and unexercised immediately prior to the Effective Time, whether or not vested, was converted into an option to purchase Common Stock. At the Effective Time, each Old Cartesian Option held by Drs. Kurtoglu, Miljkovic,

and Jewell (a "Continuing Officer Option") that was outstanding and unexercised immediately prior to the Effective Time, whether or not vested, was converted into an option to purchase Series A Preferred Stock. Pursuant to the Merger Agreement, we assumed the Old Cartesian Plan and each Old Cartesian Option in accordance with the terms of the Old Cartesian Plan and the terms of the stock option agreement by which such Old Cartesian Option is evidenced (but with changes to such documents as we in good faith determined were necessary to reflect the substitution of Old Cartesian Options by us to purchase shares of Common Stock or Series A Preferred Stock, as applicable, and the other terms set forth in the Merger Agreement). All rights with respect to Old Cartesian common stock under Old Cartesian Options assumed by the Company were converted into rights with respect to Common Stock or Series A Preferred Stock, as applicable. From and after the Effective Time:

- the number of shares of Common Stock subject to each Old Cartesian Option assumed by the Company was determined by multiplying (A) the number of shares of Old Cartesian common stock that were subject to such Old Cartesian Option, as in effect immediately prior to the First Effective Time, by (B) the Exchange Ratio (as defined in the Merger Agreement), and rounding the resulting number down to the nearest whole number of shares of Common Stock;
- the per-share exercise price for Common Stock issuable upon exercise of each Old Cartesian Option assumed by the Company was determined by dividing (A) the per share exercise price of Old Cartesian common stock subject to such Old Cartesian Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio and rounding the resulting exercise price up to the nearest whole cent;
- the number of shares of Series A Preferred Stock subject to each Continuing Officer Option assumed by the Company was determined by multiplying (A) the number of shares of Old Cartesian common stock that were subject to such Continuing Officer Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio (as defined in the Merger Agreement), and (C) dividing such resulting number by 1,000 and rounding the resulting number down to the nearest 1/1000th of a share of Series A Preferred Stock;
- the per share exercise price for Series A Preferred Stock issuable upon exercise of each Continuing Officer Option assumed by the Company was determined by dividing (A) the per share exercise price of Old Cartesian common stock subject to such Continuing Officer Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio, and (C) multiplying the resulting number by 1,000 and rounding the resulting exercise price up to the nearest whole cent; and
- any restriction on the exercise of any Old Cartesian Option assumed by the Company, including the Continuing Officer Options, will continue in full force and effect and, except as expressly provided in the Merger Agreement, the term, exercisability, vesting schedule and other provisions of such Old Cartesian Option will otherwise remain unchanged.

Following the Series A Preferred Stock Automatic Conversion, the Continuing Officer Options became exercisable for Common Stock, rather than Series A Preferred Stock. As of the effective time of the automatic conversion, the number of shares of Common Stock subject to each Continuing Officer Option was adjusted by multiplying (A) the number of shares of Series A Preferred Stock that were subject to such Continuing Officer Option, by (B) 33.333 and rounding the resulting number down to the nearest whole number of shares of Common Stock. The per-share exercise price for Common Stock issuable upon exercise of each Continuing Officer Option was correspondingly adjusted by dividing (A) the per-share exercise price of the Series A Preferred Stock subject to such Continuing Officer Option, by (B) 33.333 and rounding the resulting exercise price up to the nearest whole cent.

As a result of the Merger, Drs. Kurtoglu and Jewell were granted Continuing Officer Options as summarized below:

Named Executive Officer	Number of Securities Underlying Unexercised Options Exercisable(1)	Number of Securities Underlying Unexercised Options Not Yet Exercisable(1)	Option Exercise Price	Option Expiration Date
Metin Kurtoglu, M.D., Ph.D.	213,820	—	$1.41	11/6/2026
	14,254	—	$3.23	4/25/2031
	3,563	10,691	$3.23	2/29/2032
Chris Jewell, Ph.D.	84,638	57,909	$3.23	1/15/2033

(1) The Continuing Officer Options were exercisable initially only for shares of Series A Preferred Stock. Following the conversion of the majority of the Company's outstanding shares of Series A Preferred Stock, the Continuing Officer Options were converted into options to purchase shares of Common Stock. The numbers of shares presented in this column are shares of Common Stock.

Retention Bonuses

On August 25, 2023, our Board of Directors approved a one-time cash bonus payment (each, a "Retention Bonus" and together, the "Retention Bonuses") to certain of our then-current executive officers equal to a multiplier of that executive officer's annual base salary for 2023, including Dr. Brunn (2x annual base salary), Mr. Davis (2x annual base salary), Dr. Traber (1.5x annual base salary), and Dr. Johnston (2x annual base salary), provided that each such Retention Bonus recipient remains employed by us in good standing on March 31, 2024. In connection with the Merger, the Compensation Committee of the Board of Directors approved the acceleration of the payment of each Retention Bonus, each of which was paid shortly following the closing of the Merger, pursuant to retention bonus letters with each Retention Bonus recipient, provided that each Retention Bonus recipient will be required to repay his or her Retention Bonus in the event that he or she ceases to provide services to the Company prior to either March 31, 2024 (in the case of Drs. Traber and Johnston, who both provided services through this date) or June 30, 2024 (in the case of Dr. Brunn and Mr. Davis), unless the recipient's termination is due to an involuntary termination of all of the recipient's services by the Company without cause.

Executive Compensation Practices

We endeavor to maintain sound executive compensation policies and practices, including compensation-related corporate governance standards, consistent with our executive compensation philosophy. During 2023, the following executive compensation policies and practices were in place, including both policies and practices we have implemented to drive performance and policies and practices that either prohibit or minimize behaviors that we do not believe serve our stockholders' long-term interests:

What We Do

- ✔ ***Compensation Committee Independence*** - Our Board of Directors maintains a Compensation Committee comprised solely of independent directors who have established effective means for communicating with our stockholders regarding their executive compensation ideas and concerns.
- ✔ ***Compensation Committee Advisor Independence*** - The Compensation Committee engages and retains its own advisors. In 2023, the Compensation Committee engaged Compensia as compensation consultant to assist with its responsibilities. Compensia performs no consulting or other services for the Company.
- ✔ ***Annual Compensation Review*** - The Compensation Committee conducts an annual review of our executive compensation philosophy and strategy, including a review of the compensation peer group used for comparative purposes.
- ✔ ***Compensation-Related Risk Assessment*** - We conduct an annual evaluation of our compensation programs, policies, and practices to ensure that they reflect an appropriate level of risk-taking but do not encourage our employees to take excessive or unnecessary risks that could have a material adverse impact on our Company.
- ✔ ***Emphasize Long-Term Equity Compensation*** - The Compensation Committee uses equity awards to

deliver long-term incentive compensation opportunities to our executive officers, including our Named Executive Officers. These equity awards vest or may be earned over multi-year periods, which we believe better serves our long-term value creation goals and retention objectives.

- ✔ ***Limited Executive Perquisites*** - We provide only modest amounts of perquisites or other personal benefits that serve a sound business purpose to the Named Executive Officers. In addition, the Named Executive Officers participate in our health and welfare benefit programs on the same terms as all of our employees.
- ✔ ***"Double-Trigger" Change in Control Arrangements*** - The post-employment compensation arrangements for our executive officers, including our Named Executive Officers, are based on a "double-trigger" arrangement that provides for the receipt of payments and benefits only in the event of (i) a change in control of the Company and (ii) a qualifying termination of employment.
- ✔ ***Executive Clawback Policy -*** Effective as of October 2, 2023, we instituted a new executive clawback policy, compliant with new SEC rules, which allows the Board of Directors to recover any incentive awards from any executive officer in the event the Company is required to file a restatement of its financial reporting as a result of that executive officer's fraud or misconduct.
- ✔ ***Reasonable Change-in-Control Arrangements*** - We believe the post-employment compensation arrangements for our executive officers, including our Named Executive Officers, provide for amounts and multiples that are within reasonable market norms.
- ✔ ***Prohibition on Hedging and Pledging*** - Under our Insider Trading Policy, we prohibit our employees from hedging any Company securities and from pledging any Company securities as collateral for a loan.
- ✔ ***Succession Planning*** - Our Board of Directors reviews the risks associated with our key executive positions on an annual basis so that we continue to evaluate an adequate succession strategy.

What We Do Not Do

- ✘ ***Retirement Programs*** - Other than our Section 401(k) plan generally available to all employees, we do not offer defined benefit or contribution retirement plans or arrangements or nonqualified deferred compensation plans or arrangements for our executive officers, including our Named Executive Officers.
- ✘ ***No Dividends*** - We do not pay dividends or dividend equivalents on unvested or unearned RSUs and performance-based RSU awards.
- ✘ ***No Stock Option Repricing*** - We do not reprice options to purchase shares of our Common Stock without stockholder approval.

Compensation Philosophy and Guiding Principles

We have designed our executive compensation program to reward our executive officers, including our Named Executive Officers, at a level consistent with our overall strategic and financial performance and to provide remuneration sufficient to attract, retain, and motivate them to exert their best efforts in the highly competitive markets and industries in which we operate. We believe that competitive compensation packages consisting of a combination of base salaries, annual cash bonus opportunities, and long-term incentive opportunities in the form of equity awards that are earned over a multi-year period, enable us to attract top talent, motivate successful short-term and long-term performance, satisfy our retention objectives, and align the compensation of our executive officers with our performance and long-term value creation for our stockholders.

The Compensation Committee periodically reviews and analyzes market trends and the prevalence of various compensation delivery vehicles and adjusts the design and operation of our executive compensation program from time to time as it deems necessary and appropriate. In designing and implementing the various elements of our executive compensation program, the Compensation Committee considers market and industry practices and its impact on our financial condition. While the Compensation Committee considers all of the factors in its deliberations, it places no formal weighting on any one factor.

As we continue to grow, the Compensation Committee will evaluate our compensation philosophy and program objectives as circumstances require. At a minimum, we expect the Compensation Committee to review executive compensation annually.

Compensation-Setting Process

Role of the Compensation Committee

The Compensation Committee, among its other responsibilities, establishes our overall compensation philosophy and reviews and approves our executive compensation program, including the specific compensation of our executive officers, including our Named Executive Officers. The Compensation Committee has the authority to retain special counsel and other advisors, including compensation consultants, to assist it in carrying out its responsibilities to determine the compensation of our executive officers. The Compensation Committee's authority, duties, and responsibilities are described in its charter, which is reviewed annually and revised and updated as warranted. The charter is available on the "Corporate Governance" section of the "Investors & News" page of our website at www.cartesiantherapeutics.com.

While the Compensation Committee determines our overall compensation philosophy and approves the compensation of our executive officers, it relies on its compensation consultant, as well as our CEO, our CFO, our Chief People Officer, and other staff to formulate recommendations with respect to specific compensation actions. The Compensation Committee makes all final decisions regarding compensation, including base salary levels, target annual cash bonus opportunities, actual cash bonus payments, and long-term incentives in the form of equity awards. The Compensation Committee meets on at least a quarterly basis and at other times as needed. The Compensation Committee periodically reviews compensation matters with our Board of Directors.

At the conclusion of each year, the Compensation Committee reviews our executive compensation program, including any incentive compensation plans and arrangements, to assess whether our compensation elements, actions, and decisions are (i) properly coordinated, (ii) aligned with our vision, mission, values, and corporate goals, (iii) provide appropriate short-term and long-term incentives for our executive officers, (iv) achieve their intended purposes, and (v) are competitive with the compensation of executives in comparable positions at the companies with which we compete for executive talent. Following this assessment, the Compensation Committee makes any necessary or appropriate modifications to our existing plans and arrangements or adopts new plans or arrangements.

The Compensation Committee also conducts an annual review of our executive compensation strategy to ensure that it is appropriately aligned with our business strategy and achieving our desired objectives. Further, the Compensation Committee reviews market trends and changes in competitive compensation practices, as further described below. Based on its review and assessment, the Compensation Committee, from time to time, recommends changes in our executive compensation program to our Board of Directors.

The factors considered by the Compensation Committee in determining the compensation of our executive officers, including our Named Executive Officers, for 2023 included:

- the recommendations of our CEO (except with respect to his own compensation) as described below;
- our corporate growth and other elements of financial and operational performance;
- our corporate and individual achievements against one or more short-term and long-term performance objectives;
- the individual performance of each executive officer against his management objectives;
- a review of the relevant competitive market analysis prepared by its compensation consultant (as described below);
- the expected future contribution of the individual executive officer;
- historical compensation awards we have made to our executive officers; and
- internal pay equity based on the impact on our business and performance.

The Compensation Committee did not weight these factors in any predetermined manner, nor did it apply any formulas in making its decisions. The members of the Compensation Committee considered this information in light of their individual experience, knowledge of the Company, knowledge of each executive officer, knowledge of the competitive market, and business judgment in making their decisions regarding executive compensation and our executive compensation program.

As part of this process, the Compensation Committee also evaluates the performance of our CEO each year and makes all decisions regarding his base salary adjustments, target annual cash bonus opportunities, actual cash bonus payments, and long-term incentives in the form of equity awards. Our CEO is not present during any of the deliberations regarding his compensation.

Role of Our CEO

Our CEO works closely with the Compensation Committee in determining the compensation of our other executive officers, including the other Named Executive Officers. Typically, our CEO works with the Compensation Committee to recommend the structure of the annual bonus plan, and to identify and develop corporate and individual performance objectives for such plan, and to evaluate actual performance against the selected measures. Our CEO also makes recommendations to the Compensation Committee as described in the following paragraph and is involved in the determination of compensation for the respective executive officers who report to him.

At the end of each year, our CEO reviews the performance of our other executive officers, including the other Named Executive Officers, for such year, and then shares these evaluations with, and makes recommendations to, the Compensation Committee for each element of compensation. Using his subjective evaluation of each executive officer's performance and taking into consideration historical compensation awards to our executive officers and our corporate performance during the preceding year, these recommendations concern base salary adjustments, target annual cash bonus opportunities, actual bonus payments, and long-term incentives in the form of equity awards for each of our executive officers (other than himself) based on our results, the individual executive officer's contribution to these results, and his or her performance toward achieving his or her individual performance goals. The Compensation Committee then reviews these recommendations and considers the other factors described above and makes decisions as to the target total direct compensation of each executive officer (other than our CEO), as well as each individual compensation element.

While the Compensation Committee considers our CEO's recommendations, as well as the competitive market analysis prepared by its compensation consultant, these recommendations and market data serve as only two of several factors in making its decisions with respect to the compensation of our executive officers. Ultimately, the Compensation Committee applies its own business judgment and experience to determine the individual compensation elements and amount of each element for our executive officers. Moreover, no executive officer participates in the determination of the amounts or elements of his or her own compensation.

Role of Compensation Consultant

Pursuant to its charter, the Compensation Committee has the authority to engage its own legal counsel and other advisors, including compensation consultants, as it determined in its sole discretion, to assist in carrying out its responsibilities. The Compensation Committee makes all determinations regarding the engagement, fees, and services of these advisors, and any such advisor reports directly to the Compensation Committee.

In 2023, pursuant to this authority, the Compensation Committee engaged Compensia, a national compensation consulting firm, to provide information, analysis, and other assistance relating to our executive compensation program on an ongoing basis. The nature and scope of the services provided to the Compensation Committee by Compensia in 2023 were as follows:

- developed and subsequently updated the compensation peer group;
- provided advice with respect to compensation best practices and market trends for executive officers and members of our Board of Directors;
- conducted an analysis of the levels of overall compensation and each element of compensation for of our executive officers and non-executive employees;
- conducted an analysis of the levels of overall compensation and each element of compensation for the members of our Board of Directors; and
- provided *ad hoc* advice and support throughout the year.

Representatives of Compensia attended meetings of the Compensation Committee as requested and also communicated with the Compensation Committee outside of meetings. Compensia reported to the Compensation Committee rather than to management, although Compensia was permitted to meet with members of management, including our CEO and members of our executive compensation staff, for purposes of gathering information on proposals that management may make to the Compensation Committee. During 2023, Compensia met with various executive officers to collect data and obtain management's perspective on various executive compensation proposals.

Compensia has not provided any other services to us nor received any compensation other than with respect to the services described above.

The Compensation Committee has assessed the independence of Compensia taking into account, among other things, the various factors as set forth in Exchange Act Rule 10C-1 and the enhanced independence standards and factors set forth in the applicable Nasdaq listing standards, and has concluded that its relationship with Compensia and the work of Compensia on behalf of the Compensation Committee has not raised any conflict of interest.

Competitive Positioning

The Compensation Committee believes that the competitive market for executive talent includes the biotechnology industry broadly. Accordingly, it develops a compensation peer group to contain a carefully selected cross-section of such public biotechnology companies using factors described below, with employee sizes, therapeutic focuses, stages of development and market capitalizations that are similar to ours. This data is supplemented with executive compensation survey data representing both public and private biotechnology and life sciences companies that are of similar size. The Compensation Committee considers the compensation practices of these peer group companies as one factor in its compensation deliberations.

Compensation Peer Group

As part of its deliberations, the Compensation Committee considers competitive market data on executive compensation levels and practices and a related analysis of such data. This data is drawn from a select group of peer companies developed by the Compensation Committee, as well as compensation survey data.

In 2023, the Compensation Committee directed Compensia to formulate a group of peer companies to be used as a reference for market positioning and for assessing competitive market practices. Compensia undertook a detailed review of the pool of U.S.-based publicly traded companies, taking into consideration our industry and sector, the size of such companies (based on revenues and market capitalization) relative to our size and growth rate, and the following additional factors:

- the company's stage of clinical development;
- the company's area(s) of therapeutic focus;
- the company's market capitalization;
- the comparability of the company's organizational complexities and growth attributes;
- the comparability of the company's business focus and corporate strategy; and
- the comparability of the company's operational performance (for consistency with our strategy and future performance expectations).

Following this review, Compensia recommended to the Compensation Committee the following peer group to consist of 20 publicly traded biotechnology companies, which the Compensation Committee subsequently approved. The selected companies had market capitalizations ranging from approximately $154 million to approximately $1.3 billion, with a median of approximately $654 million. The companies comprising the updated compensation peer group were as follows:

4D Molecular Therapeutics	Dyne Therapeutics	Lineage Cell Therapeutics
Aldeyra Therapeutics	Editas Medicine	MeiraGTx
Allogene Therapeutics	Genelux	REGENXBIO
Alpine Immune Sciences	Gritstone Bio	Replimune Group
AnaptysBio	Inovio Pharmaceuticals	Sana Biotechnology
Cabaletta Bio	iTeos Therapeutics	Viridian Therapeutics
Cogent Biosciences	Kymera Therapeutics	

We do not believe that it is appropriate to make compensation decisions, whether regarding base salaries or short-term or long-term incentive compensation, upon any type of benchmarking to a peer or other representative group of companies. The Compensation Committee believes that information regarding the compensation practices at other companies is useful in at least two respects. First, the Compensation Committee recognizes that our compensation policies and practices must be competitive in the marketplace. Second, this information is useful in assessing the reasonableness and appropriateness of individual executive compensation elements and of our overall executive compensation packages. This information is only one of several factors that the Compensation Committee considers, however, in making its decisions with respect to the compensation of our executive officers.

Compensation Elements

The three primary elements of our executive compensation programs are: (1) base salary, (2) annual cash bonus opportunities, and (3) long-term incentives in the form of equity awards, as described below. Additionally during the year ended December 31, 2023, we utilized non-recurring retention bonuses.

Compensation Element	What This Element Rewards	Purpose and Key Features of Element
Base salary	Individual performance, level of experience, expected future performance and contributions.	Provides competitive level of fixed compensation determined by the market value of the position, with actual base salaries established based on the facts and circumstances of each executive officer and each individual position.
Annual cash bonuses	Achievement of pre-established corporate and individual performance objectives (for 2023, focused on the advancement of our pipeline, corporate strategy and business development, culture and engagement, and the company's financials, as well as management objectives).	Motivate executive officers to achieve certain corporate objectives and drive the company's value. Generally, performance levels are established to incent our executive officers to achieve or exceed performance objectives. For 2023, payouts for corporate performance objectives were not weighted individually, and the Compensation Committee had discretion to determine payouts based on overall achievement of the corporate goals as a group, taking into account overachievement on certain objectives, if applicable. Payouts for individual performance objectives could range from 0% to an undetermined percentage.
Retention bonuses	Maintain a stable management team and retain key Company talent through short-term market volatility and changes in corporate strategy.	Designed to stabilize the executive leadership team and reduce the possibility of turnover. These non-recurring retention bonuses awarded during the year ended December 31, 2023 were subject to repayment in the event the award recipient resigned other than for "Good Reason" or was earlier terminated by the Board of Directors prior to

Compensation Element	What This Element Rewards	Purpose and Key Features of Element
		March 31, 2024 (in the cases of Drs. Traber and Johnston) or June 30, 2024 (in the cases of Dr. Brunn and Mr. Davis).
Long-term incentives/equity awards	Achievement of corporate and individual performance objectives designed to enhance long-term stockholder value and attract, retain, motivate, and reward executive officers over extended periods for achieving important corporate objectives. Time-based vesting requirements promote retention of highly-valued executive officers.	Annual equity awards that vest over four years and provide a variable "at risk" pay opportunity. Because the ultimate value of these equity awards is directly related to the market price of our Common Stock, and the awards are only earned over an extended period of time subject to vesting, they serve to focus management on the creation and maintenance of long-term stockholder value and also provide retentive value to key employees.

Our executive officers also participate in the standard employee benefit plans available to all of our employees. In addition, our executive officers are eligible for modest post-employment (severance and change in control) payments and benefits under certain circumstances. Each of these compensation elements is discussed in detail below, including a description of the particular element and how it fits into our overall executive compensation and a discussion of the amounts of compensation paid to our executive officers, including our Named Executive Officers, in 2023 under each of these elements.

Base Salary

We believe that a competitive base salary is a necessary element of our executive compensation program, so that we can attract and retain a stable management team. Base salaries for our executive officers are also intended to be competitive with those received by other individuals in similar positions at the companies with which we compete for talent, as well as equitable across the executive team.

Generally, we establish the initial base salaries of our executive officers through arm's-length negotiation at the time we hire the individual executive officer, taking into account his or her position, qualifications, experience, prior salary level, and the base salaries of our other executive officers.

Thereafter, the Compensation Committee reviews the base salaries of our executive officers, including our Named Executive Officers, annually and makes adjustments to base salaries as it determines to be necessary or appropriate.

In December 2022, and in the cases of Dr. Jewell and Dr. Kurtoglu, December 2023, the Compensation Committee reviewed the base salaries of our executive officers, taking into consideration a competitive market analysis performed by Compensia and the recommendations of our CEO (except with respect to his own base salary), as well as the other factors described above. Following this review, the Compensation Committee set the base salaries of our executive officers at levels that it believed were appropriate to maintain their competitiveness. The base salaries of our Named Executive Officers for 2023 were as follows:

Named Executive Officer	2022 Base Salary	2023 Base Salary	Percentage Adjustment
Carsten Brunn, Ph.D.	$592,072	$624,000	5.4%
Blaine Davis	$440,000	$440,000	—
Metin Kurtoglu, M.D., Ph.D.(1)	—	$402,500	—
Christopher Jewell, Ph.D.(2)	—	$300,000	—
Peter Traber, M.D.(3)	$458,920	$500,000	9.0%
Lloyd Johnston, Ph.D.(4)	$416,000	$434,720	4.5%

(1) Dr. Kurtoglu was appointed to serve as the Company's Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(2) Dr. Jewell was appointed to serve as the Company's Chief Scientific Officer on November 13, 2023.

(3) Dr. Traber ceased to serve as our Chief Medical Officer on November 13, 2023.

(4) Dr. Johnston ceased to serve as our Chief Operations Officer on November 13, 2023.

Annual Cash Bonuses

We use annual bonuses paid to motivate our executive officers, including our Named Executive Officers, to achieve our short-term financial and operational objectives while making progress towards our longer-term growth and other goals. Consistent with our executive compensation philosophy, these annual bonuses are intended to help us to deliver a competitive total direct compensation opportunity to our executive officers. Annual cash bonuses are entirely performance-based, are not guaranteed, and may vary materially from year-to-year.

Typically, the Compensation Committee establishes cash bonus opportunities pursuant to a set of board-approved corporate goals that measures and rewards our executive officers for our actual corporate and their individual performance over our fiscal year. The cash bonus plan is designed to pay above-target bonuses when we exceed our annual corporate objectives and below-target bonuses when we do not achieve these objectives.

In December 2023, the Compensation Committee determined to award cash bonus opportunities to our executive officers, including our Named Executive Officers, pursuant to the 2023 Bonus Plan. Under the 2023 Bonus Plan, the Compensation Committee had the authority to select the performance measures and related target levels applicable to the annual cash bonus opportunities for our executive officers. The performance measures involving our financial results could be determined in accordance with U.S. GAAP, or such financial results could consist of non-GAAP financial measures, and any actual results were subject to adjustment by the Compensation Committee for one-time items or unbudgeted or unexpected items when determining whether the target levels for the performance measures had been met. Individual performance objectives could be established on the basis of any factors the Compensation Committee determined relevant, and were subject to adjustment on an individual, divisional, business unit, or Company-wide basis.

Under the 2023 Bonus Plan, the Compensation Committee could, in its sole discretion and at any time, increase, reduce, or eliminate a participant's actual bonus payment, and/or increase, reduce, or eliminate the amount allocated to the bonus pool for the year. Further, the actual bonus payment for any participant could be below, at, or above a participant's target bonus opportunity, in the Compensation Committee's sole discretion. The Compensation Committee could determine the amount of any reduction on the basis of such factors as it deemed relevant, and it was not required to establish any allocation or weighting with respect to the factors it considers. During 2023, the Compensation Committee did not exercise any such individual discretion in determining bonus payouts.

Target Bonus Opportunities

For 2023, the target annual cash bonus opportunities for each of our Named Executive Officers under the 2023 Bonus Plan, expressed as a percentage of his or her annual base salary, were as follows:

Named Executive Officer	Annual Base Salary	Target Bonus Opportunity (as a percentage of base salary)	Target Bonus Opportunity	Actual Bonus Payout
Carsten Brunn, Ph.D.	$624,000	55%	$343,200	$343,200
Blaine Davis	$440,000	40%	$176,000	$176,000
Metin Kurtoglu, M.D., Ph.D.(1)	$402,500	40%	$161,000	$ 20,930
Christopher Jewell, Ph.D.(2)	$300,000	40%	$120,000	$ 15,600
Peter Traber, M.D.	$500,000	40%	$200,000	—(3)
Lloyd Johnston, Ph.D.	$434,720	40%	$173,888	—(4)

(1) Dr. Kurtoglu was appointed to serve as the Company's Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer. Dr. Kurtoglu received a pro-rated bonus based on employment with the Company since November 13, 2023.

(2) Dr. Jewell was appointed to serve as the Company's Chief Scientific Officer on November 13, 2023. Dr. Jewell received a pro-rated bonus based on employment with the Company since November 13, 2023.

(3) Upon his departure as a full-time employee in December 2023, Dr. Traber forfeited his 2023 annual target bonus opportunity of $200,000. However, as discussed under "—Post-employment Compensation" below, Dr. Traber was paid an amount of $200,000 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee.

(4) Upon his departure as a full-time employee in December 2023, Dr. Johnston forfeited his 2023 annual target bonus opportunity of $173,888. However, as discussed under "—Post-employment Compensation" below, Dr. Johnston was paid an amount of $173,888 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee.

Corporate Performance Objectives

For purposes of the 2023 Bonus Plan, the Compensation Committee selected certain pre-specified advancements to our candidate pipeline, developments in our corporate strategy and business partnerships, and financial objectives as the corporate performance measures. Each of these corporate performance measures was equally weighted. The Compensation Committee believed these performance measures were appropriate for our business because they provided a balance between moving our product candidates further in the clinic, managing our expenses, attracting and retaining key talent, and maximizing the potential value of our technology, which it believes most directly influences long-term stockholder value. At the same time, the Compensation Committee established target performance levels for each of these measures at levels that it believed to be challenging, but attainable, through the successful execution of our annual operating plan. The Compensation Committee determined that we had achieved 100% of our bonus target achievement under the 2023 Bonus Plan.

2023 Performance Results and Bonus Decisions

In December 2023, the Compensation Committee determined that our actual achievement with respect to the corporate performance objectives under the 2023 Bonus Plan was as follows:

Corporate Performance Measure	2023 Target Achievement %
Pipeline Development	100%
Corporate Strategy and Business Development	100%
Finance	100%

The corporate performance measures that factored into the Compensation Committee's determination included: (i) pipeline development goals, including advancing our clinical program for treatment of methylmalonic acidemia, the manufacturing and development of our Xork product, and completing the DISSOLVE clinical trial program; (ii) corporate strategy and business development goals, including pursuing strategic partnerships and enhancing the Company's position with investors and analysts, and the Company's successful completion of the Merger; and (iii) financial goals, including operating within budget and completing the year maintaining a certain cash balance.

The Compensation Committee determined that, based on our actual performance with respect to each corporate performance measure, the corporate performance objectives had been achieved, in the aggregate, at a 100% level. Based on its review of our overall corporate performance, the Compensation Committee approved bonus payments as follows for our Named Executive Officers:

Named Executive Officer	Target Annual Cash Bonus Opportunity	Amount Related to Corporate Performance Objectives	Actual Annual Cash Bonus Payment	Percentage of Target Annual Cash Bonus Opportunity
Carsten Brunn, Ph.D.	$343,200	$343,200	$343,200	100%
Blaine Davis	$176,000	$176,000	$176,000	100%
Metin Kurtoglu, M.D., Ph.D.(1)	$161,000	$161,000	$ 20,930	13%
Christopher Jewell, Ph.D.(2)	$120,000	$120,000	$ 15,600	13%
Peter G. Traber, M.D.(3)	$200,000	$200,000	—	—
Lloyd Johnston, Ph.D.(4)	$173,888	$173,888	—	—

(1) Dr. Kurtoglu was appointed to serve as the Company's Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer. Dr. Kurtoglu received a pro-rated bonus based on employment with the Company since November 13, 2023.

(2) Dr. Jewell was appointed to serve as the Company's Chief Scientific Officer on November 13, 2023. Dr. Jewell received a pro-rated bonus based on employment with the Company since November 13, 2023.

(3) Upon his departure as a full-time employee in December 2023, Dr. Traber forfeited his 2023 annual target bonus opportunity of $200,000. However, as discussed under "—Post-employment Compensation" below, Dr. Traber was paid an amount of $200,000 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee.

(4) Upon his departure as a full-time employee in December 2023, Dr. Johnston forfeited his 2023 annual target bonus opportunity of $173,888. However, as discussed under "—Post-employment Compensation" below, Dr. Johnston was paid an amount of $173,888 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee.

Long-Term Incentive Compensation

We use long-term incentive compensation in the form of equity awards to motivate our executive officers, including our Named Executive Officers, by providing them with the opportunity to build an equity interest in the Company and to share in the potential appreciation of the value of our Common Stock. Historically, we have relied on options to purchase shares of our Common Stock and, beginning in 2018, RSU awards that may be settled for shares of our Common Stock as the principal vehicles for delivering long-term incentive compensation opportunities to our executive officers. The Compensation Committee views equity awards, whether the awards are subject to time-based vesting requirements or are to be earned based on the attainment of specific performance objectives, as inherently variable since the grant date fair value of these awards may not necessarily be indicative of their value when, and if, the shares of our Common Stock underlying these awards are ever earned or purchased. Additionally, the Compensation Committee believes these awards reward the individual performance of participants, in contrast to stock options, which only provide value to participants if the Company's stock price appreciates. The Compensation Committee further believes these awards enable us to attract and retain key talent in our industry and aligns our executive officers' interests with the long-term interests of our stockholders.

Generally, in determining the size of the equity awards granted to our executive officers the Compensation Committee takes into consideration the recommendations of our CEO (except with respect to his own equity award), as well as the factors described above. The Compensation Committee also considers the dilutive effect of our long-term incentive compensation practices, and the overall impact that these equity awards, as well as awards to other employees, will have on stockholder value.

In December 2022, the Compensation Committee approved equity awards for our executive officers, including our Named Executive Officers, in recognition of our financial and operational results and each executive officer's individual performance for 2022, as well as for retentive purposes. In determining the amount of each executive officer's equity award, the Compensation Committee took into consideration the recommendations of our CEO (except with respect to his own equity award), as well as the factors described above. The Compensation Committee also considered the existing equity holdings of each executive officer, including the current economic value of their unvested equity awards and the ability of these unvested holdings to satisfy our retention objectives.

These equity awards consisted of both options to purchase shares of our Common Stock and, for certain executive officers, RSU awards that may be settled for shares of our Common Stock. The equity awards approved in December 2022 and granted to our Named Executive Officers in January 2023 were as follows:

Named Executive Officer	Stock Options (Number of Shares)	RSU Awards (Number of Shares)
Carsten Brunn, Ph.D.	42,499	9,426
Blaine Davis[1]	—	—
Peter G. Traber, M.D.	29,999	6,666
Lloyd Johnston, Ph.D.	15,833	3,333
Metin Kurtoglu, M.D., Ph.D.[2]	—	—
Chris Jewell, Ph.D.[3]	—	—

(1) Mr. Davis was appointed Chief Financial Officer on November 28, 2022, and did not receive options to purchase shares of our Common Stock or RSUs in January 2023. Mr. Davis received a one-time grant of an option to purchase 41,666 shares of our Common Stock upon his hiring on November 28, 2022.

(2) Dr. Kurtoglu was appointed Chief Operations Officer on November 13, 2023, and did not receive options to purchase shares of our Common Stock or RSUs in January 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(3) Dr. Jewell was appointed Chief Scientific Officer on November 13, 2023, and did not receive options to purchase shares of our Common Stock or RSUs in January 2023.

The options to purchase shares of our Common Stock granted to our executive officers, including the Named Executive Officers, in January 2023 were subject to a time-based vesting requirement providing that these options are to vest as to 25% of the shares of our Common Stock subject to the option on the first anniversary of the date of grant and, thereafter, as to 1/48th of the shares subject to the option for each of the following 36 months thereafter, assuming the continued service of the executive officers on each such vesting date.

The RSU awards granted to our executive officers, including the Named Executive Officers, in January 2023 were subject to a time-based vesting requirement providing that these awards are to vest as to 25% of the shares of our Common Stock subject to the award in four equal annual installments, each on the anniversary of the grant date, such that on the fourth anniversary of the grant date, the award would be fully vested, assuming the continued service of the executive officers on each such vesting date.

Welfare and Health Benefits

We maintain a tax-qualified retirement plan under Section 401(k) of the Code, for our employees, including our executive officers, who satisfy certain eligibility requirements, including requirements relating to age and length of service that provides them with an opportunity to save for retirement on a tax-advantaged basis. We intend for this plan to qualify under Sections 401(a) and 501(a) of the Code so that contributions by employees to the plan, and income earned on plan contributions, are not taxable to employees until distributed from the applicable plan. In addition, all contributions are deductible by us when made.

All participants' interests in their deferrals are 100% vested when contributed under both plans. In 2023, we matched 50% of contributions made by participants in the 401(k) plan up to a maximum Company match of 6% of an employee's annual cash compensation. Company matches vest over two years with 25% vesting in year one and 100% vesting in year two. Under the plan, pre-tax contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions.

In addition, we provide other benefits to our executive officers, including our Named Executive Officers, on the same basis as all of our full-time employees. These benefits include health, dental and vision benefits, health and dependent care flexible spending accounts, short-term and long-term disability insurance, accidental death and dismemberment insurance, and basic life insurance coverage. We also provide vacation and other paid holidays to all employees, including our executive officers. We do not offer our employees a non-qualified deferred compensation plan or pension plan.

We design our employee benefits programs to be affordable and competitive in relation to the market, as well as compliant with applicable laws and practices. We adjust our employee benefits programs as needed based upon regular monitoring of applicable laws and practices, the competitive market and our employees' needs.

Perquisites and Other Personal Benefits

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide perquisites to our executive officers, except in situations where we believe it is appropriate to assist an individual in the performance of his or her duties, to make our executive officers more efficient and effective, and for recruitment and retention purposes. During 2023, none of the Named Executive Officers received perquisites or other personal benefits that were, in the aggregate, $10,000 or more for each Named Executive Officer, except that Blaine Davis received $459 representing payments on Mr. Davis' term life insurance policy, $900 representing reimbursement for cell phone expenses, and $9,900 representing 401(k) matching contributions; Peter G. Traber, M.D. received $5,158 representing payments on Dr. Traber's term life insurance policy, $900 representing reimbursement for cell phone expenses, and $9,900 representing our 401(k) matching contributions; and Lloyd Johnston, Ph.D. received $1,806 representing payments on Dr. Johnston's term life insurance policy and $9,900 representing 401(k) matching contributions.

In the future, we may provide perquisites or other personal benefits to our executive officers in limited circumstances, such as where we believe it is appropriate to assist an individual executive officer in the performance of his or her duties, to make our executive officers more efficient and effective, and for recruitment, motivation or retention purposes. We do not expect that these perquisites or other personal benefits will be a significant aspect of our executive compensation program. All future practices with respect to perquisites or other personal benefits will be subject to periodic review by the Compensation Committee.

Employment Agreements

During the period of their service with our Company, and in the cases of Dr. Jewell and Dr. Kurtoglu, since March 26, 2024 and March 28, 2024, respectively, we had employment agreements in place with each of our executive officers, including our CEO and our other Named Executive Officers to whom we have extended a

written offer letter. Each of these arrangements was approved on our behalf by our Board of Directors or the Compensation Committee, as applicable, or by the CEO, subject to his authority as granted by the Board of Directors. We believe that these arrangements were appropriate to induce these individuals to forego other employment opportunities or leave their current employer for the uncertainty of a demanding position in a new and unfamiliar organization.

In filling these executive positions, our Board of Directors or the Compensation Committee, as applicable, was aware that it would be necessary to recruit candidates with the requisite experience and skills to manage a growing business in a dynamic and ever-changing environment. Accordingly, it recognized that it would need to develop competitive compensation packages to attract qualified candidates in a highly competitive labor market. At the same time, our Board of Directors or the Compensation Committee, as applicable, was sensitive to the need to integrate new executive officers into the executive compensation structure that it was seeking to develop, balancing both competitive and internal equity considerations.

Each of these employment agreements provides for "at will" employment and sets forth the initial compensation arrangements for the Named Executive Officer, including an initial base salary, a target annual cash bonus opportunity, and, in some instances, a recommendation for an equity award in the form of a stock option to purchase shares of our Common Stock.

Post-Employment Compensation

All of our Named Executive Officers entered into employment agreements that provide for post-employment compensation in the event of a change-in-control or if the Named Executive Officer is fired without Good Reason, as defined in each employment agreement.

These agreements require us to provide certain payments and benefits upon a qualifying termination of employment, which includes a termination of employment without cause or where the Named Executive Officer resigns with good reason, within three months preceding or 12 months following a change in control of the Company. The receipt of these payments and benefits are contingent upon the Named Executive Officer's execution, delivery, and non-revocation of a release and waiver of claims satisfactory to us following the separation from service. In addition, for six months following termination of employment, and as a condition to the payments and benefits, the Named Executive Officer must cooperate with any transition efforts that we request and must not disparage us, or our directors, officers, or employees.

Our Named Executive Officers are eligible to receive severance payments and benefits upon a qualifying termination of employment in connection with a change in control of our Company. In addition, the outstanding RSU awards held by our Named Executive Officers provide for vesting and acceleration pursuant to a provision that supersedes any acceleration that would have been provided under their employment agreements.

We believe that the severance policy serves several objectives. First, it eliminates the need to negotiate separation payments and benefits on a case-by-case basis. It also helps assure an executive officer that his or her severance payments and benefits are comparable to those of other executive officers with similar levels of responsibility and tenure. Further, it acts as an incentive for our executive officers to remain employed and focused on their responsibilities during the threat or negotiation of a change-in-control transaction, which preserves our value and the potential benefit to be received by our stockholders in the transaction. Finally, the severance policy is easier for us to administer, as it requires less time and expense.

The severance policy contemplates that the payments and benefits in the event of a change in control of the Company are payable only upon a "double trigger"; that is, only following a change in control and a qualifying termination of employment, including a termination of employment without cause or a resignation for good reason, and in each case requires that the Named Executive Officer execute a release of claims in our favor. In addition, the severance policy provides payments and benefits to our Named Executive Officers for qualified terminations of employment unrelated to a change in control of the Company.

In 2023, pursuant to his Separation Agreement, the Company agreed to provide Dr. Traber severance benefits of: (i) 12-months' base salary and (ii) a bonus of $200,000 calculated based on his annual base salary of $500,000. Also in 2023, pursuant to his Separation Agreement, the Company agreed to provide Dr. Johnston severance benefits of: (i) 12-months' base salary and (ii) a bonus of $173,888 calculated based on his annual base salary of $434,720.

Other Compensation Policies

Compensation Recovery Policy

Effective as of October 2, 2023, the Compensation Committee adopted a new executive compensation recovery policy (the "Clawback Policy"). Under the Clawback Policy, the Board of Directors, in its limited discretion, or, if so designated by the Board of Directors, the Compensation Committee, shall seek to recover, in the case that the Company is required to prepare an accounting restatement, subject to limited exceptions, any incentive-based compensation (whether in the form of cash or equity) in excess of the amount of incentive-based compensation that otherwise would have been received had it been determined in accordance with the accounting restatement, from any of its executive officers, as designated as such by the Board of Directors under Section 16 of the Exchange Act, and Rule 3b-7 under the Exchange Act, who have been designated as such over any period in the three fiscal years since the date the Company is required to prepare such an accounting restatement, whether or not the event the executive officer is deemed responsible for an event that results or resulted in a restatement of the Company's financial disclosures as a result of fraud or misconduct.

Further, we operate under the requirements of Section 304 of the Sarbanes-Oxley Act of 2002, as applicable to all public companies, under which our Board of Directors may seek reimbursement from our CEO and CFO if, as a result of their misconduct, we restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws.

Equity Award Grant Policy

We have adopted an equity award grant policy that provides the following guidelines to be observed by the Compensation Committee and our Board of Directors in administering the grant of equity awards under our equity compensation plans:

Under the 2016 Plan, equity awards may be granted to our employees, non-employee directors, and consultants. The exercise price of any option to purchase shares of our Common Stock may not be less than the fair market value of our Common Stock on the date of grant. Stock option awards expire no longer than ten years after the date of grant. Equity awards granted under our 2018 Plan may only be granted to employees as a means of inducing them to commence employment with the Company as an initial equity grant, and equity awards under the 2018 Plan are granted with the same limitations on pricing and expiration as are included in the 2016 Plan. We may grant up to $100,000 per year in incentive stock options to employees, subject to the limitations of Section 422 of the Code and the regulations issued thereunder.

For more information on the Old Cartesian Plan and how any awards granted thereunder to our Named Executive Officers were treated in the Merger, please see the section entitled "—Merger" above.

Derivatives Trading, Hedging, and Pledging Policies

We have adopted a policy prohibiting our employees, including our executive officers, and members of our Board of Directors from speculating in our equity securities, including the use of short sales, "sales against the box" or any equivalent transaction involving our equity securities. In addition, they may not engage in any other hedging transactions, such as "cashless" collars, forward sales, equity swaps and other similar or related arrangements, with respect to the securities that they hold. Finally, no employee, including an executive officer or member of our Board of Directors may acquire, sell, or trade in any interest or position relating to the future price of our equity securities.

We also have adopted a policy prohibiting the pledging of our Common Stock by our employees, including our executive officers, and members of our Board of Directors.

Tax and Accounting Considerations

Deductibility of Executive Compensation

Section 162(m) of the Code generally disallows a deduction for federal income tax purposes to any publicly-traded corporation for any remuneration in excess of $1 million paid in any taxable year to its chief executive officer and each of the three other most highly compensated executive officers (other than its chief financial officer). Generally, remuneration in excess of $1 million may be deducted if, among other things, it qualifies as "performance-based compensation" within the meaning of the Code or qualifies for a different

exemption. In this regard, the compensation income realized upon the exercise of options to purchase shares of the granting company's securities granted under a stockholder-approved stock option plan generally will be deductible so long as the options are granted by a committee whose members are outside directors and certain other conditions are satisfied. Conversely, the compensation income realized upon the vesting of RSU awards that are subject to time-based vesting requirements generally will not be deductible since such awards do not qualify as "performance-based compensation."

The Compensation Committee seeks to qualify the incentive compensation paid to the covered executive officers for the "performance-based compensation" exemption from the deduction limit under Section 162(m) when it believes such action is in our best interests. In approving the amount and form of compensation for our executive officers, the Compensation Committee believes that the potential deductibility of the compensation payable under those plans and arrangements should be only one of a number of relevant factors taken into consideration, and not the sole governing factor. Accordingly, the Compensation Committee considers all elements of the cost to us of providing such compensation, including the potential impact of the Section 162(m) deduction limit. For that reason, the Compensation Committee may deem it appropriate to provide one or more executive officers with the opportunity to earn incentive compensation, whether through cash incentive awards tied to our financial performance or equity incentive awards tied to the executive officer's continued service, which may be in excess of the amount deductible by reason of Section 162(m) or other provisions of the Code.

The Compensation Committee believes it is important to maintain cash and equity incentive compensation at the requisite level to attract and retain the individuals essential to our financial success, even if all or part of that compensation may not be deductible by reason of the Section 162(m) limitation.

Taxation of Nonqualified Deferred Compensation

Section 409A of the Code requires that amounts that qualify as "nonqualified deferred compensation" satisfy requirements with respect to the timing of deferral elections, timing of payments, and certain other matters. Generally, the Compensation Committee intends to administer our executive compensation program and design individual compensation components, as well as the compensation plans and arrangements for our employees generally, so that they are either exempt from, or satisfy the requirements of, Section 409A. From time to time, we may be required to amend some of our compensation plans and arrangements to ensure that they are either exempt from, or compliant with, Section 409A.

Taxation of "Parachute" Payments

Sections 280G and 4999 of the Code provide that executive officers and directors who hold significant equity interests and certain other service providers may be subject to additional taxes if they receive payments or benefits in connection with a change in control of the Company that exceeds certain prescribed limits, and that we (or a successor) may forfeit a deduction on the amounts subject to this additional tax. We did not provide any executive officer, including any Named Executive Officer, with a "gross-up" or other reimbursement payment for any tax liability that he or she might owe as a result of the application of Sections 280G or 4999 during 2023 and we have not agreed and are not otherwise obligated to provide any executive officers, including any Named Executive Officer, with such a "gross-up" or other reimbursement payment.

Accounting for Stock-Based Compensation

The Compensation Committee takes accounting considerations into account in designing compensation plans and arrangements for our executive officers and other employees. Chief among these is Financial Accounting Standards Board Accounting Standards Codification Topic 718 ("ASC Topic 718"), the standard which governs the accounting treatment of stock-based compensation awards.

ASC Topic 718 requires us to recognize in our financial statements all share-based payment awards to employees, including grants of options to purchase shares of our Common Stock and restricted stock awards for shares of our Common Stock to our executive officers, based on their fair values. The application of ASC Topic 718 involves significant amounts of judgment in the determination of inputs into the Black-Scholes-Merton valuation model that we use to determine the fair value of stock options. These inputs are based upon assumptions as to the volatility of the underlying stock, risk free interest rates, and the expected life (term) of the options. As required under U.S. GAAP, we review our valuation assumptions at each grant date, and, as a result,

our valuation assumptions used to value stock options granted in future periods may vary from the valuation assumptions we have used previously. For performance-based stock awards, we also must apply judgment in determining the periods when, and if, the related performance targets become probable of being met.

ASC Topic 718 also requires us to recognize the compensation cost of our share-based payment awards in our income statement over the period that an employee, including one of our executive officers, is required to render service in exchange for the award (which, generally, will correspond to the award's vesting schedule).

EXECUTIVE AND DIRECTOR COMPENSATION

Executive Compensation

This section discusses the material components of the executive compensation program offered to our Named Executive Officers identified below. For 2023, our Named Executive Officers and their positions as of December 31, 2023 were:

- Carsten Brunn, Ph.D., our President and Chief Executive Officer;
- Blaine Davis, our Chief Financial Officer;
- Christopher Jewell, Ph.D., our Chief Scientific Officer who served in that position beginning November 13, 2023;
- Metin Kurtoglu, M.D., Ph.D., who served as our Chief Operations Officer from November 13, 2023 until March 28, 2024, and then continued to serve as our Chief Technology Officer;
- Peter G. Traber, M.D., our former Chief Medical Officer; and
- Lloyd Johnston, Ph.D., our former Chief Operations Officer.

2023 Summary Compensation Table

Name and principal position	Year	Salary ($)[1]	Bonus ($)[2]	Stock awards ($)[3]	Option awards ($)[3]	Non-equity incentive plan compensation ($)[4]	All other compensation ($)[5]	Total ($)
Carsten Brunn, Ph.D.	2023	618,228	1,323,000	319,564	1,123,658	343,200	2,384,233	6,111,883
President and Chief Executive Officer	2022	588,043	—	749,053	2,628,525	325,655	966	4,292,242
Blaine Davis[6]	2023	440,000	880,000	—	—	176,000	998,759	2,494,759
Chief Financial Officer	2022	33,846	—	—	1,228,750	—	1,110	1,263,706
Peter G. Traber, M.D.[7]	2023	458,920	850,000	226,000	793,170	—	1,452,830	3,780,920
Former Chief Medical Officer	2022	455,573	—	298,562	1,035,133	183,568	31,147	2,003,983
Lloyd Johnston, Ph.D.[8]	2023	431,336	869,000	113,000	418,618	—	865,636	2,697,590
Former Chief Operations Officer	2022	413,169	—	238,320	846,225	166,400	10,245	1,674,359
Metin Kurtoglu, M.D., Ph.D.[9]	2023	50,313	—	—	—	20,930	—	71,243
Chief Technology Officer	2022	—	—	—	—	—	—	—
Chris Jewell, Ph.D.[10]	2023	37,500	—	—	—	15,600	—	53,100
Chief Scientific Officer	2022	—	—	—	—	—	—	—

(1) These amounts represent actual earnings for the calendar year, which may be impacted by, among other things, hire date and the timing of any salary increases made during the year.

(2) These amounts include one-time bonuses of $75,000 and $100,000 for Dr. Brunn and Dr. Traber, respectively, for efforts to deliver the positive topline data for the Company's DISSOLVE I and DISSOLVE II Phase 3 clinical trials and retention bonuses.

(3) Represents the aggregate grant date fair value of stock and option awards computed in accordance with ASC Topic 718, excluding the effect of estimated forfeitures. For a description of the assumptions used in valuing these awards, see Note 13 to our consolidated audited financial statements included elsewhere in the registration statement of which this prospectus forms a part.

(4) Represents amounts earned under our annual performance-based bonus program. For additional information, see "—Performance Bonuses" below.

(5) For Dr. Brunn, the amount for 2022 includes $966 representing payments on Dr. Brunn's term life insurance policy. The amount for 2023 includes $2,383,268 for settlement of outstanding awards as of November 13, 2023 in connection with the Merger and $965 representing payments on Dr. Brunn's term life insurance policy. For Mr. Davis, the amount for 2022 includes $35 representing payments on Mr. Davis' term life insurance policy, $75 representing reimbursement for cell phone expenses, and $1,000 representing our 401(k) matching contributions. The amount for 2023 includes $987,500 for settlement of outstanding awards as of November 13, 2023 in connection with the Merger, $459 representing payments on Mr. Davis' term life insurance policy, $900 representing reimbursement for cell phone expenses, and $9,900 representing our 401(k) matching contributions. For Dr. Traber, the amount for 2022 includes $21,097 representing payments on Dr. Traber's term life insurance policy, $900 representing reimbursement for cell phone expenses, and $9,150 representing our 401(k) matching contributions. The amount for 2023 includes $1,436,872 for settlement of outstanding awards as of November 13, 2023 in connection with the Merger, $5,158 representing payments on Dr. Traber's term life insurance policy, $900 representing reimbursement for cell phone expenses, and $9,900 representing our 401(k) matching contributions.

For Dr. Johnston, the amount for 2022 includes $9,150 representing our 401(k) matching contributions and $1,095 representing payments on Dr. Johnston's term life insurance policy. The amount for 2023 includes $853,930 for settlement of outstanding awards as of November 13, 2023 in connection with the Merger, $1,806 representing payments on Dr. Johnston's term life insurance policy, and $9,900 representing our 401(k) matching contributions.

(6) Mr. Davis was appointed Chief Financial Officer on November 28, 2022.

(7) Dr. Traber ceased service as our Chief Medical Officer effective as of November 13, 2023. Upon his departure in December 2023, Dr. Traber forfeited his 2023 annual target bonus opportunity of $200,000. However, Dr. Traber was paid an amount of $200,000 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee, in 2024.

(8) Dr. Johnston ceased service as our Chief Operations Officer effective as of November 13, 2023. Upon his departure as a full-time employee in December 2023, Dr. Johnston forfeited his 2023 annual target bonus opportunity of $173,888. However, Dr. Johnston was paid an amount of $173,888 as a term of his separation agreement, which was approved separately from the 2023 Bonus Plan by the Compensation Committee, in 2024.

(9) Dr. Kurtoglu was appointed Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(10) Dr. Jewell was appointed Chief Scientific Officer on November 13, 2023.

Narrative Disclosure to Summary Compensation Table

The primary elements of compensation for our Named Executive Officers are base salary, annual performance bonuses and equity-based compensation awards. The Named Executive Officers also participate in employee benefit plans and programs that we offer to our other full-time employees on the same basis.

Base Salaries

We pay our Named Executive Officers a base salary to compensate them for the satisfactory performance of services rendered to the Company. The base salary payable to each Named Executive Officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. Base salaries for our Named Executive Officers have generally been set at levels deemed necessary to attract and retain individuals with superior talent and were originally established in each Named Executive Officer's employment agreement.

At the end of 2022, the Compensation Committee recommended to the Board of Directors and the Board of Directors approved an increase in Dr. Brunn's annual base salary from $592,072 to $624,000 for 2023, an increase in Dr. Traber's annual base salary from $458,920 to $500,000 for 2023, and an increase in Dr. Johnston's annual base salary from $416,000 to $434,720 for 2023. Mr. Davis did not receive an increase to his annual base salary in 2023. Dr. Kurtoglu joined our Company in November 2023 with an annual base salary of $402,500. Dr. Jewell joined our Company in November 2023 with an annual base salary of $300,000. All base salaries for 2023, other than with respect to Mr. Davis, Dr. Kurtoglu, and Dr. Jewell, were effective as of March 1, 2023.

Performance Bonuses

We offer our Named Executive Officers the opportunity to earn annual cash bonuses to compensate them for attaining short-term company and individual performance goals. Each Named Executive Officer has an annual target bonus that is expressed as a percentage of his or her annual base salary. The 2023 target bonus amount for Dr. Brunn was 55% of his base salary, and for each of Mr. Davis and Drs. Kurtoglu, Jewell, Traber, and Johnston was 40% of his base salary. Drs. Kurtoglu and Jewell were eligible to receive annual cash bonuses for 2023 at a pro-rated amount based on employment since November 13, 2023.

Our Compensation Committee, based upon the recommendation of our Chief Executive Officer, establishes Company performance goals each year and, at the completion of the year, generally determines actual bonus payouts after assessing Company performance against these goals and each Named Executive Officer's individual performance and contributions to the Company's achievements. For 2023, bonuses were entirely determined based on Company performance in meeting clinical, business development, culture and engagement, financial goals, and other corporate achievements.

The actual cash bonuses earned by the named executives for 2023 are reported under the "Non-equity incentive plan compensation" column of the 2023 Summary Compensation Table above.

Equity Compensation

We grant stock option awards to our Named Executive Officers as a long-term incentive component of their compensation. We have historically granted stock option awards to Named Executive Officers when they

commenced employment with us and have from time to time thereafter made additional grants as, and when, our Board of Directors determined appropriate to recruit, retain or reward particular Named Executive Officers.

In connection with our initial public offering, we adopted and our stockholders approved the 2016 Plan to facilitate the grant of cash and equity incentives to our directors, employees (including our Named Executive Officers) and consultants and to enable us to obtain and retain the services of these individuals, which we believe are essential to our long-term success. Following the effective date of our 2016 Plan, we stopped making grants under our 2008 Stock Incentive Plan (the "2008 Plan"). However, the 2008 Plan continues to govern the terms and conditions of the outstanding awards granted under the 2008 Plan. In connection with the Merger, all outstanding awards issued under the 2008 Plan were cancelled, and the Board of Directors formally terminated the 2008 Plan.

We also maintain the 2018 Plan, which was adopted by the Board of Directors on September 25, 2018 without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq listing rules ("Rule 5635(c)(4)") and provides for the grant of equity-based awards in the form of non-qualified stock options, stock appreciation rights, restricted stock awards, RSU awards and other stock or cash based awards. In accordance with Rule 5635(c)(4), awards under the 2018 Plan may only be made to a newly hired employee who has not previously been a member of the Board of Directors, or an employee who is being rehired following a bona fide period of non-employment by the Company, as a material inducement to the employee's entering into employment with the Company.

In connection with the Merger, we adopted the Old Cartesian Plan.

Our stock option awards have an exercise price at least equal to the fair market value of our Common Stock on the date of grant and typically vest as to 25% of the underlying shares on the first anniversary of the date of grant and in equal monthly installments over the following 36 months, subject to the holder's continued employment with us and potential accelerated vesting in certain circumstances. From time to time, our Board of Directors may also construct alternate vesting schedules as it determines are appropriate to motivate particular employees. Moving forward in 2024, our Board of Directors determined that our stock option awards should typically vest as to 25% of the underlying shares on the first anniversary of the date of grant and in equal annual installments over the following three years, subject to the holder's continued employment with us and potential accelerated vesting in certain circumstances. Our stock option awards may be intended to qualify as incentive stock options under the Code.

In early 2023, we made the following grants under the 2016 Plan: (i) to Dr. Brunn options to purchase 42,499 shares of our Common Stock and 9,426 RSUs; (ii) to Dr. Traber options to purchase 29,999 shares of our Common Stock and 6,666 RSUs; and (iii) to Dr. Johnston options to purchase 15,833 shares of our Common Stock and 3,333 RSUs. Additionally, at the commencement of his employment, Mr. Davis was granted options to purchase 41,666 shares of our Common Stock under the 2018 Plan. On November 13, 2023, in connection with the Merger, all then-outstanding equity awards were settled.

Retirement, Health, Welfare and Additional Benefits

Our Named Executive Officers are eligible to participate in our employee benefit plans and programs, including medical and dental benefits, flexible spending accounts, long-term care benefits, and short- and long-term disability and life insurance, to the same extent as our other full-time employees, subject to the terms and eligibility requirements of those plans.

We sponsor a 401(k) defined contribution plan in which our Named Executive Officers may participate, subject to limits imposed by the Code, to the same extent as our other full-time employees. Currently, we match 50% of contributions made by participants in the 401(k) plan up to a maximum Company match of 6% of an employee's annual cash compensation. Company matches vest over two years with 25% vesting in year one and 100% vesting in year two.

Outstanding Equity Awards At 2023 Fiscal Year End

	Option Awards					
Name	Grant date[1]	Vesting Commencement Date	Number of securities underlying unexercised options (#) exercisable[2]	Number of securities underlying unexercised options (#) unexercisable[2]	Option exercise price ($)	Option expiration date
Metin Kurtoglu, M.D., Ph.D.[3]	11/7/2016	11/7/2016	6,414.682[4]	—[4]	46.77 [4]	11/6/2026
	4/26/2021	4/26/2021	427.645[5]	—[5]	107.59 [5]	4/25/2031
	3/1/2022	3/1/2022	106.911[6]	320.735[6]	107.59 [6]	2/29/2032
Chris Jewell, Ph.D.[7]	1/16/2023	1/16/2023	2539.177[8]	1737.277[8]	107.59[8]	1/15/2033

(1) On November 13, 2023, we acquired Old Cartesian in the Merger. Options to purchase Old Cartesian common stock held by the reporting person were converted into options to purchase shares of Series A Preferred Stock in connection with the Merger.

(2) As of December 31, 2023, these options were exercisable for Series A Preferred Stock. On March 27, 2024, we held a special meeting of stockholders (the "March 2024 Special Meeting"). At the March 2024 Special Meeting, our stockholders approved, and our Board of Directors subsequently implemented, a 1-for-30 reverse stock split of all then-outstanding shares of our Common Stock and the conversion of our Series A Preferred Stock into shares of Common Stock. Following the Series A Preferred Stock Automatic Conversion on April 8, 2024, options previously exercisable for shares of Series A Preferred Stock may be exercised solely for shares of Common Stock.

(3) Dr. Kurtoglu was appointed Chief Operations Officer on November 13, 2023. On March 28, 2024, Dr. Kurtoglu's title was changed to Chief Technology Officer.

(4) Following the Series A Preferred Stock Automatic Conversion, these options are fully exercisable for 213,820 shares of Common Stock at an exercise price of $1.41.

(5) Following the Series A Preferred Stock Automatic Conversion, these options are fully exercisable for 14,254 shares of Common Stock at an exercise price of $3.23.

(6) Following the Series A Preferred Stock Automatic Conversion, these options are currently exercisable for 7,127 shares of Common Stock and become exercisable for the remaining 7,127 shares of Common Stock in two equal tranches on March 1, 2025 and March 1, 2026 at an exercise price of $3.23.

(7) Dr. Jewell was appointed Chief Scientific Officer on November 13, 2023.

(8) Following the Series A Preferred Stock Automatic Conversion, these options are currently exercisable for 114,328 shares of Common Stock and become exercisable for an additional 2,969 shares of Common Stock each month until they are fully exercisable on June 16, 2025 at an exercise price of $3.23.

Employment Agreements

We have entered into employment agreements with each of our Named Executive Officers. The agreements entitle our Named Executive Officers to receive annual base salaries and target bonus opportunities, the current amounts of which are described above under the headings "Base Salaries" and "Performance Bonuses," as well as certain other payments and benefits, as described below.

The employment agreements provide that if we terminate the Named Executive Officer without "cause" or the Named Executive Officer resigns for "good reason," subject to the Named Executive Officer's timely executing a release of claims in our favor and continued compliance with a separate restrictive covenant agreement, the Named Executive Officer is entitled to receive (i) base salary continuation for a period of 12 months, (ii) a prorated portion of the annual bonus the Named Executive Officer would otherwise have earned for the year of termination, based on actual performance for the full year, or, if the termination occurs during the first quarter of the calendar year, based on the Named Executive Officer's target bonus and (iii) direct payment of or reimbursement for continued medical, dental or vision coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, for up to 12 months. If such termination occurs within the 12 months following or the 60 days preceding a change in control, each Named Executive Officer would be entitled to receive, in addition to the foregoing payments and benefits, accelerated vesting of such Named Executive Officer's outstanding unvested equity awards that vest solely based on the passage of time. We must provide a Named Executive Officer 30 days' notice, or pay in lieu of notice, in the event we terminate such Named Executive Officer for any reason other than "cause."

For purposes of the employment agreements, "cause" generally means, subject to applicable cure rights, the Named Executive Officer's (i) commission of, or indictment or conviction of, any felony or any crime involving dishonesty; (ii) participation in any fraud against our Company; (iii) intentional damage to any Company property; (iv) misconduct

which materially and adversely reflects upon the business, operations, or reputation of our Company; (v) breach of any material provision of the employment agreement or any other written agreement with our Company; or (vi) for Mr. Davis and Drs. Kurtoglu and Jewell, a material or substantial failure to perform, or material or substantial negligence of, the executive's duties and responsibilities to the Company. "Good reason" generally means, subject to our cure rights, the occurrence of any of the following, without the Named Executive Officer's written consent (i) a material reduction in his or her base salary or bonus opportunity; (ii) a material diminution in his or her authority, title, duties or areas of responsibility; (iii) for Drs. Brunn, Traber, and Johnston and Mr. Davis, the requirement that he or she report to someone other than the Board of Directors with respect to our Chief Executive Officer or the Chief Executive Officer with respect to our other Named Executive Officers; (iv) for Drs. Brunn, Traber, and Johnston and Mr. Davis, the relocation of his or her primary office to a location more than 40 miles from the Boston metropolitan area and for Drs. Kurtoglu and Jewell, the relocation of his primary office to a location more than 40 miles from Gaithersburg, Maryland; or (v) a material breach by us of the employment agreement or any other written agreement with the Named Executive Officer.

We have also entered into non-disclosure, non-competition and assignment of intellectual property agreements with the Named Executive Officers pursuant to which each of our Named Executive Officers agree to refrain from engaging in direct competition with us or soliciting our employees, in each case, while employed and following his or her termination of employment for a period of 12 months, as more fully set forth in the applicable agreement(s). For Dr. Brunn, during the period following the Named Executive Officer's employment that he or she is subject to the non-competition covenants, and subject to limited exceptions, we have agreed to provide the Named Executive Officer with garden leave pay at a rate that equals 50% of his or her highest annual base salary within the two years prior to his or her termination, consistent with the Massachusetts Noncompetition Agreement Act.

Director Compensation

We maintain a compensation program for our non-employee directors. Under our non-employee director compensation program as in effect during 2023, each non-employee director received the following amounts for their services on our Board of Directors:

Initial Equity Award. Upon a director's initial election or appointment to our Board of Directors, the director received an option to purchase 80,000 shares of our Common Stock, which award vests in substantially equal monthly installments over three years following the date of grant, subject to accelerated vesting upon a change in control.

Annual Equity Award. If a director has served on our Board of Directors for at least six months as of the first business day in January of each year, the director received an option to purchase 2,500 shares of our Common Stock on that date, which award vests in a single installment on the first anniversary of the date of grant, subject to accelerated vesting upon a change in control. If such non-employee director served as the Chairman of the Board of Directors as of the first business day in January of each year, that non-employee director received an option to purchase 3,166 shares of our Common Stock that date, subject to the same vesting terms.

Annual Retainer Fees. In addition to option grants, each director received an annual retainer for service on our Board of Directors and additional fees for service on a committee of our Board of Directors as follows:

- annual director fee of $40,000;
- chairman of the Board of Directors, $30,000 and lead independent director, $20,000;
- chairman of the Audit Committee, $15,000;
- Audit Committee member other than the chairman, $7,500;
- chairman of the Compensation Committee, $12,000;
- Compensation Committee member other than the chairman, $6,000;
- chairman of the Nominating and Corporate Governance Committee, $9,000;
- Nominating and Corporate Governance Committee member other than the chairman, $4,500;
- chairman of the now-disbanded Research and Development Committee, $12,000; and
- Research and Development Committee member other than the chairman, $6,000.

Director fees are paid 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. Each member of our Board of Directors is entitled to be reimbursed for reasonable travel and other expenses incurred in connection with attending meetings of the Board of Directors and any committee of the Board of Directors on which he or she serves.

Following review of a competitive assessment performed by Compensia, effective December 22, 2023, the Board of Directors approved the following amendments to our non-employee director compensation program, which are intended to align our program with the median of market:

- Increasing the annual retainer fee for the lead independent director to $25,000.
- Increasing the annual retainer fee for the chairman of the Nominating and Corporate Governance Committee to $10,000 and to $5,000 for a Nominating and Corporate Governance committee member other than the chairman.
- Increasing the annual equity awards from options to purchase 3,166 shares of Common Stock to options to purchase 4,000 shares of Common Stock for the Chairman of the Board of Directors and from options to purchase 2,500 shares of Common Stock to options to purchase 3,800 shares of Common Stock for each other non-employee director, and increasing the initial grant from options to purchase 3,166 shares of Common Stock to options to purchase 8,266 shares of Common Stock for the Chairman of the Board of Directors and from options to purchase 2,500 shares of Common Stock to options to purchase 7,600 shares of Common Stock for each other non-employee director.
- Establishing a framework for granting RSUs to members of the Board of Directors, such that each Board of Directors member received a one-time award of 5,933 RSUs, to vest in three equal annual installments, and such that subsequent RSU awards shall also be provided to each new member of the Board of Directors upon the commencement of their service, and further such that each Board of Directors member, on the first business day of January of each year, shall receive a one-time award of 2,966 RSUs, also to vest in three equal installments.

Further, on March 20, 2024, the Board of Directors approved the following amendment to our non-employee director compensation program:

- Following the disbanding of the Research & Development Committee and the formation of the Science, IP and Quality Committee, an annual retainer in the amount of $12,000 was established for the chairman of the Science, IP and Quality Committee, and in the amount of $6,000 for each member of the Committee other than the chairman.

Dr. Brunn, our President and Chief Executive Officer, also serves on our Board of Directors but receives no additional compensation for this service.

The following table sets forth the compensation earned to our non-employee directors for their service on our Board of Directors during 2023.

2023 Director Compensation Table

Name	Fees earned or paid in cash ($)[1]	Option awards ($)[2]	All other compensation ($)[3]	Total ($)
Göran Ando, M.D.[4]	477	65,325	—	65,802
Timothy C. Barabe	55,340	76,213	81,375	212,928
Carrie S. Cox	83,908	93,633	114,775	292,316
Nishan de Silva, M.D., M.B.A.	53,500	65,325	69,750	188,575
Murat Kalayoglu, M.D., Ph.D.[5]	5,370	—	—	5,370
Scott D. Myers[6]	50,136	76,213	81,375	207,724
Aymeric Sallin[7]	46,000	65,325	69,750	181,075
Michael Singer, M.D., Ph.D.[8]	5,712	—	—	5,712
Timothy A. Springer, Ph.D.	57,651	65,325	69,750	192,726
Patrick Zenner	56,976	65,325	69,750	192,051

(1) Represents cash retainers earned for services rendered as members of the Board of Directors and related committees.

(2) The value of option awards represents the aggregate grant date fair value of stock options computed in accordance with ASC Topic 718, excluding the effect of estimated forfeitures. For a description of the assumptions used in valuing these awards, see Note 11 to our consolidated financial statements included elsewhere in the registration statement of which this prospectus forms a part.

(3) Options outstanding as of the Merger date were canceled in the Merger in exchange for a cash payment representing the difference between the exercise price of the option and $2.06, the Cash-out Amount as applied in the Merger.

(4) Dr. Ando resigned from the Board of Directors on January 4, 2023.
(5) Dr. Kalayoglu was appointed to the Board of Directors on November 13, 2023.
(6) Mr. Myers resigned from the Board of Directors on November 21, 2023.
(7) Mr. Sallin resigned from the Board of Directors on February 28, 2024.
(8) Dr. Singer was appointed to the Board of Directors on November 13, 2023.

The table below shows the aggregate number of option awards (exercisable and unexercisable) held by each non-employee director as of December 31, 2023. None of our non-employee directors held unvested stock awards in the Company as of that date.

Name	Options outstanding at fiscal year end(1)
Göran Ando(2)	—
Timothy C. Barabe	—
Carrie S. Cox	—
Nishan de Silva, M.D., M.B.A.	—
Murat Kalayoglu, M.D., Ph.D.(3)	—
Scott D. Myers(4)	—
Aymeric Sallin(5)	—
Michael Singer, M.D., M.B.A.(6)	—
Timothy A. Springer, Ph.D.	—
Patrick Zenner	—

(1) Options outstanding as of the Merger date, except with respect to Dr. Ando, whose options were cancelled on April 4, 2023 in connection with his retirement from the Board of Directors, were canceled in the Merger in exchange for a cash payment, representing the difference between the exercise price of the option and $2.06, the Cash-out Amount as applied in the Merger.
(2) Dr. Ando resigned from the Board of Directors on January 4, 2023.
(3) Dr. Kalayoglu was appointed to the Board of Directors on November 13, 2023.
(4) Mr. Myers resigned from the Board of Directors on November 21, 2023.
(5) Mr. Sallin resigned from the Board of Directors on February 28, 2024.
(6) Dr. Singer was appointed to the Board of Directors on November 13, 2023.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to holdings of our Common Stock by (i) stockholders who beneficially owned more than 5% of the outstanding shares of our Common Stock, and (ii) each of our directors (which includes all nominees), each of our Named Executive Officers and all directors, director nominees and executive officers as a group, in both cases as of September 3, 2024, 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 a person has sole or shared voting power or investment power. Applicable percentage ownership is based on 21,387,549 shares of Common Stock outstanding as of September 3, 2024. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of Common Stock subject to options, warrants or other rights held by such person that are currently exercisable or will become exercisable within 60 days of September 3, 2024 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person. Although the conversion limitations on the Series B Preferred Stock prevent the Series B Preferred Stock from converting into Common Stock until stockholder approval of the proposal to issue shares of Common Stock upon the conversion of shares of Series B Preferred Stock (the "Conversion Proposal") is obtained, we are separately presenting below beneficial ownership assuming the conversion of all shares of Series B Preferred Stock into Common Stock, subject to beneficial ownership limitations set by each holder of Series B Preferred Stock. The beneficial ownership information below also gives effect to beneficial ownership limitations applicable to certain holders of Series A Preferred Stock.

Unless otherwise indicated, the address of each beneficial owner listed below is 704 Quince Orchard Road, Gaithersburg, Maryland 20878. We believe, based on information provided to us, that each of the stockholders listed below 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.

	No Conversion of Preferred Stock		Full Conversion of Preferred Stock (subject to beneficial ownership limitations)	
Name and address of beneficial owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
5% Stockholders:				
Entities affiliated with Timothy A. Springer, Ph.D.(1)	6,482,256	30.1%	8,841,756	34.4%
Entities affiliated with Murat Kalayoglu, M.D., Ph.D.(2)	3,539,442	16.6%	5,077,513	19.9%
FMR, LLC(3)	2,722,656	12.7%	2,722,656	10.7%
Named Executive Officers and Directors:				
Carsten Brunn, Ph.D.(4)	8,731	*	8,731	*
Blaine Davis	—	*	—	*
Chris Jewell, Ph.D.(5)	120,266	*	120,266	*
Metin Kurtoglu, M.D., Ph.D.(6)	235,201	1.1%	235,201	*
Peter G. Traber, M.D.(7)	5,301	*	5,301	*
Lloyd Johnston, Ph.D.(8)	2,983	*	2,983	*
Carrie S. Cox(9)	10,486	*	10,486	*
Göran Ando, M.D.(10)	—	*	—	*
Timothy C. Barabe(11)	17,944	*	17,944	*
Nishan de Silva, M.D., M.B.A.(12)	2,344	*	2,344	*
Murat Kalayoglu, M.D., Ph.D.(2)	3,539,442	16.6%	5,077,513	19.9%
Kemal Malik, MBBS(13)	844	*	844	*
Scott D. Myers(14)	3,350	*	3,350	*
Aymeric Sallin(15)	—	*	—	*
Michael Singer, M.D., Ph.D.(16)	770,800	3.6%	770,800	3.0%
Timothy A. Springer, Ph.D.(1)	6,482,256	30.1%	8,841,756	34.4%
Patrick Zenner(17)	3,952	*	3,952	*
All executive officers and directors as a group (14 persons)(18)	**11,200,550**	**51.1%**	**15,098,121**	**58.0%**

* Represents beneficial ownership of less than one percent.

(1) Based on a Schedule 13D/A filed with the SEC on July 5, 2024 and other information known to us, consists of (i) 4,373,966 shares of Common Stock held directly by Timothy A. Springer, Ph.D., a member of our Board of Directors, (ii) 1,636,832 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held directly by Timothy A. Springer, Ph.D., (iii) 2,111 shares of Common Stock issuable upon exercise of outstanding options within 60 days of September 3, 2024 and held directly by Timothy A. Springer, Ph.D., (iv) 1,927,630 shares of Common Stock held by TAS Partners LLC ("TAS") directly, (v) 721,361 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held by TAS directly, (vi) 167,040 shares of Common Stock issuable upon exercise of underlying warrants exercisable within 60 days of September 3, 2024 held by TAS directly, (vii) 11,509 shares of Common Stock held by Dr. Chafen Lu, Dr. Springer's wife, and (viii) 1,307 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held by Dr. Chafen Lu. Dr. Springer is the sole managing member of TAS. Dr. Springer exercises sole voting and dispositive power over the shares held by him directly and the shares held by TAS. Dr. Springer disclaims beneficial ownership of the shares held by TAS. Dr. Lu exercises sole voting and dispositive power over the shares held by her directly. The principal business address of each of Dr. Springer, TAS, and Dr. Lu is 36 Woodman Road, Newton, MA, 02467.

(2) Based on a Schedule 13D/A filed with the SEC on April 10, 2024 and other information known to us, consists of (i) 500,444 shares of Common Stock held directly by Murat Kalayoglu, M.D., Ph.D., a member of our Board of Directors, (ii) 2,111 shares of Common Stock issuable upon exercise of outstanding options within 60 days of September 3, 2024 and held directly by Murat Kalayoglu, M.D., Ph.D., (iii) 3,036,887 shares of Common Stock held by Seven One Eight Three Four Irrevocable Trust directly, and (iv) up to 3,398,448 shares of Common Stock issuable upon conversion of shares of Series A Preferred Stock held by Seven One Eight Three Four Irrevocable Trust. The trustees of Seven One Eight Three Four Irrevocable Trust are Elizabeth Hoge and Sinan Kalayoglu, each of whom has shared voting and dispositive control over the shares of Common Stock and Series A Preferred Stock held by Seven One Eight Three Four Irrevocable Trust. Dr. Kalayoglu has the power to remove and appoint new trustees of Seven One Eight Three Four Irrevocable Trust and, pursuant to a right of substitution, to acquire from Seven One Eight Three Four Irrevocable Trust the shares of Common Stock and Series A Preferred Stock held by Seven One Eight Three Four Irrevocable Trust in exchange for assets with an equal value to such shares. Accordingly, Dr. Kalayoglu may be deemed to have sole voting and dispositive power of the shares of Common Stock and Series A Preferred Stock held by Seven One Eight Three Four Irrevocable Trust. The ability of the shares of Series A Preferred Stock held by Dr. Kalayoglu and Seven One Eight Three Four Irrevocable Trust to convert into shares of Common Stock is subject to a beneficial ownership limitation, such that neither Dr. Kalayoglu nor Seven One Eight Three Four Irrevocable Trust may convert shares of Series A Preferred Stock into Common Stock to the extent that doing so would result in such holder beneficially owning greater than 19.9% of the Company's outstanding Common Stock after giving effect to such conversion. Accordingly, the numbers of shares of Common Stock presented in this row include only a total of 1,538,071 shares of Common Stock issuable upon conversion of the shares of Series A Preferred Stock held by Seven One Eight Three Four Irrevocable Trust, and assume Seven One Eight Three Four Irrevocable Trust does not convert any shares of Series A Preferred Stock beyond such limitation.

(3) Based on a Schedule 13G/A filed with the SEC on August 12, 2024 and other information known to us, consists of 2,722,656 shares of Common Stock owned by funds or accounts managed by direct or indirect subsidiaries of FMR LLC, all of which shares are beneficially owned, or may be deemed to be beneficially owned, by FMR LLC, certain of its subsidiaries and affiliates, and other companies. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of these funds and accounts is 245 Summer Street, Boston, MA 02210.

(4) Consists of 8,731 shares of Common Stock held by Dr. Brunn directly.

(5) Consists of 120,266 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024 held by Dr. Jewell directly.

(6) Consists of 235,201 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024 held by Dr. Kurtoglu directly.

(7) Consists of 5,301 shares of Common Stock held by Dr. Traber directly. Dr. Traber ceased service as our Chief Medical Officer effective November 13, 2023 and ceased full-time employment with the Company effective December 31, 2023.

(8) Consists of 2,983 shares of Common Stock held by Dr. Johnston directly. Dr. Johnston ceased service as our Chief Operations Officer effective November 13, 2023 and ceased full-time employment with the Company effective December 31, 2023.

(9) Consists of (i) 7,096 shares of Common Stock held by Ms. Cox directly, (ii) 1,094 shares of Common Stock issuable upon exercise of underlying warrants exercisable within 60 days of September 3, 2024, and (iii) 2,296 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024.

(10) We are not aware of any beneficial ownership of Common Stock by Dr. Ando, who retired from the Board of Directors on January 4, 2023.

(11) Consists of (i) 15,833 shares of Common Stock held by Mr. Barabe directly and (ii) 2,111 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024.

(12) Consists of (i) 233 shares of Common Stock held by Dr. de Silva directly and (ii) 2,111 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024.

(13) Consists of 844 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024 held by Dr. Malik directly.

(14) Consists of (i) 2,694 shares of Common Stock held by Mr. Myers directly and (ii) 656 shares of Common Stock issuable upon exercise of underlying warrants exercisable within 60 days of September 3, 2024. Mr. Myers resigned from the Board of Directors on November 21, 2023.

(15) We are not aware of any beneficial ownership of Common Stock by Mr. Sallin directly. Mr. Sallin resigned from the Board of Directors on February 28, 2024.

(16) Based on a Schedule 13D/A filed with the SEC on April 10, 2024 and other information known to us, consists of (i) 113,821 shares of Common Stock held by Dr. Singer directly, (ii) 383,796 shares of Common Stock held by Thirsty Brook 2010 Irrevocable Trust, a trust for which Dr. Singer is a trustee, that Dr. Singer has the right to acquire pursuant to a right of substitution in exchange for assets with

an equal value to such shares, (iii) 56,719 shares of Common Stock held by Singer Asefzadeh Family Holding Trust, a trust for which Dr. Singer is a trustee and beneficiary, (iv) 7,127 shares of Common Stock held by Bakezilla 2019 Irrevocable Trust, a trust for which Dr. Singer is a trustee and beneficiary, (v) 14,788 shares of Common Stock held by Dr. Baharak Asefzadeh, Dr. Singer's spouse, (vi) 96,219 shares of Common Stock held by a minor child of Dr. Singer through a custodial account established pursuant to the Uniform Transfer to Minors Act ("UTMA") for which Dr. Singer serves as custodian, (vii) 96,219 shares of Common Stock held by a minor child of Dr. Singer through a custodial account established pursuant to the UTMA for which Dr. Singer serves as custodian, and (viii) 2,111 shares of Common Stock issuable upon exercise of outstanding options within 60 days of September 3, 2024 held by Dr. Singer directly.

(17) Consists of 1,841 shares of Common Stock held by Mr. Zenner directly and (ii) 2,111 shares of Common Stock underlying outstanding stock options exercisable within 60 days of September 3, 2024.

(18) Includes (i) 10,661,143 shares of Common Stock owned directly or beneficially by our executive officers or members of our Board of Directors, (ii) 539,407 shares of Common Stock underlying outstanding stock options and warrants exercisable within 60 days of September 3, 2024, (iii) 1,538,071 shares of Common Stock issuable upon conversion of the shares of Series A Preferred Stock, and (iv) 2,359,500 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Policies And Procedures For Related Person Transactions

Our Board of Directors has adopted a written Related Person Transaction Policy and Procedures, setting forth the policies and procedures for the review and approval or ratification of related person transactions. Under the policy, our finance team is primarily responsible for developing and implementing procedures to obtain information regarding potential related person transactions and for determining whether a related person transaction requiring compliance with our policy exists. Our Chief Financial Officer then presents the related person transaction to our Audit Committee. In the absence of an appointed Chief Financial Officer, our management has determined that the Company's Controller will present any such related person transactions to our Audit Committee. In reviewing and approving any such transaction, our Audit Committee considers all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction, the extent of the related person's interest in the transaction and the conflicts of interest and corporate opportunity provisions under our Code of Business Conduct and Ethics. No director may participate in approval of a related person transaction in which he or she is a related person. Our Audit Committee may also ratify related person transactions that were entered into by management because pre-approval was not feasible and transactions that were not initially recognized as related person transactions. If these transactions are not ratified, our management must make all reasonable efforts to cancel or annul such transactions. Our management must update our Audit Committee on material changes to any approved or ratified related person transaction and provide an annual status report on all then-current related person transactions.

The following are certain transactions, arrangements and relationships with our directors, executive officers and stockholders owning 5% or more of our outstanding Common Stock since January 1, 2022.

Merger with Old Cartesian

On November 13, 2023, we acquired Old Cartesian, in accordance with the terms of the Merger Agreement. Under the terms of the Merger Agreement, following the consummation of the Merger, in exchange for the outstanding shares of capital stock of Old Cartesian immediately prior to the effective time of the First Merger, we issued to the stockholders of Old Cartesian that are "accredited investors," as defined in Regulation D promulgated under the Securities Act of 1933, as amended, (A) 224,099 shares of Common Stock, which amount is (together with the shares underlying assumed Cartesian Options other than the Continuing Officer Options, each as defined and discussed below) approximately 19.9% of the number of shares of Common Stock outstanding immediately prior to the Merger, and (B) 384,930.724 shares of our Series A Preferred Stock, each share of which is convertible into 33.333 shares of Common Stock, subject to certain conditions described below.

Upon the consummation of the First Merger:

- Each Company Stock Option and each RSU award with respect to shares of Common Stock, in each case that was outstanding and unvested immediately prior to the Effective Time (as defined in the Merger Agreement), vested in full at the Effective Time;
- each Company Option was canceled at the Effective Time, and in exchange therefor, former holders of such canceled Company Stock Options became entitled to receive (without interest), in consideration of the cancellation of such Company Stock Option, an amount in cash (less applicable tax withholdings) equal to the product of (A) the total number of shares of Common Stock subject to the unexercised portion of such Company Stock Option immediately prior to the Effective Time (determined after giving effect to the accelerated vesting) multiplied by (B) the excess, if any, of the Cash-out Amount over the applicable exercise price per share of Common Stock under such Company Stock Option; provided, however, that, if the exercise price per share of Common Stock of any Company Stock Option was equal to or greater than the Cash-out Amount, such Company Stock Option was canceled and terminated without any consideration in respect thereof; and
- each RSU award with respect to shares of Common Stock was cancelled at the Effective Time, and the former holder of such canceled RSU became entitled, in exchange therefor, to receive (without interest) an amount in cash (less applicable tax withholdings) equal to the product of (A) the total number of shares of Common Stock deliverable under such RSU immediately prior to the Effective Time (determined after giving effect to the accelerated vesting) multiplied by (B) the Cash-out Amount.

At the Effective Time, each Old Cartesian Option, other than Old Cartesian Options held by Drs. Kurtoglu, Miljkovic, and Jewell, that was outstanding and unexercised immediately prior to the Effective Time, whether or not vested, was converted into an option to purchase Common Stock. At the Effective Time, each Continuing Officer Option that was outstanding and unexercised immediately prior to the Effective Time, whether or not vested, was converted into an option to purchase Series A Preferred Stock. Pursuant to the Merger Agreement, we assumed the Old Cartesian Plan and each Old Cartesian Option in accordance with the terms of the Old Cartesian Plan and the terms of the stock option agreement by which such Old Cartesian Option is evidenced (but with changes to such documents as we in good faith determine are necessary to reflect the substitution of Old Cartesian Options by us to purchase shares of Common Stock or Series A Preferred Stock, as applicable, and the other terms set forth in the Merger Agreement). All rights with respect to Old Cartesian common stock under Old Cartesian Options assumed by the Company were converted into rights with respect to Common Stock or Series A Preferred Stock, as applicable. Following the Series A Preferred Stock Automatic Conversion, Continuing Officer Options became exercisable for Common Stock, rather than Series A Preferred Stock. From and after the Effective Time:

- the number of shares of Common Stock subject to each Old Cartesian Option assumed by the Company will be determined by multiplying (A) the number of shares of Old Cartesian common stock that were subject to such Old Cartesian Option, as in effect immediately prior to the First Effective Time, by (B) the Exchange Ratio (as defined in the Merger Agreement), and rounding the resulting number down to the nearest whole number of shares of Common Stock;
- the per-share exercise price for Common Stock issuable upon exercise of each Old Cartesian Option assumed by the Company will be determined by dividing (A) the per share exercise price of Old Cartesian common stock subject to such Old Cartesian Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio and rounding the resulting exercise price up to the nearest whole cent;
- the number of shares of Series A Preferred Stock subject to each Continuing Officer Option assumed by the Company will be determined by multiplying (A) the number of shares of Old Cartesian common stock that were subject to such Continuing Officer Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio (as defined in the Merger Agreement), and (C) dividing such resulting number by 1,000 and rounding the resulting number down to the nearest 1/1000th of a share of Series A Preferred Stock;
- the per share exercise price for Series A Preferred Stock issuable upon exercise of each Continuing Officer Option assumed by the Company will be determined by dividing (A) the per share exercise price of Old Cartesian common stock subject to such Continuing Officer Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio, and (C) multiplying the resulting number by 1,000 and rounding the resulting exercise price up to the nearest whole cent; and
- any restriction on the exercise of any Old Cartesian Option assumed by the Company, including the Continuing Officer Options, will continue in full force and effect and, except as expressly provided in the Merger Agreement, the term, exercisability, vesting schedule and other provisions of such Old Cartesian Option will otherwise remain unchanged.

Following the Series A Preferred Stock Automatic Conversion, the Continuing Officer Options became exercisable for Common Stock, rather than Series A Preferred Stock. As of the effective time of the automatic conversion, the number of shares of Common Stock subject to each Continuing Officer Option was adjusted by multiplying (A) the number of shares of Series A Preferred Stock that were subject to such Continuing Officer Option, by (B) 33.333 and rounding the resulting number down to the nearest whole number of shares of Common Stock. The per-share exercise price for Common Stock issuable upon exercise of each Continuing Officer Option was correspondingly adjusted by dividing (A) the per-share exercise price of the Series A Preferred Stock subject to such Continuing Officer Option, by (B) 33.333 and rounding the resulting exercise price up to the nearest whole cent.

As consideration in the Merger, Drs. Kalayoglu and Singer, together with their affiliated entities, collectively received an aggregate of 230,125.536 shares of Series A Preferred Stock, which are convertible into 7,670,847 shares of Common Stock.

As a result of the Merger, Drs. Kurtoglu, Jewell, and Miljkovic were granted Continuing Officer Options that are exercisable for 470,403 shares of Common Stock.

Support Agreements

In connection with the execution of the Merger Agreement, we and Old Cartesian entered into stockholder support agreements (the "Support Agreements") with certain of our pre-Merger officers, directors and stockholders. Pursuant to the Support Agreements, among other things, each of our pre-Merger stockholder parties thereto agreed to vote or cause to be voted all of the shares of Common Stock owned by such stockholder in favor of the proposals we submitted for stockholder approval at the March 2024 Special Meeting.

November 2023 Private Placement

Concurrently with the Merger, we entered into a securities purchase agreement pursuant to which we issued and sold an aggregate of 149,330.115 shares of Series A Preferred Stock to Dr. Springer, TAS Partners LLC (an affiliate of Dr. Springer) and Dr. Kalayoglu, each of which was converted into 33.333 shares of Common Stock except that the shares beneficially owned by Dr. Kalayoglu converted only to the extent permitted by the Series A Certificate of Designation, for an aggregate purchase price of approximately $60.25 million. The following table sets forth the number of shares of Series A Preferred Stock purchased in this private placement by such parties:

Name	Shares of Series A Preferred Stock Purchased	Total Aggregate Purchase Price
Timothy A. Springer, Ph.D.	123,925.407	$50,000,000
TAS Partners, LLC (affiliate of Timothy A. Springer, Ph.D.)	24,785.081	$10,000,000
Seven One Eight Three Four Irrevocable Trust (affiliate of Murat Kalayoglu, M.D., Ph.D.)	619.627	$ 250,000

Additional details regarding these stockholders and their respective equity holdings are provided in this prospectus under the caption "Security Ownership of Certain Beneficial Owners and Management."

In this private placement, Dr. Timothy A. Springer agreed to settle his purchases in three tranches of shares of Series A Preferred Stock, the first for a purchase price of $10.0 million and each thereafter for a purchase price of approximately $20.0 million, with the three tranches settling 30, 60, and 90 days, respectively, following the closing of the transaction. TAS Partners LLC agreed to settle its purchase for approximately $10.0 million within 30 days following the closing of the transaction. The first, second and third tranches were settled on December 13, 2023, January 12, 2024 and February 11, 2024, respectively, under which (i) 24,785.081 shares of Series A Preferred Stock were issued to each of TAS Partners LLC and Dr. Timothy A. Springer in the first tranche, (ii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the second tranche, and (iii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the third tranche. On November 15, 2023, we issued 619.627 shares of Series A Preferred Stock to Seven One Eight Three Four Irrevocable Trust for $0.25 million. TAS Partners LLC, Dr. Springer and Seven One Eight Three Four Irrevocable Trust (affiliated with Dr. Kalayoglu) each purchased their respective shares of Series A Preferred Stock at the same offering price per share.

In connection with this private placement and the Merger, we also entered into a registration rights agreement (the "November 2023 RRA") with the holders of Common Stock and Series A Preferred Stock signatory thereto, including Drs. Springer and Kalayoglu and TAS Partners LLC. The holders party to the November 2023 RRA have currently waived their rights to require us to file a resale registration statement with the SEC with respect to the shares of Common Stock underlying the Series A Preferred Stock in the private placement and the Common Stock and Series A Preferred Stock issued to the signatories to the November 2023 RRA in the Merger.

Warrant Exercise

On March 26, 2024, TAS exercised 65,681 Amended 2019 Warrants, paid the per-share exercise price of $43.80 in cash for an aggregate exercise price of $2.9 million, and received 65,681 shares of Common Stock and 1,970,443 Contingent Value Rights.

Private Placement

Dr. Timothy A. Springer, TAS Partners LLC, and Dr. Springer's spouse, Dr. Chafen Lu, purchased shares of our Series B Preferred Stock in the Private Placement. The following table sets forth the number of shares of Series B Preferred Stock purchased in this private placement by such parties:

Name	Shares of Series B Preferred Stock Purchased	Total Aggregate Purchase Price
Timothy A. Springer, Ph.D.	1,636,832	$32,736,640
TAS Partners, LLC (affiliate of Timothy A. Springer, Ph.D.)	721,361	$14,427,220
Chafen Lu, Ph.D.	1,307	$ 26,140

In connection with the Private Placement, we also entered into a registration rights agreement (the "RRA") with the holders of Common Stock and Series B Preferred Stock signatory thereto, including Drs. Springer and Lu and TAS Partners LLC.

April 2022 Offering

In April 2022, we completed an SEC-registered securities offering pursuant to which we issued and sold an aggregate of 914,285 shares of our Common Stock and accompanying warrants to purchase 685,712 shares of our Common Stock, at a combined purchase price of $42.30, for aggregate net proceeds to us of approximately $36.9 million. In this offering, TAS Partners LLC purchased 222,720 shares of Common Stock and warrants to purchase 167,040 shares of Common Stock for a total purchase price of approximately $9.4 million.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. These agreements, among other things, require us or will 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 a director or an executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of such person's services as a director or executive officer.

SELLING STOCKHOLDERS

This prospectus covers the resale or other disposition from time to time by the Selling Stockholders identified in the table below of up to an aggregate of 6,501,150 shares of our Common Stock. The Selling Stockholders may from time to time offer and sell any or all of the Resale Shares set forth below pursuant to this prospectus and any accompanying prospectus supplement.

On July 2, 2024, we entered into the Securities Purchase Agreement for a private placement with certain institutional and accredited investors, pursuant to which we sold an aggregate of 3,563,247 shares of our Common Stock and 2,937,903 shares of our Series B Preferred Stock, which will automatically convert into 2,937,903 shares of Common Stock, subject to stockholder approval and certain beneficial ownership limitations set by each holder, pursuant to the Certificate of Designation, for an aggregate purchase price of approximately $130 million. This prospectus covers the resale or other disposition by the Selling Stockholders or their pledgees, donees, transferees or other successors-in-interest that receive their shares after the date of this prospectus of up to the total number of shares of Common Stock and shares of Common Stock issuable upon the conversion of the Series B Preferred Stock sold to the Selling Stockholders pursuant to the Securities Purchase Agreement. Throughout this prospectus, when we refer to the "Selling Stockholders," we are referring to the purchasers under the Securities Purchase Agreement listed in the table below.

We are registering the Resale Shares to permit the Selling Stockholders and their pledgees, donees, transferees or other successors-in interest that receive their shares after the date of this prospectus to resell or otherwise dispose of the shares in the manner contemplated under "Plan of Distribution" herein.

Except as otherwise disclosed herein, the Selling Stockholders do not have, and within the past three years have not had, any position, office or other material relationship with us.

The following table sets forth the names of the Selling Stockholders, the number of shares of our Common Stock owned by the Selling Stockholders (assuming the conversion of all outstanding shares of Series B Preferred Stock held by such Selling Stockholder), the number of shares of our Common Stock that may be offered under this prospectus (which reflects the assumed conversion of all outstanding shares of Series B Preferred Stock) and the number of shares of our Common Stock that will be owned after this offering by the Selling Stockholders assuming all of the Resale Shares registered for resale hereby are sold.

The Selling Stockholders may sell some, all or none of their Resale Shares. We do not know how long the Selling Stockholders will hold the Resale Shares before selling them, and we currently have no agreements, arrangements or understandings with the Selling Stockholders regarding the sale or other disposition of any of the Resale Shares. The Resale Shares covered hereby may be offered from time to time by the Selling Stockholders, provided that Resale Shares issued upon conversion of Series B Preferred Stock may only be offered after such shares of Series B Preferred Stock are converted to Common Stock pursuant to the terms of the Certificate of Designation following stockholder approval of the Conversion Proposal and subject to certain beneficial ownership limitations.

The information set forth below is based upon information obtained from the Selling Stockholders and upon information in our possession regarding the issuance of the Series B Preferred Stock and Private Placement Common Shares in connection with the Private Placement. The percentages of Common Stock owned after the offering by each Selling Stockholder below are based on 21,387,549 shares of Common Stock outstanding as of September 3, 2024, and, for each Selling Stockholder, assumes the conversion of only the Series B Preferred Stock owned by such Selling Stockholder but not the Series B Preferred Stock owned by any other Selling Stockholder. The numbers of shares of Common Stock beneficially owned before and after the offering presented in the table below do not give effect to any Beneficial Ownership Limitations with respect to the Series B Preferred Stock, but do give effect to beneficial ownership limitations applicable to holders of Series A Preferred Stock.

Name of Selling Stockholders[1]	Common Stock Beneficially Owned Before Offering[2]	Common Stock that May Be Offered Pursuant to Prospectus	Common Stock Beneficially Owned After Offering[2]	
			Number	Percentage (%)
Entities affiliated with Timothy A. Springer, Ph.D.[3]	8,841,756	2,359,500	6,482,256	27.1%
Schooner Century Fund LLC[4]	1,608,709	737,500	871,209	4.0%
Fidelity Growth Company Commingled Pool[5]	461,147	461,147	—	*
Fidelity Select Portfolios: Biotechnology Portfolio[6]	884,159	375,000	509,159	2.4%
Citadel CEMF Investments Ltd.[7]	375,000	375,000	—	*
Fidelity Select Portfolios: Select Health Care Portfolio[8]	368,992	368,992	—	*
Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund[9]	341,346	341,346	—	*
Invus Public Equities, L.P.[10]	573,962	250,000	323,962	1.5%
Fidelity Advisor Series VII: Fidelity Advisor Health Care Fund[11]	230,254	230,254	—	*
HBM Healthcare Investments (Cayman) Ltd.[12]	200,000	200,000	—	*
Entities affiliated with Great Point Partners LLC[13]	200,000	200,000	—	*
Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund[14]	167,950	167,950	—	*
Fidelity Mt. Vernon Street Trust: Fidelity Growth Company K6 Fund[15]	108,576	108,576	—	*
Armistice Capital, LLC[16]	100,000	100,000	—	*
Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund[17]	88,931	88,931	—	*
Variable Insurance Products Fund IV: VIP Health Care Portfolio[18]	56,954	56,954	—	*
Schonfeld Global Master Fund L.P.[19]	50,000	50,000	—	*
683 Capital Partners, LP[20]	30,000	30,000	—	*

* Less than 1%

(1) To our knowledge, unless otherwise indicated, all persons named in the table above have sole voting and investment power with respect to their shares of Common Stock. Unless otherwise indicated, the address of each beneficial owner listed below is 704 Quince Orchard Road, Gaithersburg, Maryland 20878.

(2) "Beneficial ownership" is a term broadly defined by the SEC in Rule 13d-3 under the Exchange Act, and includes more than the typical form of stock ownership, that is, stock held in the person's name. The term also includes what is referred to as "indirect ownership," meaning ownership of shares as to which a person has or shares investment power. Notwithstanding the foregoing, the beneficial ownership amounts assume the sale of all Common Stock that may be offered pursuant to this prospectus without taking into account certain limitations, including that a holder of Series B Preferred Stock is prohibited from converting shares of Series B Preferred Stock into shares of Common Stock (i) prior to stockholder approval of the Conversion Proposal is obtained, or (ii) if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (established by the holder between 0.0% and 19.9%) (the "Beneficial Ownership Limitation") of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion.

(3) Based on information known to us, and consists of (i) 4,373,966 shares of Common Stock held directly by Timothy A. Springer, Ph.D., a member of our Board of Directors, (ii) 1,636,832 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held directly by Timothy A. Springer, Ph.D., (iii) 2,111 shares of Common Stock issuable upon exercise of outstanding options within 60 days of September 3, 2024 and held directly by Timothy A. Springer, Ph.D., (iv) 1,927,630 shares of Common Stock held by

TAS directly, (v) 721,361 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held by TAS directly, (vi) 167,040 shares of Common Stock issuable upon exercise of underlying warrants exercisable within 60 days of September 3, 2024 held by TAS directly, (vii) 11,509 shares of Common Stock held by Dr. Chafen Lu, Dr. Springer's wife, and (viii) 1,307 shares of Common Stock issuable upon conversion of shares of Series B Preferred Stock held by Dr. Chafen Lu. Of these shares, 1,636,832 shares of Common Stock underlying Series B Preferred Stock held by Dr. Springer directly, 721,361 shares of Common Stock underlying Series B Preferred Stock held by TAS directly, and 1,307 shares of Common Stock underlying Series B Preferred Stock held by Dr. Lu directly are being registered for resale hereby. Dr. Springer is the sole managing member of TAS. Dr. Springer exercises sole voting and dispositive power over the shares held by him directly and the shares held by TAS. Dr. Springer disclaims beneficial ownership of the shares held by TAS. Dr. Lu exercises sole voting and dispositive power over the shares held by her directly. The principal business address of each of Dr. Springer, TAS, and Dr. Lu is 36 Woodman Road, Newton, MA, 02467.

(4) Based on information known to us, the Resale Shares that are registered for resale hereby consists of 176,385 shares of Common Stock and 561,115 shares of Common Stock underlying Series B Preferred Stock held directly by Schooner Century Fund LLC. Schooner Century Fund LLC also holds 871,209 shares of Common Stock and 2,146,271 shares of Common Stock underlying outstanding shares of Series A Preferred Stock that are not registered for resale hereby. Schooner Capital LLC is the Sole Manager of Schooner Century Fund LLC. Schooner Capital LLC is managed by Stephen D. Maiocco, Edward D. Henderson, and Peter K. Binas, serving as its Managing Partners. These Managing Partners, along with Vincent J. Ryan as majority member of the Sole Manager share the sole voting discretion and dispositive power with respect to all shares of Cartesian Therapeutics, Inc. held by Schooner Century Fund LLC. The ability of the shares of Series A Preferred Stock or Series B Preferred Stock held by Schooner Century Fund LLC to convert into shares of Common Stock are subject to beneficial ownership limitations, such that Schooner Century Fund LLC may not convert shares of Series A Preferred Stock or Series B Preferred Stock into Common Stock to the extent that doing so would result in such holder beneficially owning greater than 4.9% of the Company's outstanding Common Stock after giving effect to any such conversion.

(5) Based on information known to us, and consists of 461,147 shares of Common Stock held by Fidelity Growth Company Commingled Pool. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(6) Based on information known to us, and consists of 375,000 shares of Common Stock held by Fidelity Select Portfolios: Biotechnology Portfolio. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(7) Based on information known to us, and consists of 369,621 shares of Common Stock and 5,379 shares of Common Stock underlying Series B Preferred Stock held directly by Citadel CEMF Investments Ltd. Citadel Advisors LLC is the portfolio manager of Citadel CEMF Investments LTD. Citadel Advisors Holdings LP ("CAH") is the sole member of Citadel Advisors LLC. Citadel GP LLC ("CGP") is the general partner of CAH. Kenneth Griffin owns a controlling interest in CGP. Mr. Griffin, as the owner of a controlling interest in CGP, may be deemed to have shared power to vote or direct the vote of, and/or shared power to dispose or direct the disposition over, these securities. The address of Citadel CEMF Investments Ltd. is c/o Citadel Enterprise Americas LLC, Southeast Financial Center, 200 S. Biscayne Blvd., Suite 3300, Miami, FL 33131.

(8) Based on information known to us, and consists of 368,992 shares of Common Stock held by Fidelity Select Portfolios: Select Health Care Portfolio. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(9) Based on information known to us, and consists of 341,346 shares of Common Stock held by Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(10) Based on information known to us, and consists of 246,413 shares of Common Stock and 3,587 shares of Common Stock underlying Series B Preferred Stock held directly by Invus Public Equities, L.P. ("IPE"). Additionally, IPE holds 279,989 shares of Common Stock and 43,973 shares of Common Stock underlying warrants that are exercisable within 60 days of the date hereof that are not registered for resale hereby. Invus Public Equities Advisors, LLC ("IPEA") controls IPE, as its general partner and accordingly, may be deemed to beneficially own the shares held by IPE. Invus Global Management, LLC ("IGM") controls IPEA, as its managing member and accordingly, may be deemed to beneficially own the shares that IPEA may be deemed to beneficially own. Siren, L.L.C. ("Siren") controls IGM, as its managing member and accordingly, may be deemed to beneficially own the shares that IGM may be deemed to beneficially own. Mr. Raymond Debbane, as the managing member of Siren, controls Siren and accordingly, may be deemed to beneficially own the shares that Siren may be deemed to beneficially own. The address of Invus Public Equities, L.P. is 750 Lexington

Ave, 30th Floor, New York, NY 10022.

(11) Based on information known to us, and consists of 230,254 shares of Common Stock held by Fidelity Advisor Series VII: Fidelity Advisor Health Care Fund. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(12) Based on information known to us, and consists of 197,130 shares of Common Stock and 2,870 shares of Common Stock underlying Series B Preferred Stock held directly by HBM Healthcare Investments (Cayman) Ltd. Voting and investment power over the shares held by HBM Healthcare Investments (Cayman) Ltd. is exercised by the board of directors of HBM Healthcare Investments (Cayman) Ltd. (the "HBM Board"). The HBM Board consists of Jean-Marc Lesieur, Richard H. Coles, Sophia Harris, Dr. Andreas Wicki, Mark Kronenfeld, M.D. and Richard Paul Woodhouse, none of whom has individual voting or investment power with respect to the shares. The address of HBM Healthcare Investments (Cayman) Ltd. is Governor's Square, 23 Lime Tree Bay Ave., PO Box 30852, Grand Cayman, KY1-1204, Cayman Islands.

(13) Based on information known to us, and consists of (i) 108,816 shares of Common Stock and 1,584 shares of Common Stock underlying Series B Preferred Stock held by Biomedical Value Fund, L.P. ("BMVF"), (ii) 74,909 shares of Common Stock and 1,091 shares of Common Stock underlying Series B Preferred Stock held by Biomedical Offshore Value Fund, Ltd. ("BOVF"), and (iii) 13,405 shares of Common Stock and 195 shares of Common Stock underlying Series B Preferred Stock held by Cheyne Select Master Fund ICAV – Cheyne Global Equity Fund (("CGEF") and together with BMVF and BOVF, the "GPP Entities")). Great Point Partners LLC ("GPP LLC") is the investment manager of BMVF and BOVF and the sub-advisor to CGEF, and by virtue of such status may be deemed to be the beneficial owner of the securities held by the GPP Entities. Each of Dr. Jeffrey R. Jay, M.D., as Senior Managing Member of GPP LLC, and Mr. Ortav Yehudai, as Managing Director of GPP LLC, has voting and investment power with respect to securities held by the GPP Entities, and therefore may be deemed to be the beneficial owner of the securities held by the GPP Entities. Notwithstanding the above, GPP LLC, Dr. Jay and Mr. Yehudai disclaim beneficial ownership of the securities held by the GPP Entities except to the extent of their respective pecuniary interests. The address of the GPP Entities is 165 Mason Street, 3rd Floor, Greenwich, CT 06830.

(14) Based on information known to us, and consists of 167,950 shares of Common Stock held by Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(15) Based on information known to us, and consists of 108,576 shares of Common Stock held by Fidelity Mt. Vernon Street Trust: Fidelity Growth Company K6 Fund. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(16) Based on information known to us, and consists of 98,565 shares of Common Stock and 1,435 shares of Common Stock underlying shares of Series B Preferred Stock. The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the "Master Fund"), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC ("Armistice Capital"), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.

(17) Based on information known to us, and consists of 88,931 shares of Common Stock held by Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(18) Based on information known to us, and consists of 56,954 shares of Common Stock held by Variable Insurance Products Fund IV: VIP Health Care Portfolio. This fund is managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. The address of this fund is 245 Summer Street, Boston, MA 02210.

(19) Based on information known to us, and consists of 49,283 shares of Common Stock and 717 shares of Common Stock underlying Series B Preferred Stock held directly by Schonfeld Global Master Fund L.P. Ryan Tolkin, the CEO and CIO of Schonfeld Strategic

Advisors LLC has voting and dispositive power of these securities and therefore may be deemed to be the beneficial owner thereof. The address of Schonfeld Global Master Fund L.P. is c/o Schonfeld Strategic Advisors LLC, 590 Madison Avenue, 23rd Floor, New York, NY 10022.

(20) Based on information known to us, and consists of 29,570 shares of Common Stock and 430 shares of Common Stock underlying shares of Series B Preferred Stock. Ari Zweiman has voting and investment power with respect to these securities and therefore may be deemed to be the beneficial owner thereof. The address of 683 Capital Partners, LP is 1700 Broadway, Suite 4200, New York, NY 10019.

Relationship with the Selling Stockholders

In addition to the Securities Purchase Agreement, in connection with the Private Placement, we entered into the RRA on July 2, 2024 with the Selling Stockholders. Timothy A. Springer, Ph.D. is a member of our Board of Directors and also participated in the November 2023 Private Placement and was party to the November 2023 RRA. TAS Partners LLC and Dr. Chafen Lu are affiliated with Dr. Springer and TAS Partners LLC also participated in the November 2023 Private Placement and was party to the November 2023 RRA. See "Certain Relationships and Related Transactions."

Registration Rights Agreements

Pursuant to the terms of the RRA, we agreed to prepare and file with the SEC a registration statement that permits the resale or other disposition of the Selling Stockholders' shares of Common Stock issued and shares of Common Stock issuable upon conversion of the Series B Preferred Stock issued to such Selling Stockholders pursuant to the Securities Purchase Agreement and, subject to certain exceptions, use commercially reasonable efforts to keep the registration statement of which this prospectus forms a part effective under the Securities Act for so long as such securities registered for resale thereunder retain their character as Registrable Securities (as defined in the RRA). This registration statement is being filed in order to satisfy our obligations under the RRA.

We have also agreed, among other things, to indemnify the Selling Stockholders and each of their respective officers, directors, agents, partners, members, managers, stockholders, affiliates, investment advisers and employees, each person who controls any such Selling Stockholder and the officers, directors, partners, members, managers, stockholders, agents, investment advisers and employees of each such controlling person from certain liabilities and pay all fees and expenses (excluding any legal fees of the selling holder(s), and any underwriting discounts and selling commissions) incident to our obligations under the RRA.

PLAN OF DISTRIBUTION

We are registering resales of Resale Shares to permit the sale, transfer or other disposition of the Resale Shares by the Selling Stockholders or their donees, pledgees, transferees or other successors-in-interest from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the Selling Stockholders of the Resale Shares. We will, or will procure to, bear all fees and expenses incident to our obligation to register the Resale Shares.

The Selling Stockholders may sell all or a portion of the Resale Shares beneficially owned by them and offered hereby from time to time, and in the case of shares of Common Stock issuable upon the conversion of the Series B Preferred Stock, may only be offered after such shares are converted to shares of Common Stock pursuant to the terms of the Certificate of Designation, directly or through one or more underwriters, broker-dealers or agents. If the Resale Shares are sold through underwriters or broker-dealers, the Selling Stockholders will be responsible for underwriting discounts (it being understood that the Selling Stockholders shall not be deemed to be underwriters solely as a result of their participation in this offering) or commissions or agent's commissions. The Resale Shares may be sold on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The Selling Stockholders may use any one or more of the following methods when selling Resale Shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- to or through underwriters or purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the Selling Stockholders to sell a specified number of such Resale Shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The Selling Stockholders also may resell all or a portion of the Resale Shares in open market transactions in reliance upon Rule 144 under the Securities Act, as permitted by that rule, or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by the Selling Stockholders may arrange for other broker-dealers to participate in sales. If the Selling Stockholders effect such transactions by selling Resale Shares to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the Selling Stockholders or commissions from purchasers of the Resale Shares for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2121.01.

In connection with sales of the Resale Shares or otherwise, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the Resale Shares in the course of hedging in positions they assume. The Selling Stockholders may also sell Resale Shares short and if such short sale takes place after the date that this Registration Statement is declared effective by the SEC, the Selling Stockholders may deliver Resale Shares covered by this prospectus to close out short positions and to return borrowed Resale Shares in connection with such short sales. The Selling Stockholders may also loan or pledge Resale Shares to broker-dealers that in turn may sell such Resale Shares, to the extent permitted by applicable law. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the Selling Stockholders have been advised that they may not use Resale Shares the resale of which has been registered on this registration statement to cover short sales of our Common Stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

The Selling Stockholders may, from time to time, pledge or grant a security interest in some or all of the Resale Shares owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the Resale Shares from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending, if necessary, the list of Selling Stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The Selling Stockholders also may transfer and donate the Resale Shares in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The Selling Stockholders and any broker-dealer or agents participating in the distribution of the Resale Shares may be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling Stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

Each Selling Stockholder has informed the Company that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Resale Shares. Upon the Company being notified in writing by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of Common Stock through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such selling stockholder and of the participating broker-dealer(s), (ii) the number of Resale Shares involved, (iii) the price at which such the Resale Shares were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out in this prospectus, and (vi) other facts material to the transaction. In no event shall any broker-dealer receive fees, commissions and markups, which, in the aggregate, would exceed eight percent (8.0%).

Under the securities laws of some U.S. states, the Resale Shares may be sold in such states only through registered or licensed brokers or dealers. In addition, in some U.S. states the Resale Shares may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any Selling Stockholder will sell any or all of the Resale Shares registered pursuant to the shelf registration statement of which this prospectus forms a part.

Each Selling Stockholder and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the

extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the Resale Shares by the Selling Stockholder and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the Resale Shares to engage in market-making activities with respect to the Resale Shares. All of the foregoing may affect the marketability of the Resale Shares and the ability of any person or entity to engage in market-making activities with respect to the Resale Shares.

We will pay all expenses of the registration of the Resale Shares pursuant to the registration rights agreement, including, without limitation, SEC filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, that each Selling Stockholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the Selling Stockholders against certain liabilities, including some liabilities under the Securities Act, in accordance with the RRA, or the Selling Stockholders will be entitled to contribution. We may be indemnified by the Selling Stockholders against certain civil liabilities set forth in the RRA, including liabilities under the Securities Act, that may arise from any written information furnished to us by the Selling Stockholders specifically for use in this prospectus, in accordance with the related RRA, or we may be entitled to contribution.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our Charter, our Bylaws, and the applicable provisions of the Delaware General Corporation Law (the "DGCL"). Each of our Charter and Bylaws is filed as an exhibit to the registration statement of which this prospectus forms a part.

General

As of the date of this prospectus, our authorized capital stock consists of 360,000,000 shares, comprised of 350,000,000 shares of Common Stock, $0.0001 par value per share, and 10,000,000 shares of preferred stock, $0.0001 par value per share. As of September 3, 2024 there were 21,387,549 shares of our Common Stock outstanding and 3,104,244.592 shares of preferred stock outstanding, of which 166,341.592 were designated as Series A Preferred Stock and 2,937,903 were designated as Series B Preferred Stock.

Common Stock

Our Common Stock is listed on the Nasdaq Global Market under the symbol "RNAC."

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 Charter 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 a majority of the 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 Charter.

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

Dividend Rights. 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.

Other Rights. Holders of Common Stock have no preemptive, subscription, redemption or conversion rights. 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.

Preferred Stock

Pursuant to the Charter, our Board of Directors has the authority, without stockholder approval, subject to limitations prescribed by law, to provide for the issuance of up to 10,000,000 shares of preferred stock in one or more series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the voting rights, if any, designations, powers, preferences and relative, participating, optional, special and other rights of the shares of each series and any qualifications, limitations or restrictions thereof.

We will fix the voting rights, designations, preferences and rights of the preferred stock of each series, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to such series. We will file an exhibit to the registration statement of which any prospectus relating to offers and sales of any such preferred stock forms a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. This description will include:

- the title and stated value;
- the number of shares offered;

- the liquidation preference per share;
- the purchase price per share;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation for dividends;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- our right, if any, to defer payment of dividends and the maximum length of such deferral period;
- the procedures for auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provision for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into Common Stock, including the conversion price (or manner of calculation) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Our Board of Directors could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests. The issuance of preferred stock could adversely affect the voting power, conversion or other rights of holders of Common Stock and reduce the likelihood that common stockholders will receive dividend payments and payments upon liquidation.

The laws of the State of Delaware provide that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes to the rights of holders of such preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designations.

The transfer agent and registrar for any series of preferred stock will be set forth in the applicable prospectus supplement.

Series A Preferred Stock

Conversion. The outstanding shares of Series A Preferred Stock may convert into shares of Common Stock, subject to certain beneficial ownership limitations, including that a holder of Series A Preferred Stock (except for any holder of Series A Preferred Stock who beneficially owned greater than 19.9% of our Common Stock immediately prior to the Merger) is prohibited from converting shares of Series A Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own

more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion (the "Series A Beneficial Ownership Limitation"). Each outstanding share of Series A Preferred Stock is convertible, at any time and from time to time, at the option of the holder thereof, into 33.333 shares of Common Stock, subject to the Series A Beneficial Ownership Limitation and only to the extent the same shall have ceased to apply.

Voting Rights. Except as otherwise required by law (e.g. voting on a change to the authorized shares of Series A Preferred Stock or the rights of such shares as required by the DGCL) and the Series A Certificate of Designation, the Series A Preferred Stock does not have voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, we will not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock, (b) alter or amend the Series A Certificate of Designation, (c) amend the Charter or other organizational documents in any matter that adversely affects any rights of the holders of Series A Preferred Stock, (d) issue further shares of Series A Preferred Stock (other than in connection with the exercise of assumed Cartesian options to purchase shares of Series A Preferred Stock), (e) at any time while at least 30% of the originally issued Series A Preferred Stock remains issued and outstanding, consummate either (A) a Fundamental Transaction (as defined in the Series A Certificate of Designation) or (B) any merger or consolidation of the Company or other business combination in which our stockholders immediately before such transaction do not hold at least a majority of our capital stock immediately after such transaction, (f) amend or fail to comply with, in any manner that would be reasonably likely to prevent, impede or materially delay the conversion (or the stockholder approval thereof), or terminate, any of the Support Agreements, or agree to any transfer, sale or disposition of such shares subject to the Support Agreements (except for such transfers, sales or dispositions with respect to which the approval of the Company is not required pursuant to the applicable Support Agreement) or (g) enter into any agreement with respect to any of the foregoing.

Dividends. Holders of Series A Preferred Stock are entitled to receive non-cumulative dividends on shares of Series A Preferred Stock equal, on an as-if-converted-to-Common-Stock basis, and in the same form as dividends actually paid on shares of the Common Stock.

Liquidation and Dissolution. The Series A Preferred Stock ranks on parity with Common Stock and Series B Preferred Stock upon any liquidation, dissolution or winding-up of the Company.

Preemptive Rights. The Series A Preferred Stock does not have preemptive rights.

Transferability. The Series A Certificate of Designation does not contain any restrictions upon the transfer of the Series A Preferred Stock.

Series B Preferred Stock

Conversion. We have agreed to submit to our stockholders for their consideration the Conversion Proposal. Effective as of 5:00 p.m. (Eastern time) on the third business day after the date on which such stockholder approval is received, each share of Series B Preferred Stock will automatically convert into one share of Common Stock (the "Automatic Conversion"). The Automatic Conversion is subject to certain beneficial ownership limitations, including that a holder of Series B Preferred Stock is prohibited from converting shares of Series B Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion (the "Beneficial Ownership Limitation"). Following the Automatic Conversion, each share of Series B Preferred Stock that is not otherwise converted into Common Stock as a result of the Beneficial Ownership Limitation shall be convertible, at any time and from time to time, at the option of the Holder thereof, into one share of Common Stock, subject to the Beneficial Ownership Limitation and only to the extent the same shall have ceased to apply.

Voting Rights. Except as otherwise required by law (e.g. voting on a change to the authorized shares of Series B Preferred Stock or the rights of such shares as required by the DGCL) and the Certificate of Designation, the Series B Preferred Stock does not have voting rights. However, as long as any shares of Series B Preferred Stock are outstanding, we will not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to

the Series B Preferred Stock, (b) alter or amend the Certificate of Designation, or (c) amend the Charter or other organizational documents in any matter that adversely affects any rights of the holders of Series B Preferred Stock.

Dividends. Holders of Series B Preferred Stock are entitled to receive non-cumulative dividends on shares of Series B Preferred Stock equal, on an as-if-converted-to-Common-Stock basis, and in the same form as dividends actually paid on shares of the Common Stock.

Liquidation and Dissolution. The Series B Preferred Stock ranks on parity with Common Stock and Series A Preferred Stock upon any liquidation, dissolution or winding-up of the Company.

Preemptive Rights. The Series B Preferred Stock does not have preemptive rights.

Transferability. The Certificate of Designation does not contain any restrictions upon the transfer of the Series B Preferred Stock.

Registration Rights

Certain holders of our Common Stock or their transferees are entitled to the following rights with respect to the registration of such shares for public resale under the Securities Act.

These registration rights are granted pursuant to the RRA, the November 2023 RRA, and a registration rights agreement (as amended, the "2020 RRA") we entered into in connection with the private placement of 180,546 shares of our Common Stock, which closed on July 31, 2020.

RRA

On July 2, 2024, we entered into the RRA with the purchasers party thereto. Pursuant to the RRA, we are obligated to prepare and file a resale registration statement with the SEC within 30 days of July 3, 2024. We agreed to use our reasonable best efforts to cause this registration statement to be declared effective by the SEC within 90 calendar days of July 3, 2024 (or within 120 calendar days of July 3, 2024 if the SEC reviews the registration statement). The registration statement of which this prospectus forms a part is intended to satisfy these obligations. Once such registration statement is declared effective, the Resale Shares to which the registration statement relates will no longer constitute restricted securities and may be sold freely in the public markets, subject to lapse on any related contractual restrictions related thereto of any holder party thereto, and subject to any restrictions that may be applicable to any control securities.

We have also agreed, among other things, to indemnify the purchasers party thereto and each of their respective officers, directors, agents, partners, members, managers, stockholders, affiliates, investment advisers and employees, each person who controls any such purchaser party and the officers, directors, partners, members, managers, stockholders, agents, investment advisers and employees of each such controlling person from certain liabilities and pay all fees and expenses (excluding any legal fees of the selling holder(s), and any underwriting discounts and selling commissions) incident to our obligations under the RRA.

Securities of a holder cease to be registrable securities under the RRA upon the earlier to occur of the following: (A) a sale pursuant to a registration statement or Rule 144 under the Securities Act; and (B) the time such shares become eligible for resale by such holder under Rule 144 without the requirement for the Company to be in compliance with the current public information required by Rule 144(c) and Rule 144(i)(2) and without volume or manner-of-sale restrictions, pursuant to a written opinion letter of counsel for the Company to such effect, addressed, delivered and reasonably acceptable to the Company's transfer agent.

November 2023 RRA

In connection with the Merger and the November 2023 Private Placement, we entered into the November 2023 RRA, pursuant to which we agreed to prepare and file a resale registration statement with the SEC within 90 calendar days following November 15, 2023, with respect to the shares of Common Stock underlying the Series A Preferred Stock issued in the November 2023 Private Placement and the Common Stock and Series A Preferred Stock issued to the signatories to the November 2023 RRA in the Merger. We also agreed to use our commercially reasonable efforts to cause such registration statement to be declared effective by the SEC by March 29, 2024 (or by May 13, 2024 if the SEC reviews the registration statement). The parties to the November 2023 have agreed to temporarily waive these registration requirements.

We also agreed to, among other things, indemnify the holders of Common Stock and Series A Preferred Stock signatory thereto, their officers, directors, members, employees, partners, managers, stockholders, affiliates, investment advisors and agents under such registration statement from certain liabilities and pay all fees and expenses (excluding any legal fees of the selling holder(s), and any underwriting discounts and selling commissions) incident to our obligations under the November 2023 RRA.

Securities of a holder cease to be registrable securities under the November 2023 RRA upon the earlier to occur of the following: (A) a sale pursuant to a registration statement or Rule 144 under the Securities Act; and (B) the time such shares become eligible for resale by such holder under Rule 144 without the requirement for the Company to be in compliance with the current public information required thereunder and without volume or manner-of-sale restrictions, pursuant to a written opinion letter of counsel for the Company to such effect, addressed, delivered and reasonably acceptable to the Company's transfer agent.

2020 RRA

Holders of registrable securities under the 2020 RRA have registration rights until the earlier of (i) such time as there are no longer any registrable securities held by the purchaser, its affiliates or permitted transferees and (ii) such time as all of the securities can otherwise be sold without regard to the volume or manner-of-sale restrictions pursuant to Rule 144. 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.

Piggyback Registration Rights. 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 are 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.

Demand Registration Rights. If the holders of registrable securities request in writing that we effect a registration with respect to all of the registrable securities, we will be required to effect such registration.

Expenses. 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 security holders and blue sky fees and expenses.

Termination of Registration Rights. The registration rights terminate upon the earlier of (i) such time as there are no longer any registrable securities held by the purchaser, its affiliates or permitted transferees and (ii) such time as all of the securities can otherwise be sold without regard to the volume or manner-of-sale restrictions pursuant to Rule 144.

Anti-Takeover Effects of Delaware Law and Our Charter and Bylaws

Some provisions of the DGCL, our Charter 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 interest, 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 effect a change in 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 Charter 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 Charter 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 Charter 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 DGCL, 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 law may have an anti-takeover effect with respect to transactions not approved in advance by the Board of Directors.

Choice of Forum. Our Charter 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 agents 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 Charter or Bylaws; or (4) any action asserting a claim governed by the internal affairs doctrine. Our Charter 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 this choice of forum provision. It is possible that a court of law could rule that the choice of forum provision contained in our Charter is inapplicable or unenforceable if it is challenged in a proceeding or otherwise. Investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder and Section 22 of the Securities Act generally creates concurrent jurisdiction for state and federal courts over suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

Amendment of Charter. The amendment of any of the above provisions in our Charter, 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 the DGCL, our Charter 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.

Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock, Series A Preferred Stock, and Series B Preferred Stock is Equiniti Trust Company, LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, New York 11219, and its telephone number is (800) 937-5449.

Exchange Listing

Our Common Stock is listed on The Nasdaq Global Market under the symbol "RNAC." We have not applied to list the Series A Preferred Stock or the Series B Preferred Stock on any national securities exchange.

LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Covington & Burling LLP, New York, New York. If legal matters are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

EXPERTS

The consolidated financial statements of Cartesian Therapeutics, Inc. at December 31, 2023 and 2022, and for each of the three years in the period ended December 31, 2023, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The financial statements of Cartesian Therapeutics, Inc. (Old Cartesian) as of and for the years ended December 31, 2022 and 2021 included in this prospectus and in the registration statement have been so included in reliance on the report of BDO USA, P.C., independent auditors, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act and are required to file annual, quarterly and other reports, proxy statements and other information with the SEC. The SEC maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements, and various other information about us.

Information about us is also available at our website at http://www.cartesiantherapeutics.com. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. However, the information on our website is not a part of this prospectus and is not incorporated by reference into this prospectus.

We have filed a registration statement on Form S-1 with the SEC relating to the securities covered by this prospectus. This prospectus is a part of the registration statement and does not contain all of the information in the registration statement. Whenever a reference is made in this prospectus to a contract or other document of ours, please be aware that the reference is only a summary and that you should refer to the exhibits that are part of the registration statement for a copy of the contract or other document. You may review a copy of the registration statement through the SEC's website or our website.

CARTESIAN THERAPEUTICS, INC.

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Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Balance Sheets
(Amounts in thousands, except share data and par value)

	June 30, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 87,227	$ 76,911
Accounts receivable	32,039	5,870
Unbilled receivables	3,472	2,981
Prepaid expenses and other current assets	2,044	4,967
Total current assets	124,782	90,729
Non-current assets:		
Property and equipment, net	6,672	2,113
Right-of-use asset, net	13,852	10,068
In-process research and development assets	150,600	150,600
Goodwill	48,163	48,163
Long-term restricted cash	1,669	1,377
Investments	2,000	2,000
Total assets	$347,738	$305,050
Liabilities, convertible preferred stock, and stockholders' deficit		
Current liabilities:		
Accounts payable	$ 2,862	$ 3,150
Accrued expenses and other current liabilities	10,954	15,572
Lease liability	2,523	2,166
Deferred revenue	—	2,311
Warrant liabilities	1,205	720
Contingent value right liability	8,571	15,983
Forward contract liabilities	—	28,307
Total current liabilities	26,115	68,209
Non-current liabilities:		
Lease liability, net of current portion	12,344	8,789
Deferred revenue, net of current portion	—	3,538
Warrant liabilities, net of current portion	8,055	5,674
Contingent value right liability, net of current portion	386,829	342,617
Deferred tax liabilities, net	15,853	15,853
Total liabilities	449,196	444,680
Commitments and contingencies (Note 18)		
Series A Preferred Stock, $0.0001 par value; no and 548,375 shares authorized as of June 30, 2024 and December 31, 2023, respectively; no and 435,120.513 shares issued and outstanding as of June 30, 2024 and December 31, 2023, respectively	—	296,851
Options for Series A Preferred Stock	—	3,703
Stockholders' deficit:		
Series A Preferred Stock, $0.0001 par value; 180,455.753 and no shares authorized as of June 30, 2024 and December 31, 2023, respectively; 166,341.592 and no shares issued and outstanding as of June 30, 2024 and December 31, 2023, respectively	—	—
Preferred stock, $0.0001 par value; 9,819,544.247 and 9,451,625 shares authorized as of June 30, 2024 and December 31, 2023, respectively; no shares issued and outstanding as of June 30, 2024 and December 31, 2023	—	—

The accompanying notes are an integral part of these unaudited consolidated financial statements.

	June 30, 2024	December 31, 2023
Common stock, $0.0001 par value; 350,000,000 shares authorized as of June 30, 2024 and December 31, 2023; 17,816,238 and 5,397,597 shares issued and outstanding as of June 30, 2024 and December 31, 2023, respectively	2	1
Additional paid-in capital	560,766	179,062
Accumulated deficit	(657,635)	(614,647)
Accumulated other comprehensive loss	(4,591)	(4,600)
Total stockholders' deficit	(101,458)	(440,184)
Total liabilities, convertible preferred stock, and stockholders' deficit	$ 347,738	$ 305,050

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Operations and Comprehensive Income (Loss)
(Amounts in thousands, except share and per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Revenue:				
Collaboration and license revenue	$ 33,271	$ 5,249	$ 39,111	$ 11,187
Grant revenue	174	—	174	—
Total revenue	33,445	5,249	39,285	11,187
Operating expenses:				
Research and development	12,661	17,782	22,399	36,406
General and administrative	7,027	6,105	16,477	11,800
Total operating expenses	19,688	23,887	38,876	48,206
Operating income (loss)	13,757	(18,638)	409	(37,019)
Investment income	1,195	1,394	2,359	2,725
Foreign currency transaction, net	—	23	—	42
Interest expense	—	(752)	—	(1,560)
Change in fair value of warrant liabilities	(3,908)	6,341	(2,866)	2,262
Change in fair value of contingent value right liability	2,500	—	(36,800)	—
Change in fair value of forward contract liabilities	—	—	(6,890)	—
Other income, net	292	245	800	500
Net income (loss)	$ 13,836	$ (11,387)	$ (42,988)	$ (33,050)
Other comprehensive income (loss):				
Foreign currency translation adjustment	14	(27)	9	(49)
Unrealized gain on marketable securities	—	—	—	11
Total comprehensive income (loss)	$ 13,850	$ (11,414)	$ (42,979)	$ (33,088)
Net income (loss)	13,836	(11,387)	(42,988)	(33,050)
Less: Undistributed earnings allocable to participating securities	(4,208)	—	—	—
Net income (loss) allocable to shares of common stock - basic and diluted	9,628	(11,387)	(42,988)	(33,050)
Net income (loss) per share allocable to common stockholders:				
Basic	$ 0.58	$ (2.23)	$ (3.88)	$ (6.46)
Diluted	$ 0.54	$ (2.23)	$ (3.88)	$ (6.46)
Weighted-average common shares outstanding:				
Basic	16,723,479	5,114,747	11,068,749	5,113,213
Diluted	17,791,143	5,114,747	11,068,749	5,113,213

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Changes in Convertible Preferred Stock and Stockholders' Equity (Deficit)
(Amounts in thousands, except share data)

	Series A Preferred Stock		Options for Series A Preferred Stock	Series A Preferred Stock		Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Stockholders' equity (deficit)
	Shares	Amount	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2023	435,120.513	$ 296,851	$ 3,703	—	$—	5,397,597	$ 1	$179,062	$(614,647)	$(4,600)	$(440,184)
Issuance of Series A Preferred Stock in connection with private placement and settlement of related forward contract	99,140.326	75,197	—	—	—	—	—	—	—	—	—
Transfer of Series A Preferred Stock and options for Series A Preferred Stock to permanent equity	(534,260.839)	(372,048)	(3,703)	534,260.839	—	—	—	375,751	—	—	375,751
Issuance of common stock upon exercise of options	—	—	—	—	—	52,558	—	154	—	—	154
Issuance of common stock upon exercise of warrants	—	—	—	—	—	65,681	—	2,877	—	—	2,877
Stock-based compensation expense	—	—	—	—	—	—	—	1,431	—	—	1,431
Currency translation adjustment	—	—	—	—	—	—	—	—	—	(5)	(5)
Net loss	—	—	—	—	—	—	—	—	(56,824)	—	(56,824)
Balance at March 31, 2024	—	$ —	$ —	534,260.839	$—	5,515,836	$ 1	$559,275	$(671,471)	$(4,605)	$(116,800)
Conversion of Series A Preferred Stock to common stock	—	—	—	(367,919.247)	—	12,263,951	1	(1)	—	—	—
Issuance of common stock upon exercise of options	—	—	—	—	—	36,451	—	120	—	—	120
Equity offering costs	—	—	—	—	—	—	—	(219)	—	—	(219)
Stock-based compensation expense	—	—	—	—	—	—	—	1,591	—	—	1,591
Currency translation adjustment	—	—	—	—	—	—	—	—	—	14	14
Net income	—	—	—	—	—	—	—	—	13,836	—	13,836
Balance at June 30, 2024	—	$ —	$ —	166,341.592	$—	17,816,238	$ 2	$560,766	$(657,635)	$(4,591)	$(101,458)

On April 4, 2024, the Company effected a 1-for-30 reverse split of its issued and outstanding shares of common stock, or the Reverse Stock Split. As a result of the Reverse Stock Split, all figures in this Quarterly Report on Form 10-Q relating to shares of the Company's common stock (such as share amounts, per share amounts, and conversion rates and prices), including but not limited to, the consolidated financial statements and footnotes included herein, have been adjusted to reflect the Reverse Stock Split for all periods presented.

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Changes in Convertible Preferred Stock and Stockholders' Equity (Deficit)
(Amounts in thousands, except share data)

	Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Stockholders' equity (deficit)
	Shares	Amount				
Balance at December 31, 2022	5,101,459	$ 1	$493,322	$(394,937)	$(4,558)	$ 93,828
Issuance of common stock under Employee Stock Purchase Plan	3,584	—	149	—	—	149
Issuance of vested restricted stock units	9,226	—	—	—	—	—
Stock-based compensation expense	—	—	2,276	—	—	2,276
Currency translation adjustment	—	—	—	—	(22)	(22)
Unrealized gain on marketable securities	—	—	—	—	11	11
Net loss	—	—	—	(21,663)	—	(21,663)
Balance at March 31, 2023	5,114,269	$ 1	$495,747	$(416,600)	$(4,569)	$ 74,579
Issuance of vested restricted stock units	20	—	—	—	—	—
Stock-based compensation expense	—	—	2,283	—	—	2,283
Currency translation adjustment	—	—	—	—	(27)	(27)
Net loss	—	—	—	(11,387)	—	(11,387)
Balance at June 30, 2023	5,114,289	$ 1	$498,030	$(427,987)	$(4,596)	$ 65,448

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Cash Flows
(Amounts in thousands)

	Six Months Ended June 30,	
	2024	**2023**
Cash flows from operating activities		
Net loss	$(42,988)	$ (33,050)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	379	382
Amortization of premiums and discounts on marketable securities	—	(79)
Non-cash lease expense	1,113	842
Loss on disposal of property and equipment	2	—
Stock-based compensation expense	3,022	6,059
Non-cash interest expense	—	533
Warrant liabilities revaluation	2,866	(2,262)
Contingent value right liability revaluation	36,800	—
Forward contract liabilities revaluation	6,890	—
Changes in operating assets and liabilities:		
Accounts receivable	(26,169)	1,211
Unbilled receivable	(491)	2,107
Prepaid expenses, deposits and other assets	2,848	815
Accounts payable	(290)	(49)
Deferred revenue	(5,849)	8,504
Accrued expenses and other liabilities	(8,496)	(3,673)
Net cash used in operating activities	(30,363)	(18,660)
Cash flows from investing activities		
Proceeds from maturities of marketable securities	—	28,254
Purchases of property and equipment	(2,189)	(142)
Net cash (used in) provided by investing activities	(2,189)	28,112
Cash flows from financing activities		
Repayments of principal, final payment fee, and prepayment penalty on debt	—	(2,586)
Proceeds from exercise of common warrants	2,877	—
Proceeds from issuance of Series A Preferred Stock, gross in private placement	40,000	—
Proceeds from exercise of stock options	274	—
Proceeds from issuance of common stock under Employee Stock Purchase Plan	—	149
Net cash provided by (used in) financing activities	43,151	(2,437)
Effect of exchange rate changes on cash	9	(49)
Net change in cash, cash equivalents, and restricted cash	10,608	6,966
Cash, cash equivalents, and restricted cash at beginning of period	78,288	108,038
Cash, cash equivalents, and restricted cash at end of period	$ 88,896	$115,004
Supplemental cash flow information		
Cash paid for interest	$ —	$ 1,242
Noncash investing and financing activities		
Stock-based compensation expense in accrued liabilities	$ —	$ 1,500
Purchase of property and equipment not yet paid	$ 2,879	$ 48
Equity offering costs in accrued liabilities	$ 219	$ —

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Notes to Consolidated Financial Statements

1. Description of the Business

Cartesian Therapeutics, Inc., or the Company (formerly known as Selecta Biosciences, Inc., or Selecta), was incorporated in Delaware on December 10, 2007, and is headquartered in Gaithersburg, Maryland. The Company is a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases leveraging its proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. The Company believes its mRNA cell therapies have the potential to deliver deep, durable clinical benefit to a broad group of patients with autoimmune diseases because they can be administered over a short period of time, in an outpatient setting, and without pre-treatment chemotherapy.

On November 13, 2023, the Company acquired, in accordance with the terms of the Agreement and Plan of Merger, or the Merger Agreement, the assets of the Delaware corporation which, immediately prior to the Merger (as defined below), was known as Cartesian Therapeutics, Inc., or Old Cartesian, as disclosed in Note 3. The transaction was structured as a stock-for-stock transaction pursuant to which all of Old Cartesian's outstanding shares of capital stock were exchanged based on a fixed exchange ratio for consideration of 224,099 shares of the common stock, par value $0.0001 per share, of the Company, or the common stock, and 384,930.724 shares of the newly designated Series A Non-Voting Convertible Preferred Stock, par value $0.0001 per share, or the Series A Preferred Stock. The Series A Preferred Stock is intended to have economic rights similar to the common stock, but with only limited voting rights. Additionally, the Company assumed all outstanding stock options of Old Cartesian. The common stock and Series A Preferred Stock related to the Merger were issued on December 5, 2023. For additional information, see Note 3.

In connection with the Merger, the Company entered into a definitive agreement, or the Securities Purchase Agreement, for a private investment in public equity transaction, or the November 2023 Private Placement, with the Investors (as defined below). The Securities Purchase Agreement provides for the issuance to the Investors of an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of approximately $60.25 million. For additional information, see Note 10.

In connection with the Merger, a contractual contingent value right, or CVR, was distributed to the holders of record of the Company's common stock and 2022 Warrants (as defined below) as of the close of business on December 4, 2023, but was not distributed to holders of shares of common stock or Series A Preferred Stock issued to stockholders of Old Cartesian or the Investors in the transactions. Holders of the CVRs will be entitled to receive certain payments from proceeds received by the Company, if any, related to the disposition or monetization of the Company's legacy assets following the issuance of the CVRs. For additional information, see Note 5.

On March 27, 2024, the Company's stockholders approved the Conversion Proposal (as defined below). For additional information, see Note 10.

Additionally, on March 27, 2024, the Company's stockholders approved an amendment to the Company's restated certificate of incorporation, as amended, or the Charter, to effect a reverse stock split of the Company's issued and outstanding common stock, at a ratio in the range of 1-for-20 and 1-for-30, with such ratio to be determined at the discretion of the Company's board of directors, or the Board of Directors. The Board of Directors subsequently approved a final reverse stock split ratio of 1-for-30, and the Company effected the Reverse Stock Split on April 4, 2024. As a result of the Reverse Stock Split, all figures in this Quarterly Report on Form 10-Q relating to shares of the Company's common stock (such as share amounts, per share amounts, and conversion rates and prices), have been adjusted to reflect the Reverse Stock Split for all periods presented, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital. Shares of common stock underlying outstanding stock options, restricted stock units and warrants were proportionately reduced and the respective exercise prices, if applicable, were proportionately increased in accordance with their terms. Additionally, the conversion ratio of the Company's Series A Preferred Stock was proportionally adjusted. Stockholders entitled to fractional shares as a result of the Reverse Stock Split received a cash payment in lieu of receiving fractional shares.

On July 2, 2024, the Company entered into a securities purchase agreement, or the July 2024 Purchase Agreement, for a private investment in public equity financing, or the July 2024 Private Placement, which provides for the issuance of 3,563,247 shares of common stock and 2,937,903 shares of Series B Non-Voting

Convertible Preferred Stock, par value $0.0001 per share, or the Series B Preferred Stock, each at a purchase price of $20.00 per share. The July 2024 Private Placement resulted in gross proceeds of approximately $130.0 million before deducting placement agent fees and other offering expenses. For additional information, see Note 20.

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. Product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel infrastructure and extensive compliance-reporting capabilities.

The Company's product candidates are in pre-clinical and clinical development. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, or maintained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies. In addition, the Company is dependent upon the services of its employees and consultants.

Unaudited Interim Financial Information

The accompanying unaudited consolidated financial statements for the three and six months ended June 30, 2024 and 2023 have been prepared by the Company, pursuant to the rules and regulations of the Securities and Exchange Commission, or the SEC, for interim financial statements. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP, have been condensed or omitted pursuant to such rules and regulations. These consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and the notes thereto for the year ended December 31, 2023 included in the Company's Annual Report on Form 10-K that was filed with the SEC on March 7, 2024. The unaudited interim financial statements have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the accompanying unaudited interim consolidated financial statements contain all adjustments that are necessary for a fair statement of the Company's financial position as of June 30, 2024, the consolidated results of operations for the three and six months ended June 30, 2024, and cash flows for the six months ended June 30, 2024. Such adjustments are of a normal and recurring nature. The results of operations for the three and six months ended June 30, 2024 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2024.

Liquidity and Management's Plan

The future success of the Company is dependent on its ability to develop its product candidates and ultimately upon its ability to attain and sustain profitable operations. The Company is subject to a number of risks similar to other early-stage life science companies, including, but not limited to, successful development of its product candidates, raising additional capital with favorable terms, protection of proprietary technology and market acceptance of any approved future products. The successful development of product candidates requires substantial working capital, which may not be available to the Company on favorable terms or at all.

To date, the Company has financed its operations primarily through public offerings and private placements of its securities, funding received from research grants, collaboration and license arrangements and a credit facility. The Company currently has no source of product revenue, and it does not expect to generate product revenue for the foreseeable future. To date, the Company's revenue has primarily been from collaboration agreements. The Company has devoted substantially all of its financial resources and efforts to developing its existing product candidates, identifying potential product candidates and conducting preclinical studies and clinical trials. The Company is in the early stages of development of its product candidates, and it has not completed development of any product candidates.

As of June 30, 2024, the Company's cash, cash equivalents, and restricted cash were $88.9 million, of which $1.7 million was restricted cash related to lease commitments and $0.2 million was held by its Russian

subsidiary designated solely for use in its operations. The Company believes the cash, cash equivalents and restricted cash as of June 30, 2024, combined with net proceeds of $124.4 million from the July 2024 Private Placement received subsequent to June 30, 2024, will enable it to fund its current planned operations for at least the next twelve months from the date of issuance of these financial statements, though it may pursue additional cash resources through public or private equity or debt financings or by establishing collaborations with other companies. Management's expectations with respect to its ability to fund current and long term planned operations are based on estimates that are subject to risks and uncertainties. If actual results are different from management's estimates, the Company may need to seek additional strategic or financing opportunities sooner than would otherwise be expected. However, there is no guarantee that any collaboration milestones will be achieved or that any of these strategic or financing opportunities will be executed on favorable terms, and some could be dilutive to existing stockholders. Further, the liability associated with the CVR Agreement (as defined below) will be settled solely through cash flow received under the Company's License and Development Agreement, or as so amended, the Sobi License, with Swedish Orphan Biovitrum AB (publ.), or Sobi, and any other Gross Proceeds (as defined in the CVR Agreement) net of certain agreed deductions. Under the CVR Agreement, 100% of all milestone payments, royalties and other amounts paid to the Company or controlled entities under the Sobi License, and any other Gross Proceeds will be distributed, net of specified deductions, to holders of the CVRs. There is no obligation to the Company to fund any amount related to the CVR liability. See Note 5.

If the Company is unable to obtain additional funding on a timely basis, it may be forced to significantly curtail, delay, or discontinue one or more of its planned research or development programs or be unable to expand its operations or otherwise capitalize on its commercialization of its product candidates. As of June 30, 2024, the Company had an accumulated deficit of $657.6 million. The Company anticipates operating losses to continue for the foreseeable future due to, among other things, costs related to research and development of its product candidates and its administrative organization.

Guarantees and Indemnifications

As permitted under Delaware law, the Company indemnifies its officers, directors, consultants and employees for certain events or occurrences that happen by reason of the relationship with, or position held at the Company. Through June 30, 2024, the Company had not experienced any losses related to these indemnification obligations, and no claims were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related reserves were established.

2. Summary of Significant Accounting Policies

The Company disclosed its significant accounting policies in Note 2 – Summary of Significant Accounting Policies included in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. There have been no material changes to the Company's significant accounting policies during the six months ended June 30, 2024, except as noted below.

Grant Revenue

The Company has contracts with government-sponsored organizations for research and development related activities that provide for payments for reimbursable costs. The Company recognizes grant revenue from these contracts as it performs services under these arrangements when the funding is committed. Expenses associated with these contracts are recognized when incurred as research and development expense. Grant revenue and related expenses are presented gross in the consolidated statements of operations and comprehensive income (loss) as the Company has determined it is the primary obligor under the arrangements relative to the research and development services it performs as lead technical expert. Amounts incurred that are subject to reimbursement from the sponsor are recorded as accounts receivable on the consolidated balance sheets.

Recent Accounting Pronouncements

Not Yet Adopted

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures* (ASU 2023-07), which requires an enhanced disclosure of significant segment expenses on an annual and interim basis. This guidance will be effective for the annual periods beginning the year ended

December 31, 2024, and for interim periods beginning January 1, 2025. Early adoption is permitted. Upon adoption, the guidance should be applied retrospectively to all prior periods presented in the financial statements. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures* (ASU 2023-09), which improves the transparency of income tax disclosures by requiring consistent categories and greater disaggregation of information in the effective tax rate reconciliation and income taxes paid disaggregated by jurisdiction. It also includes certain other amendments to improve the effectiveness of income tax disclosures. This guidance will be effective for the annual periods beginning the year ended December 31, 2025. Early adoption is permitted. Upon adoption, the guidance can be applied prospectively or retrospectively. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

3. Merger

On November 13, 2023, the Company merged with Old Cartesian in accordance with the terms of the Merger Agreement, by and among Selecta, Sakura Merger Sub I, Inc., a wholly owned subsidiary of Selecta, or First Merger Sub, Sakura Merger Sub II, LLC, a wholly owned subsidiary of Selecta, or Second Merger Sub, and Old Cartesian. Pursuant to the Merger Agreement, First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation and became a wholly owned subsidiary of Selecta, or the First Merger. Immediately following the First Merger, Old Cartesian merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving entity, or the Second Merger and, together with the First Merger, the Merger. In connection with the Second Merger, Old Cartesian changed its name to Cartesian Bio, LLC.

The Merger was intended to qualify as a tax-free reorganization for U.S. federal income tax purposes. As a result of the Merger, Selecta changed its corporate name to Cartesian Therapeutics, Inc. and its common stock began trading on the Nasdaq Global Market under the new trading symbol “RNAC” beginning on November 14, 2023.

The Merger Agreement was unanimously approved by the board of directors of Selecta and the board of directors of Old Cartesian. The Merger was consummated substantially concurrently with the entry into the Merger Agreement and was not subject to approval of the Company's stockholders.

Under the terms of the Merger Agreement, following the consummation of the Merger on November 13, 2023, or the Closing Date, in exchange for 100% of the outstanding shares of capital stock of Old Cartesian immediately prior to the effective time of the First Merger, the Company agreed to issue to the stockholders of Old Cartesian (i) 224,099 shares of the Company’s common stock and (ii) 384,930.724 shares of Series A Preferred Stock. The issuance of the shares of common stock and Series A Preferred Stock occurred on December 5, 2023 which was after the December 4, 2023 record date for the distribution of the CVRs (see Note 5); as such, the Old Cartesian stockholders did not have rights as holders of common stock or holders of Series A Preferred Stock until such issuance on December 5, 2023. In addition, all outstanding stock options to purchase Old Cartesian common stock were assumed by the Company and converted into stock options to purchase (i) shares of the Company’s common stock or (ii) shares of the Company’s Series A Preferred Stock on terms substantially identical to those in effect prior to Merger Agreement, except for adjustments to the underlying number of shares and the exercise price based on the Merger Agreement exchange ratio.

Pursuant to the Merger Agreement, the Company agreed to hold a stockholders’ meeting, or the Special Meeting, to submit the following proposals to a vote of its stockholders: (i) the approval of the conversion of shares of Series A Preferred Stock into shares of common stock, or the Conversion Proposal, and (ii) either or both of (A) the approval of an amendment to the Company’s Charter to increase the number of shares of common stock authorized under the Charter and (B) the approval of an amendment to the Charter to effect a reverse stock split of all outstanding shares of common stock, in either case (A) or (B) by a number of authorized shares or at a stock split ratio, as the case may be, sufficient to allow the conversion of all shares of Series A Preferred Stock issued in the Merger. The Special Meeting was held on March 27, 2024 in which the Company’s stockholders approved the Conversion Proposal, among other matters (see Note 10).

The Company concluded the acquisition resulted in the Company obtaining a controlling financial interest in a variable interest entity, or VIE, in accordance with ASC 810, *Consolidation*, or ASC 810. The Company

determined that Old Cartesian was considered to be a VIE as it did not have sufficient equity to finance its activities without additional subordinated financial support. Prior to the Closing Date, the primary source of funding for Old Cartesian had been preferred stock financings. The Company acquired all of the outstanding shares of Old Cartesian and, therefore, is the sole equity holder and primary beneficiary. The Company has the obligation to absorb the losses and right to receive the benefits of Old Cartesian, and the power to direct the activities that most significantly affect the economic performance of Old Cartesian which the Company considers to be its development activities. Therefore, the Company is the primary beneficiary. Further, the Company concluded the VIE qualified as a business and accounted for the transaction as the acquisition of a business in accordance with ASC 805, *Business Combinations*, or ASC 805. As the primary beneficiary, the Company was the acquirer in the transaction.

The Company exchanged the right to receive shares of common stock and Series A Preferred Stock for all of the outstanding equity of Old Cartesian. The Company determined the rights to receive shares exchanged in the Merger represent a forward contract. The fair value of the forward contracts was determined based on the fair value of shares of common stock and Series A Preferred Stock underlying the forward contracts as of the acquisition date. The total purchase price consists of the fair value of the forward contracts in addition to a portion of the fair value of options exchanged in the transaction related to prior service. Under the acquisition method, the total purchase price of the acquisition was allocated to the net tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values as of the date of the acquisition.

The total fair value of the consideration of $168.5 million as of the Closing Date is summarized as follows (in thousands):

Forward contract to issue common stock	$ 2,713
Forward contract to issue Series A Preferred Stock	155,308
Stock options allocated to consideration paid	10,444
Total consideration	$168,465

The Company recorded the assets acquired and liabilities assumed as of the Closing Date based on the information available at that date. The following table presents the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed as of the Closing Date (in thousands):

	As of November 13, 2023
Assets acquired:	
Cash and cash equivalents	$ 6,561
Prepaid expenses and other current assets	309
Property and equipment, net	215
Right-of-use asset, net	915
In-process research and development assets	150,600
Goodwill	48,163
	$206,763
Liabilities assumed	
Accrued expenses and other current liabilities	$ 2,530
Lease liability	292
Lease liability, net of current portion	623
Deferred tax liability	34,853
	$ 38,298
Net assets acquired	$168,465

The fair value of the in-process research and development, or IPR&D, assets were capitalized as of the Closing Date and will be accounted for as indefinite-lived intangible assets until completion or disposition of the assets or abandonment of the associated research and development efforts. Upon successful completion of the development efforts, the carrying value of each respective IPR&D asset will be amortized over its estimated

useful life. Until that time, the IPR&D assets will be subject to impairment testing and will not be amortized. The goodwill recorded related to the Merger is the excess of the fair value of the consideration transferred by the acquirer over the fair value of tangible assets, identifiable intangible assets and assumed liabilities as of the Closing Date and is not deductible for tax purposes. The goodwill balance is primarily attributable to the value of the assembled workforce and deferred tax liabilities associated with the transaction.

The following summarizes the Company's intangible assets acquired in the Merger (in thousands):

	Acquisition Date Fair Value
Descartes-08 for MG	$ 93,900
Descartes-08 for SLE	56,700
Total in-process research and development assets	$150,600

The fair value of the intangible assets was estimated using the income approach in which the after-tax cash flows were discounted to present value. The cash flows are based on estimates used to price the transaction, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital.

The forward contract related to the common stock was recorded as additional paid-in capital as the instrument is indexed to the Company's common stock. The forward contract related to the Series A Preferred Stock was recorded as a liability as the underlying Series A Preferred Stock has a redemption feature that may require the Company to settle the instrument by transferring an asset. The forward contract was measured at fair value through the date of settlement through the issuance of the shares of Series A Preferred Stock on December 5, 2023.

4. Net Income (Loss) Per Share Allocable to Common Stockholders

The following table sets forth the computation of basic and diluted net income (loss) per share allocable to common stockholders for the three and six months ended June 30, 2024 and 2023 (in thousands, except share and per-share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Numerator:				
Net income (loss)	$ 13,836	$ (11,387)	$ (42,988)	$ (33,050)
Less: Undistributed earnings allocable to participating securities	(4,208)	—	—	—
Net income (loss) allocable to shares of common stock - basic and diluted	$ 9,628	$ (11,387)	$ (42,988)	$ (33,050)
Denominator:				
Weighted-average common shares outstanding - basic	16,723,479	5,114,747	11,068,749	5,113,213
Dilutive effect of employee equity incentive plans	1,067,664	—	—	—
Weighted-average common shares outstanding - diluted	17,791,143	5,114,747	11,068,749	5,113,213
Net income (loss) per share allocable to common stockholders:				
Basic	$ 0.58	$ (2.23)	$ (3.88)	$ (6.46)
Diluted	$ 0.54	$ (2.23)	$ (3.88)	$ (6.46)

The following table represents the potential dilutive shares of common stock excluded from the computation of the diluted net income (loss) per share allocable to common stockholders for all periods presented, as the effect would have been anti-dilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Common stock options, restricted stock units and ESPP shares	740,211	753,590	2,344,017	753,590
Warrants to purchase common stock	975,132	1,040,943	975,132	1,040,943
Series A Preferred Stock	5,544,719	—	5,544,719	—
Total	7,260,062	1,794,533	8,863,868	1,794,533

5. Fair Value Measurements

The following tables present the Company's assets and liabilities that are measured at fair value on a recurring basis as of June 30, 2024 and December 31, 2023 (in thousands):

	June 30, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$ 39,181	$39,181	$—	$ —
Total assets	$ 39,181	$39,181	$—	$ —
Liabilities:				
Warrant liabilities	$ 9,260	$ —	$—	$ 9,260
Contingent value right liability	$395,400	$ —	$—	$395,400
Total liabilities	$404,660	$ —	$—	$404,660

	December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$ 41,161	$41,161	$ —	$ —
Total assets	$ 41,161	$41,161	$ —	$ —
Liabilities:				
Warrant liabilities	$ 6,394	$ —	$ —	$ 6,394
Contingent value right liability	$358,600	$ —	$ —	$358,600
Forward contract liabilities	$ 28,307	$ —	$28,307	$ —
Total liabilities	$393,301	$ —	$28,307	$364,994

There were no transfers within the fair value hierarchy during the six months ended June 30, 2024 or year ended December 31, 2023.

Cash, Cash Equivalents, and Restricted Cash

As of June 30, 2024 and December 31, 2023, money market funds were classified as cash and cash equivalents on the accompanying consolidated balance sheets as they mature within 90 days from the date of purchase.

As of June 30, 2024, the Company had restricted cash balances relating to secured letters of credit in connection with its real estate leases. Short-term restricted cash is included within prepaid expenses and other current assets in the consolidated balance sheets. The Company's consolidated statements of cash flows include the following as of June 30, 2024 and 2023 (in thousands):

	June 30,	
	2024	2023
Cash and cash equivalents	$87,227	$112,027
Short-term restricted cash	—	1,600
Long-term restricted cash	1,669	1,377
Total cash, cash equivalents, and restricted cash	$88,896	$115,004

Warrants to Purchase Common Stock

In December 2019, the Company issued warrants to purchase common stock in connection with a private placement, or the 2019 Warrants. Pursuant to the terms of the 2019 Warrants, the Company could be required to settle the 2019 Warrants in cash in the event of certain acquisitions of the Company and, as a result, the 2019 Warrants are required to be measured at fair value and reported as a liability on the balance sheet. On December 20, 2022, the Company amended the terms of the outstanding 2019 Warrants held by certain members of the Board of Directors, or the Amended 2019 Warrants, to remove the cash settlement provision. As a result, the Amended 2019 Warrants were remeasured at fair value on December 20, 2022 and reclassified from a liability to equity on the balance sheet. See Note 12 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2023 for further discussion on the equity-classified Amended 2019 Warrants.

In April 2022, the Company issued warrants in connection with an underwritten offering, or the 2022 Warrants. Pursuant to the terms of the 2022 Warrants, the Company could be required to settle the 2022 Warrants in cash in the event of an acquisition of the Company under certain circumstances and, as a result, the 2022 Warrants are required to be measured at fair value and reported as a liability on the balance sheet.

The Company recorded the fair value of the 2019 Warrants and the 2022 Warrants upon issuance using the Black-Scholes valuation model and is required to revalue the 2019 Warrants and the 2022 Warrants at each reporting date, with any changes in fair value recorded in the statement of operations and comprehensive income (loss). The valuations of the 2019 Warrants and the 2022 Warrants are classified as Level 3 of the fair value hierarchy due to the need to use assumptions in the valuations that are both significant to the fair value measurement and unobservable, including the stock price volatility and the expected life of the 2019 Warrants and the 2022 Warrants. Generally, increases (decreases) in the fair value of the underlying stock and estimated term would result in a directionally similar impact to the fair value measurement.

The estimated fair values of the 2019 Warrants and the 2022 Warrants were determined using the following inputs to the Black-Scholes simulation valuation:

Estimated fair value of the underlying stock. The Company estimates the fair value of the common stock based on the closing stock price at the end of each reporting period.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury at the valuation date commensurate with the expected remaining life assumption.

Dividend rate. The dividend rate is based on the historical rate, which the Company anticipates will remain at zero.

Expected life. The expected life of the 2019 Warrants and the 2022 Warrants is assumed to be equivalent to their remaining contractual terms which expire on December 23, 2024 and April 11, 2027, respectively.

Volatility. The Company estimates stock price volatility based on the Company's historical volatility for a period of time commensurate with the expected remaining life of the warrants.

A summary of the Black-Scholes pricing model assumptions used to record the fair value of the 2019 Warrants liability is as follows:

	June 30, 2024	December 31, 2023
Risk-free interest rate	5.33%	4.79%
Dividend yield	—	—
Expected life (in years)	0.49	0.98
Expected volatility	110.52%	83.67%

A summary of the Black-Scholes pricing model assumptions used to record the fair value of the 2022 Warrants liability is as follows:

	June 30, 2024	December 31, 2023
Risk-free interest rate	4.52%	4.01%
Dividend yield	—	—
Expected life (in years)	2.78	3.28
Expected volatility	87.23%	84.09%

The following table reflects a roll-forward of fair value for the Company's Level 3 warrant liabilities (see Note 11 to these unaudited consolidated financial statements) for the six months ended June 30, 2024 (in thousands):

	Warrant liabilities
Fair value as of December 31, 2023	$6,394
Change in fair value	2,866
Fair value as of June 30, 2024	$9,260

Contingent Value Right

On December 6, 2023, as contemplated by the Merger Agreement, the Company entered into a contingent value rights agreement, or the CVR Agreement, pursuant to which each holder of common stock or a 2022 Warrant as of December 4, 2023 was distributed a CVR, issued by the Company for each share of common stock held directly or underlying a 2022 Warrant held by such holder as of December 4, 2023. Holders of warrants other than the 2022 Warrants will be entitled to receive, upon exercise of such warrants and in accordance with the terms of the warrants, one CVR per each share of common stock underlying such warrants.

Each CVR entitles its holder to distributions of the following, pro-rated on a per-CVR basis, during the period ending on the date on which the Royalty Term (as defined in the Sobi License) ends, or the Termination Date:

- 100% of all milestone payments, royalties and other amounts paid to the Company or its controlled affiliates, or the Company Entities, under the Sobi License or, following certain terminations of the Sobi License, any agreement a Company Entity enters into that provides for the development and commercialization of SEL-212; and
- 100% of all cash consideration and the actual liquidation value of any and all non-cash consideration of any kind that is paid to or is actually received by any Company Entity prior to the Termination Date pursuant to an agreement relating to a sale, license, transfer or other disposition of any transferable asset of the Company existing as of immediately prior to the Merger, other than those exclusively licensed under the Sobi License or which the Company Entities are required to continue to own in order to comply with the Sobi License.

The distributions in respect of the CVRs will be made on a semi-annual basis, and will be subject to a number of deductions, subject to certain exceptions or limitations, including for (i) certain taxes payable on the proceeds subject to the CVR distribution, (ii) certain out of pocket costs incurred by the Company Entities, including audit and accounting fees incurred in connection with reporting obligations relating to the CVRs and other expenses incurred in the performance of their obligations and other actions under the CVR Agreement, (iii) a fixed semi-annual amount of $0.75 million for general and administrative overhead, (iv) payments made and remaining

obligations on lease liabilities of Selecta immediately prior to the Merger and (v) amounts paid and remaining obligations with regard to the Xork product candidate. Each of the deductions described in (iv) and (v) will be made only if certain milestone payments under the Sobi License are made and are also subject to certain adjustments as contemplated in the CVR Agreement. Upon the achievement of a development milestone in June 2024, Sobi became obligated to make a $30.0 million payment to the Company and made such payment in July 2024. The proceeds from this payment, net of deductions specified in the CVR Agreement, is expected to be included in the next scheduled distribution to the holders of the CVR in March 2025.

The CVRs represent financial instruments that are accounted for under the fair value option election in ASC 825, *Financial Instruments*, or ASC 825. Under the fair value option election, the CVRs are initially measured at the aggregate estimated fair value of the CVRs and will be subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. The liability was recorded at the date of approval, November 13, 2023, as a dividend. The estimated fair value of the CVR liability was determined using a discounted cash flow methodology as of December 31, 2023 and a Monte Carlo simulation model as of June 30, 2024 to estimate future cash flows associated with the legacy assets, including the expected milestone and royalty payments under the Sobi License, net of deductions. Changes in fair value of the CVR liability are presented in the consolidated statements of operations and comprehensive income (loss). The liability value is based on significant inputs not observable in the market such as estimated cash flows, estimated probabilities of success, expected volatility of future revenues (Monte Carlo simulation model) and risk-adjustment discount rates (discounted cash flow methodology), which represent a Level 3 measurement within the fair value hierarchy. The significant inputs used to estimate the fair value of the CVR liability, which represented a financial instrument being accounted for under the fair value option, were as follows:

	June 30, 2024
Estimated cash flow dates	2024-2038
Estimated probability of success	95.0% - 100.0%
Expected volatility of future revenues	22.0%

	December 31, 2023
Estimated cash flow dates	2024 - 2038
Estimated probability of success	95.0%
Risk-adjusted discount rate	13.7%

The following table reflects a roll-forward of fair value for the Company's Level 3 CVR liability for the six months ended June 30, 2024 (in thousands):

	CVR liability
Fair value as of December 31, 2023	$358,600
Change in fair value	36,800
Fair value as of June 30, 2024	$395,400

Forward Contract Liabilities

Merger Consideration

In connection with the Merger, the Company entered into a contract for the issuance of 384,930.724 shares of Series A Preferred Stock as part of the consideration transferred. The fair value of the forward contract at the Closing Date was $155.3 million. The non-cash settlement of this liability occurred on December 5, 2023 with the issuance of the Series A Preferred Stock for $261.8 million.

November 2023 Private Placement

The Company entered into a contract for the issuance of 149,330.115 shares of Series A Preferred Stock as part of the November 2023 Private Placement which was settled in multiple tranches. The Company determined the obligation to issue 148,710.488 shares of Series A Preferred Stock to Dr. Timothy A. Springer, a member of the

Company's Board of Directors, and TAS Partners LLC, an affiliate of Dr. Springer, represented a forward contract. See Note 10. The initial fair value of the forward contract liability on November 13, 2023 was insignificant as the fair value of the underlying Series A Preferred Stock was equal to the purchase price of the Series A Preferred Stock as agreed upon in the November 2023 Private Placement. Subsequent measurement of the fair value of the forward contract liability was based on the market price of the Company's common stock, which represented the redemption and conversion value of the Series A Preferred Stock, less the purchase price, on an as-converted basis. The non-cash settlement of a portion of the liability occurred on December 13, 2023 with the issuance of the first tranche of the Series A Preferred Stock for $14.8 million. The non-cash settlement of the remaining second and third tranches occurred on January 12, 2024 and February 11, 2024, respectively, for a total of $35.2 million.

The following table presents changes in the forward contract liabilities for the periods presented (in thousands):

	Forward contract liabilities
Fair value as of December 31, 2023	$ 28,307
Settlements	(35,197)
Change in fair value	6,890
Fair value as of June 30, 2024	$ —

6. Property and Equipment

Property and equipment consists of the following (in thousands):

	June 30, 2024	December 31, 2023
Laboratory equipment	$ 6,944	$ 6,280
Computer equipment and software	621	702
Leasehold improvements	61	61
Furniture and fixtures	462	452
Office equipment	196	196
Construction in process	4,417	150
Total property and equipment	12,701	7,841
Less: Accumulated depreciation	(6,029)	(5,728)
Property and equipment, net	$ 6,672	$ 2,113

Depreciation expense was $0.2 million for each of the three months ended June 30, 2024 and 2023, and $0.4 million for each of the six months ended June 30, 2024 and 2023.

7. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	June 30, 2024	December 31, 2023
Payroll and employee related expenses	$ 1,402	$ 4,390
Accrued patent fees	689	472
Accrued external research and development costs	3,467	4,896
Accrued professional and consulting services	1,871	4,331
Property and equipment	2,877	128
Other	309	516
Accrued expenses	$10,615	$14,733

8. Leases

65 Grove Street Lease

In July 2019, the Company entered into a lease with BRE-BMR Grove LLC for 25,078 square feet of laboratory and office space located at 65 Grove Street, Watertown, Massachusetts, or the Watertown Lease. On September 1, 2022, the Company entered into an amendment to the Watertown Lease, or the Lease Agreement Amendment, to expand the Company's laboratory and office space located at 65 Grove Street, Watertown, Massachusetts by approximately 7,216 square feet. In connection with the Lease Agreement Amendment, the Company secured a letter of credit for the Watertown Lease from Silicon Valley Bank, a division of First-Citizens Bank & Trust Company (successor by purchase to the Federal Deposit Insurance Corporation as Receiver for Silicon Valley Bridge Bank, N.A. (as successor to Silicon Valley Bank)), or SVB, for $1.6 million as of December 31, 2022.

In May 2023, the Company received notice from BRE-BMR Grove LLC that the requirements to reduce the amount of the letter of credit for the Watertown Lease had been met. In connection therewith, in June 2023, the Company secured a letter of credit from JPMorgan Chase Bank, N.A. for $1.4 million, which is recognized as long-term restricted cash as of June 30, 2024 and December 31, 2023, and renews automatically each year. The $1.6 million letter of credit with SVB was released from restriction and returned to the Company on July 17, 2023, and therefore was reclassified into cash and cash equivalents in the consolidated balance sheets.

On October 6, 2022, the Company entered into a sublease agreement to sublease 7,216 square feet of space currently rented by the Company at 65 Grove Street, Watertown, Massachusetts. The sublease commenced on October 24, 2022, and the term expired on March 31, 2024. On October 31, 2023, in connection with entering into Amendment No. 1 to the Sobi License as described in Note 13, the Company entered into a sublease agreement with Sobi to sublease approximately 5,600 square feet of space currently rented by the Company at 65 Grove Street, Watertown, Massachusetts for which Sobi paid $1.0 million upfront rental payment. The sublease commenced on November 6, 2023, when the Company, Sobi, and BRE-BMR Grove LLC, executed a Consent to Sublease. The term of the sublease expires on November 5, 2024 with no option to extend the sublease term. As of June 30, 2024 and December 31, 2023, deferred rent of $0.3 million and $0.8 million is included within accrued expenses and other current liabilities in the consolidated balance sheets. Sublease income is included within other income, net in the consolidated statements of operations and comprehensive income (loss).

During the year ended December 31, 2023, the Company determined that the right-of-use asset related to the operating lease for approximately 7,216 square feet at 65 Grove Street was partially impaired as of November 30, 2023. As a result, the Company recognized a $0.7 million right-of-use asset impairment charge in the fourth quarter of 2023.

704 Quince Orchard Road Leases

In connection with the Merger, the Company acquired two operating leases for office and laboratory space in Gaithersburg, Maryland. The leases expire in January 2027 and do not contain any renewal rights. The discount rate of 11.5% was determined based on the Company's incremental borrowing rate adjusted for the lease term.

7495 New Horizon Way Leases

On February 28, 2024, the Company entered into a lease agreement with 7495 RP, LLC, or the Landlord, pursuant to which it agreed to lease from the Landlord the manufacturing space located at 7495 New Horizon Way, Frederick, Maryland, or the Frederick Lease Agreement. The space consists of 19,199 leasable square feet of integrated manufacturing and office space. The lease commenced on May 1, 2024 which was the date the Landlord delivered full possession of the premises to the Company. The Frederick Lease Agreement will terminate approximately 7.2 years following the commencement date. The Company will have one option to extend the term of the Frederick Lease Agreement for a period of five years at a cost of 100% of the then-fair market value, not to exceed 103% of the then-current base rent. Base rent, which was due beginning on July 1, 2024, is $0.9 million annually and is subject to an annual upward adjustment of 3% of the then-current rental rate. In addition, the Company is obligated to pay its share of operating costs and taxes related to the property. The Company paid the first month's rent of $0.1 million upon execution of the Frederick Lease Agreement.

The Company assessed the classification of the lease at the commencement date and concluded it should be accounted for as an operating lease. The Company recorded a lease liability and right-of-use asset of $3.6 million

and $3.7 million, respectively, on the commencement date. The Frederick Lease Agreement includes a tenant improvement allowance of up to $0.7 million which was recognized as a reduction in the right-of-use asset and lease liability at the commencement date as the Company was reasonably certain to incur reimbursable costs related to alterations equal to or exceeding the amount. Additionally, the prepaid rent was included as an adjustment to the right-of-use asset. The discount rate of 14% was determined based on the Company's incremental borrowing rate adjusted for the lease term, including any reasonably certain renewal periods.

Effective May 7, 2024, the Company and the Landlord entered into the first amendment to the Frederick Lease Agreement, or the Amended Frederick Lease Agreement, providing for the expansion of the premises leased pursuant to the Frederick Lease Agreement by approximately 7,842 square feet. In connection with the expansion of the leased premises, the Company is obligated to pay $0.3 million in additional annual base rent for the first year of the term, which is subject to an annual upward adjustment of 3% of the then-current rental rate, as well as its share of operating costs and taxes. The lease commenced on May 7, 2024 which was the date the Landlord delivered full possession of the premises to the Company and will be coterminous with the Frederick Lease Agreement. The rent commencement date is expected to be September 1, 2024.

The Company assessed the classification of the lease at the commencement date and concluded it should be accounted for as an operating lease. The Company recorded a lease liability and right-of-use asset each of $1.2 million on the commencement date. The Amended Frederick Lease Agreement includes a tenant improvement allowance of up to $0.1 million which was recognized as a reduction in the right-of-use asset and lease liability at the commencement date as the Company was reasonably certain to incur reimbursable costs related to alterations equal to or exceeding the amount. The discount rate of 14% was determined based on the Company's incremental borrowing rate adjusted for the lease term.

The Company secured a letter of credit from SVB for $0.3 million for the Frederick Lease Agreement and the Amended Frederick Lease Agreement, which is recognized as long-term restricted cash as of June 30, 2024, and renews automatically each year.

For the three and six months ended June 30, 2024 and 2023, the components of lease costs were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Operating lease cost	$ 956	$ 696	$1,731	$1,392
Variable lease cost	352	270	749	412
Short-term lease cost	1	2	4	5
Less: Sublease income	(250)	(251)	(760)	(506)
Total lease cost	$1,059	$ 717	$1,724	$1,303

The maturity of the Company's operating lease liabilities as of June 30, 2024 were as follows (in thousands):

	June 30, 2024
2024 (remainder)	$ 1,239
2025	4,350
2026	4,471
2027	4,276
2028	2,243
Thereafter	3,409
Total future minimum lease payments	19,988
Less: Imputed interest	5,121
Total operating lease liabilities	$14,867

The supplemental disclosure for the statement of cash flows related to operating leases was as follows (in thousands):

	Six Months Ended June 30,	
	2024	2023
Cash paid for amounts included in the measurement of lease liabilities:	$1,604	$1,319

Other than the initial recording of the right-of-use assets and lease liabilities for the Frederick Lease Agreement and Amended Frederick Lease Agreement, which were non-cash, the changes in the Company's right-of-use assets and lease liabilities for the six months ended June 30, 2024 and 2023 are reflected in the non-cash lease expense and accrued expenses and other liabilities, respectively, in the consolidated statements of cash flows.

The following summarizes additional information related to operating leases:

	June 30,	
	2024	2023
Weighted-average remaining lease term	4.9 years	4.9 years
Weighted-average discount rate	11.5%	9.7%

9. Debt

2020 Term Loan

On August 31, 2020, the Company entered into a Loan and Security Agreement with Oxford Finance LLC, or Oxford, and Silicon Valley Bank, or the Loan and Security Agreement, and such facility, the 2020 Term Loan. On March 10, 2023, Silicon Valley Bank was closed by the California Department of Financial Protection and Innovation, and the Federal Deposit Insurance Corporation, or the FDIC, was appointed as receiver. On March 13, 2023, the FDIC announced that all of Silicon Valley Bank's deposits and substantially all of its assets had been transferred to a newly created, full-service, FDIC-operated bridge bank, Silicon Valley Bridge Bank, N.A., or SVBB. SVBB assumed all loans that were previously held by Silicon Valley Bank. On March 27, 2023, First-Citizens Bank & Trust Company assumed all of SVBB's customer deposits and certain other liabilities and acquired substantially all of SVBB's loans and certain other assets from the FDIC, including the 2020 Term Loan.

On September 11, 2023, the Company entered into a payoff letter with Oxford and SVB, pursuant to which the Company paid all outstanding amounts under the 2020 Term Loan, together with accrued interest and a prepayment penalty, resulting in the full extinguishment of the 2020 Term Loan. The total payoff amount was $22.3 million, consisting of the remaining principal amount due of $19.8 million, the final payment fee of $2.3 million, the prepayment penalty of $0.2 million, and less than $0.1 million of accrued interest.

During the third quarter of 2023, the Company recorded a loss of $0.7 million on the extinguishment of the 2020 Term Loan, consisting of the prepayment penalty of $0.2 million and the write-off of $0.5 million of unamortized debt issuance costs and venture debt termination fee.

As of June 30, 2024 and December 31, 2023, the Company had no outstanding borrowings.

10. Series A Preferred Stock

The Certificate of Designation of Preferences, Rights, and Limitations of the Series A Non-Voting Convertible Preferred Stock, or the Certificate of Designation, was filed on November 13, 2023, which provided for the designation of shares of the Series A Preferred Stock and authorized the issuance of 548,375 shares of Series A Preferred Stock.

Additionally on November 13, 2023, the Company entered into the Securities Purchase Agreement with (i) Dr. Timothy A. Springer, a member of the Company's Board of Directors; (ii) TAS Partners LLC, an affiliate of Dr. Springer, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat Kalayoglu, a co-founder and the former chief executive officer of Old Cartesian, who joined the Company's

Board of Directors effective immediately after the effective time of the Merger, or the Investors. Pursuant to the Securities Purchase Agreement, the Company agreed to issue and sell an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million in the November 2023 Private Placement.

In the November 2023 Private Placement, Dr. Timothy A. Springer agreed to settle his purchases in three tranches of shares of Series A Preferred Stock, the first for a purchase price of $10.0 million and each thereafter for a purchase price of approximately $20.0 million, with the three tranches settling 30, 60, and 90 days, respectively, following the Closing Date. TAS Partners LLC agreed to settle its purchase for approximately $10.0 million within 30 days following the Closing Date. The first, second and third tranches were settled on December 13, 2023, January 12, 2024 and February 11, 2024, respectively, under which (i) 24,785.081 shares of Series A Preferred Stock were issued to each of TAS Partners LLC and Dr. Timothy A. Springer in the first tranche, (ii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the second tranche, and (iii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the third tranche. On November 15, 2023, the Company issued 619.627 shares of Series A Preferred Stock to Seven One Eight Three Four Irrevocable Trust for $0.25 million.

The Company determined the obligation to issue 148,710.488 shares of Series A Preferred Stock to Dr. Springer and TAS Partners LLC represented a forward contract and was accounted for as a liability with changes in fair value recorded in earnings. A portion of the liability was settled with the initial issuance of 49,570.162 shares of Series A Preferred Stock on December 13, 2023. The remaining portion of the forward contract liability was settled upon the issuance of 49,570.163 shares of Series A Preferred Stock each on January 12, 2024 and February 11, 2024, respectively (see Note 5).

On December 5, 2023, the Company issued 384,930.724 shares of Series A Preferred Stock as part of its consideration transferred in connection with the Merger which settled the related forward contract liability (see Note 5).

On March 26, 2024, the Company, with the consent of the requisite holders of Series A Preferred Stock, amended the Certificate of Designation such that the automatic conversion of the Series A Preferred Stock into common stock, or the Automatic Conversion, would occur eight business days following stockholder approval of the Conversion Proposal. Upon such date, each share of Series A Preferred Stock automatically converted into 33.333 shares of common stock, subject to certain limitations, including that a holder of Series A Preferred Stock is prohibited from converting shares of Series A Preferred Stock into shares of common stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of common stock issued and outstanding immediately after giving effect to such conversion; provided, however, that such beneficial ownership limitation does not apply to Dr. Springer, TAS Partners LLC, or any of their respective affiliates. Each share of Series A Preferred Stock outstanding that was not automatically converted into common stock as a result of the beneficial ownership limitation is convertible at any time at the option of the holder, only to the extent the beneficial ownership limitation does not apply to the shares of Series A Preferred Stock to be converted.

On March 27, 2024, the Company's stockholders approved the Conversion Proposal, among other matters, at the Special Meeting. As a result of the approval of the Conversion Proposal, all conditions that could have required cash redemption of the Series A Preferred Stock were satisfied. Since the Series A Preferred Stock is no longer redeemable, the associated balances of the Series A Preferred Stock were reclassified from mezzanine equity to permanent equity during the first quarter of 2024.

On April 8, 2024, pursuant to the terms of the Certificate of Designation, as amended, 367,919.247 shares of Series A Preferred Stock automatically converted into 12,263,951 shares of common stock, including the non-cash reclassification of an amount equal to the increase in par value of common stock from additional paid-in capital; 166,341.592 shares of Series A Preferred Stock did not automatically convert due to beneficial ownership limitations.

As of June 30, 2024, the Company had 166,341.592 shares of Series A Preferred Stock issued and outstanding, which are convertible into 5,544,719 shares of common stock.

11. Equity

Equity Financings

"At-the-Market" Offerings

On October 25, 2021, the Company entered into a sales agreement, or the 2021 Sales Agreement, with Leerink Partners LLC (then known as SVB Leerink LLC), or Leerink Partners, pursuant to which the Company may sell shares of the Company's common stock, from time to time, through an "at the market" equity offering program under which Leerink Partners will act as sales agent. The shares of common stock sold pursuant to the 2021 Sales Agreement, if any, would be issued and sold pursuant to a registration statement to be filed by the Company with the SEC, for aggregate remaining gross sales proceeds of up to $51.0 million.

During the six months ended June 30, 2024 and the year ended December 31, 2023, the Company sold no shares of its common stock pursuant to the 2021 Sales Agreement.

Warrants

The following is a summary of warrant activity for the six months ended June 30, 2024:

	Number of Warrants			Weighted-average exercise price
	Equity classified	Liability classified	Total	
Outstanding at December 31, 2023	74,420	966,393	1,040,813	$45.98
Exercises	(65,681)	—	(65,681)	43.80
Outstanding at June 30, 2024	8,739	966,393	975,132	$46.12

See Note 14 for further discussion on the exercise of the 65,681 warrants during the six months ended June 30, 2024. See Note 12 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2023 for further discussion of the terms related to the Company's warrants.

Common Stock

On April 4, 2024, the Company implemented the Reverse Stock Split. The Reverse Stock Split became effective at 4:30 p.m. Eastern Time on April 4, 2024. On April 5, 2024, the Company's common stock began trading on The Nasdaq Global Market on a split-adjusted basis under the symbol "RNAC" with a new CUSIP number, 816212302. As a result of the Reverse Stock Split, every 30 shares of common stock outstanding were combined, automatically and without any action on the part of the Company or its stockholders, into one share of common stock. Stockholders entitled to fractional shares as a result of the Reverse Stock Split received a cash payment in lieu of receiving fractional shares. The Reverse Stock Split did not change the number of authorized shares or par value of the Company's common or preferred stock.

Reserved Shares

The Company has authorized shares of common stock for future issuance as of June 30, 2024 as follows:

Exercise of warrants	975,132
Shares available for future stock incentive awards	3,930,990
Unvested restricted stock units	454,456
Outstanding common stock options	1,889,561
Series A Preferred Stock	5,544,719
Total	12,794,858

12. Stock Incentive Plans

The Company maintained the 2008 Stock Incentive Plan, or the 2008 Plan, for employees, consultants, advisors, and directors. The 2008 Plan provided for the granting of incentive and non-qualified stock option and restricted stock awards as determined by the Board of Directors. In connection with the Merger, all outstanding awards issued under the 2008 Plan were cancelled, and the Board of Directors formally terminated the 2008 Plan.

In June 2016, the Company's stockholders approved the 2016 Incentive Award Plan, or the 2016 Plan, which authorized 40,341 shares of common stock for future issuance under the 2016 Plan and the Company ceased granting awards under the 2008 Plan. Upon the effective date of the 2016 Plan, awards issued under the 2008 Plan remained subject to the terms of the 2008 Plan. Awards granted under the 2008 Plan that expired, lapsed or terminated became available under the 2016 Plan as shares available for future grants.

Additionally, pursuant to the terms of the 2016 Plan, the Board of Directors is authorized to grant awards with respect to common stock, and may delegate to a committee of one or more members of the Board of Directors or executive officers of the Company the authority to grant options and restricted stock units. On December 9, 2020, the Board of Directors established a Stock Option Committee authorized to grant awards to certain employees and consultants subject to conditions and limitations within the 2016 Plan. In January 2024, the number of shares of common stock that may be issued under the 2016 Plan was increased by 215,903. In June 2024, the Company's stockholders approved an amendment and restatement of the 2016 Plan to reserve an additional 3,466,544 shares of its common stock for issuance. As of June 30, 2024, 3,496,828 shares remain available for future issuance under the 2016 Plan.

In September 2018, the Company's 2018 Employment Inducement Incentive Award Plan, or the 2018 Inducement Incentive Award Plan, was adopted by the Board of Directors without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Stock Market LLC listing rules, which authorized 39,166 shares of its common stock for issuance. In March 2019, the Board of Directors approved an amendment and restatement of the 2018 Inducement Incentive Award Plan to reserve an additional 66,667 shares of the Company's common stock for issuance thereunder. In December 2023, the Board of Directors approved an amendment and restatement of the 2018 Inducement Incentive Award Plan to reserve an additional 60,833 shares of the Company's common stock for issuance thereunder. In June 2024, the Board of Directors approved an amendment and restatement of the 2018 Inducement Incentive Award Plan to reserve an additional 360,000 shares of the Company's common stock for issuance thereunder. As of June 30, 2024, there are 364,660 shares available for future grant under the 2018 Inducement Incentive Award Plan.

In accordance with the Merger Agreement, the Company assumed Old Cartesian's 2016 Stock Incentive Plan, or the Old Cartesian Plan. The Old Cartesian Plan permits the granting of options or restricted stock to employees, officers, directors, consultants and advisors to the Company. The unvested common stock options and Series A Preferred Stock options assumed by the Company in connection with the Merger generally vest over a four-year period. Additionally, the stock options granted have a contractual term of ten years and only full shares can be exercised as per the individual award agreements. As of June 30, 2024, there are 23,707 shares available for future grant under the Old Cartesian Plan.

In connection with the Merger, the outstanding stock options to purchase Old Cartesian common stock were converted into stock options to purchase 776,865 shares of common stock and 14,112.299 shares of Series A Preferred Stock of the Company. These replacement awards were revalued at their acquisition-date fair value and then attributed to pre and post-combination service. This resulted in $2.6 million attributed to post-combination service to be recognized as stock-based compensation expense over the remaining terms of the replacement awards, of which $0.3 million and $0.7 million was recognized as research and development expense in the consolidated statements of operations and comprehensive income (loss) during the three and six months ended June 30, 2024, respectively. Following the Automatic Conversion, the options exercisable for shares of Series A Preferred Stock became exercisable for shares of common stock.

Stock-Based Compensation Expense

Stock-based compensation expense by classification included within the consolidated statements of operations and comprehensive income (loss), including $1.5 million recognized as stock-based compensation expense upon the achievement of a technical milestone by Ginkgo Bioworks Holdings, Inc., or Ginkgo, during the three and six months ended June 30, 2023 as described in Note 15, was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Research and development	$ 776	$2,677	$1,488	$3,869
General and administrative	815	1,106	1,534	2,190
Total stock-based compensation expense	$1,591	$3,783	$3,022	$6,059

Stock Options

The estimated grant date fair values of stock option awards granted under the 2016 Plan and the 2018 Inducement Incentive Award Plan were calculated using the Black-Scholes option pricing model based on the following weighted-average assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Risk-free interest rate	4.53%	3.38%	4.04%	3.95%
Dividend yield	—	—	—	—
Expected term (in years)	6.18	6.00	6.20	5.94
Expected volatility	93.57%	94.40%	95.09%	94.64%
Weighted-average fair value of common stock	$22.08	$39.30	$20.14	$34.50

The expected term of the Company's stock options granted has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. Under the simplified method, the expected term is presumed to be the midpoint between the vesting date and the end of the contractual term. The Company utilizes this method due to lack of historical exercise data and the plain nature of its stock-based awards.

The weighted-average grant date fair value of stock options granted was $17.40 and $30.51 during the three months ended June 30, 2024 and 2023, respectively, and $16.05 and $26.89 during the six months ended June 30, 2024 and 2023, respectively.

As of June 30, 2024, total unrecognized compensation expense related to unvested common stock options was $9.9 million, which is expected to be recognized over a weighted average period of 3.0 years.

The following table summarizes the stock option activity under the 2016 Plan, the 2018 Inducement Incentive Award Plan, and Old Cartesian Plan for options for common stock:

	Number of common stock options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2023	776,865	$ 2.97	6.50	$13,760
Granted	761,556	$20.14		
Converted from options for Series A Preferred Stock	470,403	$ 2.40		
Exercised	(89,009)	$ 3.08		
Forfeited	(30,254)	$14.84		
Outstanding at June 30, 2024	1,889,561	$ 9.56	7.24	$33,081
Vested at June 30, 2024	944,490	$ 2.74	5.43	$22,925
Vested and expected to vest at June 30, 2024	1,743,749	$ 8.66	7.12	$32,070

The following table summarizes the stock option activity under the Old Cartesian Plan for options for Series A Preferred Stock:

	Number of Series A Preferred Stock options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2023	14,112.299	$79.94	5.91	$8,601
Converted to options for common stock	(14,112.299)	$79.94		
Outstanding at June 30, 2024	—	$ —		

As a result of the approval of the Conversion Proposal on March 27, 2024, all conditions that could have required cash redemption of the Series A Preferred Stock underlying the stock options were satisfied. Since the Series A Preferred Stock is no longer redeemable, the associated balances of the stock options to purchase Series A Preferred Stock were reclassified from mezzanine equity to additional paid-in capital during the first quarter of 2024.

Following the Automatic Conversion, all options to purchase Series A Preferred Stock were converted into options to purchase common stock with adjustments to the underlying number of shares of common stock determined by multiplying the number of shares of Series A Preferred Stock by 33.333 and rounding down to the nearest whole number of shares and the per- share exercise price by dividing the per-share exercise price of Series A Preferred Stock by 33.333 and rounding the resulting exercise price up to the nearest whole cent.

Restricted Stock Units

During the six months ended June 30, 2024, the Company granted 471,104 restricted stock unit awards with a weighted-average fair value of $19.80 per share based on the closing price of the Company's common stock on the date of grant under the 2016 Plan and the Old Cartesian Plan, which generally vest over a four-year term. Forfeitures are estimated at the time of grant and are adjusted, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company has estimated a forfeiture rate of 10% for restricted stock unit awards based on historical experience.

Unrecognized compensation expense related to the restricted stock units was $6.1 million as of June 30, 2024, which is expected to be recognized over a weighted-average period of 3.4 years.

The following table summarizes the Company's restricted stock units under the 2016 Plan, the 2018 Inducement Incentive Award Plan, and the Old Cartesian Plan:

	Number of shares	Weighted-average grant date fair value ($)
Unvested at December 31, 2023	—	$ —
Granted	471,104	19.80
Forfeited	(16,648)	19.80
Unvested at June 30, 2024	454,456	$19.80

Employee Stock Purchase Plan

In June 2016, the Company approved the 2016 Employee Stock Purchase Plan, or the ESPP, which authorized 5,769 shares of common stock for future issuance under the ESPP to participating employees. As of June 30, 2024, 45,795 shares remain available for future issuance under the ESPP. In connection with the Merger, the Board of Directors suspended the offerings under the ESPP.

The Company recognized no stock-based compensation expense under the ESPP for the three and six months ended June 30, 2024 and less than $0.1 million stock-based compensation expense under the ESPP for each of the three and six months ended June 30, 2023.

13. Revenue Arrangements

Collaboration and license revenue

Astellas Gene Therapies

In January 2023, the Company entered into a License and Development Agreement, or the Astellas Agreement, with Audentes Therapeutics, Inc., doing business as Astellas Gene Therapies, or Astellas. Under the Astellas Agreement, the Company granted Astellas an exclusive license to the Company's IdeXork technology arising from Xork (defined below), to develop and commercialize Xork for use in Pompe disease in combination with an Astellas gene therapy investigational or authorized product. Xork, Genovis' IgG Protease, is licensed by the Genovis Agreement, as described in Note 15 to these consolidated financial statements. Astellas paid a $10.0 million upfront payment to the Company upon signing of the Astellas Agreement, and the Company was

entitled to receive up to $340.0 million in future additional payments over the course of the partnership that were contingent on the achievement of various development and regulatory milestones and, if commercialized, sales thresholds for annual net sales where Xork is used as a pre-treatment for an Astellas investigational or authorized product. The Company was also eligible for tiered royalty payments ranging from low to high single digits. Any proceeds received from milestone payments or royalties relating to Xork would have been required to be distributed to holders of CVRs, net of certain deductions. A more detailed description of the Astellas Agreement and the Company's evaluation of this agreement under ASC 606 can be found in Note 14 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

In March 2024, the Company was notified by Astellas of its intention to terminate the Astellas Agreement, which occurred effective June 6, 2024.

As of June 30, 2024, there were no unsatisfied performance obligations related to the Astellas Agreement. As of December 31, 2023, the Company recorded $2.3 million and $3.5 million as a short-term and a long-term contract liability, respectively, representing deferred revenue associated with the Astellas Agreement. As of June 30, 2024 and December 31, 2023, the Company recorded a receivable of $0.1 million and $0.3 million, respectively, representing billings for the Xork Development Services (as defined in the Astellas Agreement) that are subject to reimbursement by Astellas. Revenue of $0.5 million and $6.3 million related to the Astellas Agreement was recognized during the three and six months ended June 30, 2024, inclusive of $3.2 million of revenue recognized from performance obligations related to prior periods as a result of the change in transaction price during the six months ended June 30, 2024. Revenue of $0.8 million and $1.4 million related to the Astellas Agreement was recognized during the three and six months ended June 30, 2023, respectively.

Takeda Pharmaceuticals USA, Inc.

License and Development Agreement

In October 2021, the Company entered into a License Agreement, or the Takeda Agreement, with Takeda Pharmaceuticals USA, Inc., or Takeda. Under the Takeda Agreement, the Company granted Takeda an exclusive license to the Company's ImmTOR technology initially for two specified disease indications within the field of lysosomal storage disorders. Takeda paid a $3.0 million upfront payment to the Company upon signing of the Takeda Agreement, and the Company was entitled to receive up to $1.124 billion in future additional payments over the course of the partnership that were contingent on the achievement of development or commercial milestones or Takeda's election to continue its activities at specified development stages. The Company was also eligible for tiered royalties on future commercial sales of any licensed products. A more detailed description of the Takeda Agreement and the Company's evaluation of this agreement under ASC 606 can be found in Note 14 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

On March 9, 2023, the Company was notified by Takeda of the achievement of the milestone event related to the completion of a non-clinical milestone for one of the specified disease indications within the field of lysosomal storage disorders under the Takeda Agreement. Accordingly, the Company received a milestone payment of $0.5 million during the three months ended June 30, 2023.

The Takeda Agreement was terminated effective July 25, 2023, following Takeda's decision to discontinue discovery and pre-clinical activities in adeno-associated virus, or AAV, gene therapy.

As of June 30, 2024 and December 31, 2023, there were no unsatisfied performance obligations related to the Takeda Agreement. No revenue related to the Takeda Agreement was recognized during the three and six months ended June 30, 2024. Revenue of $0.1 million and $0.6 million related to the Takeda Agreement was recognized during the three and six months ended June 30, 2023, respectively.

Swedish Orphan Biovitrum AB (publ.)

License and Development Agreement

In June 2020, the Company and Sobi entered into the Sobi License, which was subsequently amended. Pursuant to the Sobi License, the Company agreed to grant Sobi an exclusive, worldwide (except as to Greater China) license to develop, manufacture and commercialize the SEL-212 drug candidate, which is currently in development for the treatment of chronic refractory gout. The SEL-212 drug candidate is a pharmaceutical

composition containing a combination of SEL-037, or the Compound, and ImmTOR. Pursuant to the Sobi License, in consideration of the license, Sobi agreed to pay the Company a one-time, upfront payment of $75.0 million. Sobi has also agreed to make milestone payments totaling up to $630.0 million to the Company upon the achievement of various development and regulatory milestones and, if commercialized, sales thresholds for annual net sales of SEL-212, and tiered royalty payments ranging from the low double digits on the lowest sales tier to the high teens on the highest sales tier. A more detailed description of the Sobi License and the Company's evaluation of this agreement under ASC 606 can be found in Note 14 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

On October 31, 2023, the Company and Sobi entered into Amendment No. 1 to the Sobi License, pursuant to which the Company granted Sobi an exclusive license to manufacture ImmTOR solely in connection with Sobi's development of SEL-212 under the License and Development Agreement and transferred certain contracts and manufacturing equipment to Sobi. Additionally, in connection with entry into the amendment, Sobi agreed to make employment offers to certain of the Company's employees engaged in ImmTOR manufacturing activities on or prior to a specified date, and the Company agreed not to terminate the employment of such employees prior to such specified date. The Company maintains no responsibilities to Sobi to manufacture, or supply Sobi with, ImmTOR under the Sobi License.

On June 28, 2024, Sobi initiated a rolling biologics license application to the FDA for SEL-212 for the potential treatment of chronic refractory gout which resulted in the achievement of a development milestone and a $30.0 million payment obligation from Sobi to the Company. As a result, the development milestone was no longer constrained and $30.0 million was recognized as revenue during each of the three and six months ended June 30, 2024 as there were no remaining performance obligations under the Sobi License. The proceeds from the achievement of the development milestone were received from Sobi in July 2024 and are expected to be included, net of deductions as specified in the CVR Agreement, in the next scheduled distribution to holders of the CVRs in March 2025.

As of June 30, 2024 and December 31, 2023, the Company recorded total outstanding receivables of $31.7 million and $4.6 million, respectively, representing billings for the Phase 3 DISSOLVE program that are subject to reimbursement by Sobi and, as of June 30, 2024, the unpaid milestone. Additionally, as of June 30, 2024 and December 31, 2023, the Company recorded a total unbilled receivable of $3.5 million and $3.0 million, respectively, representing revenue earned but not yet billed for the Phase 3 DISSOLVE program. Revenue of $32.8 million, inclusive of the $30.0 million development milestone, related to the Sobi License was recognized during each of the three and six months ended June 30, 2024. Revenue of $4.3 million and $8.7 million related to the Sobi License was recognized during the three and six months ended June 30, 2023, respectively.

Sarepta Therapeutics, Inc.

Research License and Option Agreement

In June 2020, the Company and Sarepta Therapeutics, Inc., or Sarepta, entered into a Research License and Option Agreement, or the Sarepta Agreement. Pursuant to the Sarepta Agreement, the Company agreed to grant Sarepta a license under the Company's intellectual property rights covering the Company's antigen-specific biodegradable nanoparticle encapsulating ImmTOR to research and evaluate ImmTOR in combination with Sarepta's adeno-associated virus gene therapy technology, or gene editing technology, using viral or non-viral delivery, to treat Duchenne Muscular Dystrophy and certain Limb-Girdle Muscular Dystrophy subtypes, or the Indications. Sarepta initially had an option term of 24 months during which it could opt-in to obtain an exclusive license to further develop and commercialize the product to treat at least one indication, with a potential to extend the option term for an additional fee. The Company agreed to supply ImmTOR to Sarepta for clinical supply on a cost-plus basis under the Sarepta Agreement. A more detailed description of the Sarepta Agreement and the Company's evaluation of this agreement under ASC 606 can be found in Note 14 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

On March 13, 2023, the Company was notified by Sarepta that Sarepta would not be exercising its exclusive option under the Sarepta Agreement. Therefore, the remaining deferred revenue balance as of December 31, 2022 of $0.5 million was recognized as revenue during the six months ended June 30, 2023. No revenue related to the Sarepta Agreement was recognized during the three and six months ended June 30, 2024 or the three months ended June 30, 2023.

Transaction Price Allocated to Future Performance Obligations

Remaining performance obligations represent the transaction price of contracts for which work has not been performed, or has been partially performed. As of June 30, 2024, there were no unsatisfied performance obligations from contracts with customers.

Contract Balances from Contracts with Customers

The following table presents changes in the Company's contract liabilities during the six months ended June 30, 2024 (in thousands):

	Balance at beginning of period	Additions	Deductions	Balance at end of period
Six Months Ended June 30, 2024				
Contract liabilities:				
Deferred revenue	$5,849	$—	$(5,849)	$—
Total contract liabilities	$5,849	$—	$(5,849)	$—

Grant revenue

National Institute of Neurological Disorders and Stroke of the National Institutes of Health

In June 2024, the Company received funding approval from the National Institute of Neurological Disorders and Stroke of the National Institutes of Health, or NINDS, for an award of $1.5 million granted for the budget period, which runs from June 2024 through May 2025. Subject to the availability of funds and satisfactory progress of the project, an additional $1.5 million is recommended to be awarded for the budget period June 2025 through May 2026. The funding was provided by NINDS to further the Company's use of RNA-based CAR-T cells to combat autoantibody-associated autoimmune disorders. Grant funding is to be used solely for manufacturing of RNA-based CAR-T cells and analysis of samples to inform mechanism of action. The award period runs through May 31, 2026. The Company will recognize grant revenue when expenses reimbursable under the grant have been incurred during the budget period.

As of June 30, 2024, the Company recorded a receivable of $0.2 million that is subject to reimbursement by NINDS. The Company recognized grant revenue of $0.2 million during each of the three and six months ended June 30, 2024.

14. Related-Party Transactions

November 2023 Securities Purchase Agreement

On November 13, 2023, the Company entered into the Securities Purchase Agreement with (i) Dr. Timothy A. Springer, (ii) TAS Partners LLC, an affiliate of Dr. Springer, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat Kalayoglu, in which the Company agreed to issue and sell an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million (see Note 10). The November 2023 Private Placement includes a delayed settlement mechanism, and as a result, the below issuances and sales to related parties of the Company were made during the six months ended June 30, 2024.

Name	Shares of Series A Preferred Stock purchased	Total aggregate purchase price
Timothy A. Springer, Ph.D.	99,140.326	$40,000,000

Exercise of Amended 2019 Warrants

On March 26, 2024, TAS Partners LLC, an affiliate of Dr. Springer, exercised 65,681 Amended 2019 Warrants, paid the per-share exercise price of $43.80 in cash for an aggregate exercise price of $2.9 million, and received 65,681 shares of common stock and 1,970,443 CVRs.

During the three and six months ended June 30, 2023, there were no related party transactions.

15. Collaboration and License Agreements

Biogen MA, Inc.

On September 8, 2023, the Company entered into a non-exclusive, sublicensable, worldwide, perpetual patent license agreement, or the Biogen Agreement, with Biogen MA, Inc., or Biogen, to research, develop, make, use, offer, sell and import products or processes containing or using an engineering T-cell modified with an mRNA comprising, or encoding a protein comprising, certain sequences licensed under the Biogen Agreement for the prevention, treatment, palliation and management of autoimmune diseases and disorders, excluding cancers, neoplastic disorders, and paraneoplastic disorders. The Company is not obligated to pay Biogen any expenses, fees, or royalties.

The Company may terminate the Biogen Agreement for any reason or no reason, and Biogen may terminate the agreement after a notice-and-cure period of 30 days if the Company fails to pay a fee owed to Biogen or for any other material breach of the agreement. The Biogen Agreement will otherwise expire when all claims of all issued patents within the patents and patent applications licensed to the Company under the Biogen Agreement have expired or been finally rendered revoked, invalid or unenforceable by a decision of a court or government agency.

National Cancer Institute of the National Institutes of Health

Effective September 16, 2019, the Company entered into a nonexclusive, worldwide license agreement, or the NCI Agreement, with the U.S. Department of Health and Human Services, represented by the National Cancer Institute of the National Institutes of Health, or NCI.

Under the NCI Agreement, the Company was granted a license under certain NCI patents and patent applications designated in the agreement, to make, use, sell, offer and import products and processes within the scope of the patents and applications licensed under the NCI Agreement when developing and manufacturing anti-BCMA CAR-T cell products for the treatment of myasthenia gravis, pemphigus vulgaris, and immune thrombocytopenic purpura according to methods designated in the NCI Agreement.

In connection with the Company’s entry into the NCI Agreement, Old Cartesian paid to NCI a one-time $0.1 million license royalty payment. Under the NCI Agreement, the Company is further required to pay NCI a low five-digit annual royalty. The Company must also pay earned royalties on net sales in a low single-digit percentage and pay up to $0.8 million in benchmark royalties upon the Company's achievement of designated benchmarks that are based on the commercial development plan agreed between the parties.

Under the NCI Agreement, the Company must use reasonable commercial efforts to bring licensed products and licensed processes to the point of Practical Application (as defined in the NCI Agreement). Upon the Company’s first commercial sale, the Company must use reasonable commercial efforts to make licensed products and licensed processes reasonably accessible to the United States public. After the Company's first commercial sale, the Company must make reasonable quantities of licensed products or materials produced via licensed processes available to patient assistance programs and develop educational materials detailing the licensed products. Unless the Company obtains a waiver from NCI, the Company must have licensed products and licensed processes manufactured substantially in the United States. Prior to the first commercial sale, upon NCI’s request, the Company is obligated to provide NCI with commercially reasonable quantities of licensed products made through licensed processes to be used for in vitro research.

Additionally, the Company must use reasonable commercial efforts to initiate a Phase 3 clinical trial of a licensed product by the fourth quarter of 2024, submit a BLA with respect to a licensed product by the fourth quarter of 2026, and make a first commercial sale of a licensed product by the fourth quarter of 2028.

The NCI Agreement terminates upon the expiration of the last to expire of the patent rights licensed thereunder, if not sooner terminated. NCI has the right to terminate this agreement, after giving written notice and providing a cure period in accordance with its terms, if the Company is in default of a material obligation. The Company has the unilateral right to terminate the agreement in any country or territory by giving NCI 60 days’ written notice. The Company agreed to indemnify NCI against any liability arising out of the Company’s, sublicensees’ or third parties’ use of the licensed patent rights and licensed products or licensed processes developed in connection with the licensed patent rights.

Ginkgo Bioworks Holdings, Inc.

Collaboration and License Agreements

On October 25, 2021, the Company entered into a Collaboration and License Agreement, or the First Ginkgo Agreement, with Ginkgo. Under the First Ginkgo Agreement, Ginkgo will design next generation IgA proteases with potentially transformative therapeutic potential. In return, Ginkgo is eligible to earn both upfront research and development fees and milestone payments, including certain milestone payments for fixed fair values in the form of the Company's common stock, clinical and commercial milestone payments of up to $85.0 million in cash. The First Ginkgo Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808, *Collaborative Arrangements*, or ASC 808, as the risk and rewards are not shared by both parties. The Company will expense costs related to the First Ginkgo Agreement as incurred until regulatory approval is received in accordance with ASC 730, *Research and Development*, or ASC 730. The Company is accounting for the contingently issuable shares to be issued in exchange for the license obtained from Ginkgo as a liability classified stock-based compensation arrangement with a non-employee which will be recognized when achievement of the milestones is probable. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Ginkgo tiered royalties ranging from low-single digit to high-single digit percentages of annual net sales of collaboration products which will be expensed as the commercial sales occur.

On January 3, 2022, the Company entered into a Collaboration and License Agreement, or the Second Ginkgo Agreement, with Ginkgo. Under this agreement, the Company will engage with Ginkgo to develop AAV capsids designed to enhance transduction efficiency and transgene expression. In return, Ginkgo is eligible to earn both upfront research and development fees and milestone payments, including certain milestone payments in the form of shares of the Company’s common stock, clinical and commercial milestone payments of up to $207 million in cash. The Second Ginkgo Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company will expense costs related to the Second Ginkgo Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company is accounting for the contingently issuable shares of common stock to be issued in exchange for the license obtained from Ginkgo as a liability-classified, stock-based compensation arrangement with a non-employee which will be recognized when achievement of the milestones is probable. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Ginkgo tiered royalties ranging from low-single digit to high-single digit percentages of annual net sales of collaboration products which will be expensed as the commercial sales occur.

On June 13, 2022, the Company was notified of the achievement of the midpoint of the technical development plan under the First Ginkgo Agreement by Ginkgo. This milestone resulted in the payment of $0.5 million and issuance of 29,761 shares of the Company’s common stock then-valued at $1.0 million to Ginkgo during the year ended December 31, 2022.

On July 19, 2023, the Company and Ginkgo mutually agreed that the completion of the technical development plan’s midpoint task under the Second Ginkgo Agreement had been achieved as of June 30, 2023. This milestone resulted in the payment of $1.0 million and issuance of 44,642 shares of the Company’s common stock then-valued at $1.5 million to Ginkgo during the year ended December 31, 2023.

Genovis AB (publ.)

License Agreement

In October 2021, the Company entered into an Exclusive License Agreement, or the Genovis Agreement, with Genovis AB (publ.), or Genovis. Under the Genovis Agreement, the Company paid to Genovis an upfront payment in exchange for an exclusive license to the Xork enzyme technology across all therapeutic uses in humans, excluding research, preclinical, diagnostic and other potential non-therapeutic applications of the enzyme. Genovis is eligible to earn from the Company development and sales-based milestones and sublicensing fees. The Genovis Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties.

The Company will expense costs related to the Genovis Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Genovis tiered royalties of low double digit percentages of worldwide annual net sales of collaboration products which will be expensed as the commercial sales occur.

In February 2023, the Company made a $4.0 million payment to Genovis as a result of the sublicense of Xork to Astellas. See Note 13 to these unaudited consolidated financial statements for further discussion on the Astellas Agreement.

In March 2024, the Company notified Genovis of its intention to terminate the Genovis Agreement effective September 13, 2024.

Cyrus Biotechnology, Inc.

Collaboration and License Agreement

In September 2021, the Company and Cyrus Biotechnology, Inc., or Cyrus, entered into a collaboration and license agreement, or the Cyrus Agreement. Pursuant to the Cyrus Agreement, Cyrus agreed to grant the Company an exclusive, worldwide license to certain intellectual property to form a protein engineering collaboration combining the Company's ImmTOR platform with Cyrus' ability to redesign protein therapeutics. The lead program was a proprietary interleukin-2, or IL-2, protein agonist designed to selectively promote expansion of regulatory T cells for treatment of patients with autoimmune diseases and other deleterious immune conditions. In return for the licensed intellectual property, the Company made an upfront payment and was obligated to pay certain discovery, development, and sales-based milestones which could have potentially totaled up to approximately $1.5 billion across multiple programs. The Cyrus Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company expensed costs related to the Cyrus Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company assessed the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, would have amortized these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company was also obligated to pay Cyrus tiered royalties ranging from mid-single digit to low-double digit percentages of annual net sales of collaboration products which would have been expensed as commercial sales occur.

On June 13, 2022, the Company and Cyrus mutually agreed that the preclinical key in-vitro success milestone had been achieved.

In October 2023, the Company notified Cyrus of its termination of the Cyrus Agreement effective December 29, 2023.

Stock Purchase Agreement

Additionally, on September 7, 2021, the Company entered into a stock purchase agreement, or the Series B Preferred Stock Purchase Agreement, in connection with the Cyrus Agreement. Pursuant to the Series B Preferred Stock Purchase Agreement, the Company purchased 2,326,934 shares of Cyrus' Series B Preferred Stock, par value $0.0001 per share, at a purchase price of $0.8595 per share, for $2.0 million.

In accordance with ASC 810, the Company has a variable interest in Cyrus resulting from its equity investment. The Company will share in Cyrus' expected losses or receive a portion of its expected returns and absorb the variability associated with changes in the entity's net assets. However, the Company is not the primary beneficiary as it does not have the power to direct the activities most significant to Cyrus, and therefore it is not required to consolidate Cyrus. The Company has recognized the $2.0 million investment of Cyrus' Series B Preferred Stock at cost on the purchase date.

As of June 30, 2024, no impairment indicators were present and there were no observable price changes. Therefore, the carrying value of the investment in Cyrus is $2.0 million on the accompanying consolidated balance sheets. The Company's maximum exposure to loss related to this variable interest entity is limited to the carrying value of the investment. The Company has not provided financing to Cyrus other than the amount contractually required by the Series B Preferred Stock Purchase Agreement.

Asklepios Biopharmaceutical, Inc.

Feasibility Study and License Agreement

In August 2019, the Company entered into a feasibility study and license agreement, or the AskBio Collaboration Agreement, with Asklepios Biopharmaceutical, Inc., or AskBio. Pursuant to the AskBio Collaboration Agreement, the Company and AskBio agreed to license intellectual property rights to each other as part of a collaboration to research, develop, and commercialize certain AAV gene therapy products utilizing the Company's ImmTOR platform to enable re-dosing of such AAV gene therapy products to treat serious rare and orphan genetic diseases for which there is a significant unmet medical need.

Pursuant to the AskBio Collaboration Agreement, the Company and AskBio agreed to conduct proof of concept studies to potentially validate the use of ImmTOR in conjunction with AskBio's AAV gene therapy, or SEL-302, (previously disclosed as MMA-101, in combination with ImmTOR) for the treatment of methylmalonic acidemia, or MMA, to mitigate the formation of neutralizing anti-AAV capsid antibodies. On April 29, 2021, the Company was notified by AskBio that it intended to opt-out of development of the MMA indication.

The Company and AskBio shared responsibility for the research, development and commercialization of products developed under the SEL-399 program collaboration. The parties also shared research, development, and commercialization costs equally for all collaboration products, but with a right of either party to opt out of certain products, and thereby not be required to share costs for such products. Each party would have received a percentage of net profits under the collaboration equal to the percentage of shared costs borne by such party in the development of such product. Pursuant to the AskBio Collaboration Agreement, AskBio was responsible for manufacturing the AAV capsids and AAV vectors and the Company was responsible for manufacturing ImmTOR.

The Company and AskBio mutually agreed to the termination of the AskBio Collaboration Agreement, effective December 13, 2023.

No collaboration expense under the AskBio Collaboration Agreement was recognized during the three and six months ended June 30, 2024. For the three and six months ended June 30, 2023, the Company recognized less than $0.1 million and $0.1 million, respectively, of collaboration expense under the AskBio Collaboration Agreement in which actual costs incurred by both parties approximate a 50% cost share.

Shenyang Sunshine Pharmaceutical Co., Ltd

In May 2014, the Company entered into a license agreement, or the 3SBio License, with Shenyang Sunshine Pharmaceutical Co., Ltd., or 3SBio. The Company has paid to 3SBio an aggregate of $7.0 million in upfront and milestone-based payments under the 3SBio License as of June 30, 2024. The Company is required to make future payments to 3SBio contingent upon the occurrence of events related to the achievement of clinical and regulatory approval milestones of up to an aggregate of $15.0 million for products containing the Company's ImmTOR platform.

16. Income Taxes

As of June 30, 2024, the Company has not recorded any U.S. federal or state income tax benefits for either the net losses the Company has incurred or its earned research and orphan drug credits, due to the uncertainty of realizing a benefit from those items in the future.

17. Defined Contribution Plan

The Company maintains a defined contribution plan, or the 401(k) Plan, under Section 401(k) of the Internal Revenue Code. 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 pretax basis. The 401(k) Plan provides for matching contributions on a portion of participant contributions pursuant to the 401(k) Plan's matching formula. As of January 2022, all matching contributions vest ratably over two years and participant contributions vest immediately. Contributions by the Company totaled less than $0.1 million and $0.1 million during the three months ended June 30, 2024 and 2023, respectively, and $0.1 million and $0.2 million during the six months ended June 30, 2024 and 2023, respectively.

18. Commitments and Contingencies

As of June 30, 2024, the Company was not a party to any litigation that could have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

Other

As permitted under Delaware law, the Company indemnifies its directors for certain events or occurrences while the director is, or was, serving at the Company's request in such capacity. The term of the indemnification is for the director's lifetime. The maximum potential amount of future payments the Company could be required to make is unlimited; however, the Company has directors' insurance coverage that limits its exposure and enables it to recover a portion of any future amounts paid. The Company also has indemnification arrangements under certain of its facility leases that require it to indemnify the landlord against certain costs, expenses, fines, suits, claims, demands, liabilities, and actions directly resulting from certain breaches, violations, or non-performance of any covenant or condition of the Company's lease. The term of the indemnification is for the term of the related lease agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. To date, the Company had not experienced any material losses related to any of its indemnification obligations, and no material claims with respect thereto were outstanding.

The Company is a party in various other contractual disputes and potential claims arising in the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

19. Restructuring

In April 2023, in light of current market conditions, the Board of Directors took steps to extend the Company's cash runway by pausing further development of SEL-302 for the treatment of MMA, and conducting a targeted headcount reduction. On August 17, 2023, the Company announced additional steps to extend cash runway and maximize value for stockholders by continuing to prioritize development of SEL-212 and support of its collaboration with Astellas for Xork, and pausing further development of all of the Company's other clinical and preclinical product candidates that it was no longer actively advancing.

As a result of these measures, the Company implemented a restructuring plan resulting in an approximate 89% reduction of the Company's existing headcount by July 1, 2024. The Company recognized restructuring expenses consisting of one-time cash severance payments and other employee-related costs of $6.4 million for the year ended December 31, 2023 with $5.6 million and $0.8 million recorded to research and development and general and administrative operating expense categories, respectively, on its consolidated statements of operations and comprehensive income (loss) based on each employee's role. Cash payments for employee related restructuring charges of $2.5 million were paid as of December 31, 2023.

For the six months ended June 30, 2024, the Company recorded restructuring expenses consisting of one-time cash severance payments and other employee-related costs of $0.8 million, with $0.2 million and $0.6 million recorded to research and development and general and administrative operating expense categories, respectively, on its consolidated statements of operations and comprehensive income (loss) based on each employee's role. Cash payments for employee related restructuring charges of $4.5 million were paid during the six months ended June 30, 2024. The Company expects that the payments for the restructuring plan will be substantially complete by June 30, 2024.

The following table summarizes the change in the Company's accrued restructuring balance (in thousands):

	Beginning Balance December 31, 2023	Charges	Payments	Ending Balance June 30, 2024
Severance liability	$3,896	$805	$(4,527)	$174

20. Subsequent Events

On July 2, 2024, the Company entered into the July 2024 Purchase Agreement for the July 2024 Private Placement, with certain institutional and accredited investors, or the Purchasers.

Pursuant to the July 2024 Purchase Agreement, the Purchasers agreed to purchase an aggregate of 3,563,247 shares of common stock and 2,937,903 shares of Series B Preferred Stock, inclusive of 2,359,500 shares of Series B Preferred Stock purchased by directors and executive officers, and related parties thereto, each at a price per share of $20.00. Each share of Series B Preferred Stock is convertible into one share of the Company's common stock subject

to stockholder approval of a proposal to issue such shares of common stock upon conversion of such shares of Series B Preferred Stock in accordance with the Listing Rules of the Nasdaq Stock Market LLC, or the Series B Conversion Proposal. The July 2024 Private Placement resulted in gross proceeds of approximately $130.0 million before deducting placement agent fees and other offering expenses.

Pursuant to the July 2024 Purchase Agreement, the Company has agreed to submit to its stockholders the approval of the Series B Conversion Proposal, at a special meeting of stockholders, which is to be held no later than October 31, 2024.

Holders of shares of Series B Preferred Stock are entitled to receive dividends on shares of Series B Preferred Stock equal to, on an as-if-converted-to-common stock basis, and in the same form as dividends actually paid on shares of the common stock. Except as otherwise required by law, the Series B Preferred Stock does not have voting rights. However, as long as any shares of Series B Preferred Stock are outstanding, the Company will not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series B Preferred Stock, (b) alter or amend the Certificate of Designation of Preferences, Rights and Limitations of the Series B Non-Voting Convertible Preferred Stock, or the Series B Certificate of Designation, or (c) amend its restated certificate of incorporation, as amended, or other charter documents in any manner that adversely affects any rights of the holders of Series B Preferred Stock. The Series B Preferred Stock does not have a preference upon any liquidation, dissolution or winding-up of the Company.

Following stockholder approval of the Series B Conversion Proposal, each share of Series B Preferred Stock will automatically convert into one share of common stock, subject to certain limitations, including that a holder of Series B Preferred Stock is prohibited from converting shares of Series B Preferred Stock into shares of common stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of common stock issued and outstanding immediately after giving effect to such conversion; provided, however, that such beneficial ownership limitation does not apply to TAS Partners LLC or any of its affiliates.

Based on the 21,382,485 shares of common stock outstanding on August 7, 2024, there would be 29,865,107 shares of common stock outstanding if all shares of Series A Preferred Stock and all shares of Series B Preferred Stock converted into common stock on such date.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Cartesian Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Cartesian Therapeutics, Inc. and subsidiaries (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations and comprehensive income (loss), changes in convertible preferred stock and stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2023, 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, 2023 and 2022, and the results of its operations and its cash flows for the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 7, 2024 expressed an adverse opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Critical Audit Matter

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

Valuation of in-process research and development acquired in a business combination

Description of the Matter

As described in Note 3, on November 13, 2023, the Company acquired Cartesian Therapeutics, Inc. in a stock for stock transfer, which was accounted for as a business combination using the acquisition method of accounting. The acquired intangible assets consisted of in-process research and development which had estimated acquisition-date fair values of $150.6 million.

Auditing the acquisition date fair value of the in-process research and development was complex due to the significant judgment required in estimating the fair value. In particular, the fair value estimate required the use of valuation methodologies that were sensitive to significant assumptions (e.g., projected revenue growth rates, including forecasted selling prices and unit volumes, and discount rates applied to the in-process research and development), which are affected by expected future market or economic conditions.

How We Addressed the Matter in Our Audit

To test the estimated fair value of the acquired in-process research and development intangible assets, our audit procedures included, among others, assessing the appropriateness of the valuation methodology and testing the significant assumptions discussed above and the completeness and accuracy of the underlying data used by the Company. For example, we evaluated the reasonableness of assumptions used to determine the projected revenue growth rates by comparing the forecasted assumptions to projected industry growth rates, and other factors considered by management in developing the model. We involved our valuation specialist to assist in evaluating the valuation methodologies and discount rates used to value in-process research and development intangible assets. We also performed sensitivity analyses to evaluate the changes in the fair value of the acquired in-process research and development intangible assets that would result from changes in the significant assumptions.

/s/ Ernst & Young LLP
We have served as the Company's auditor since 2009.
Boston, Massachusetts
March 7, 2024

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Balance Sheets
(Amounts in thousands, except share data and par value)

	December 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 76,911	$106,438
Marketable securities	—	28,164
Accounts receivable	5,870	6,596
Unbilled receivables	2,981	3,162
Prepaid expenses and other current assets	4,967	3,778
Total current assets	90,729	148,138
Non-current assets:		
Property and equipment, net	2,113	2,794
Right-of-use asset, net	10,068	11,617
In-process research and development assets	150,600	—
Goodwill	48,163	—
Long-term restricted cash	1,377	1,311
Investments	2,000	2,000
Other assets	—	26
Total assets	$305,050	$165,886
Liabilities, convertible preferred stock, and stockholders' (deficit) equity		
Current liabilities:		
Accounts payable	$ 3,150	$ 316
Accrued expenses and other current liabilities	15,572	14,084
Loan payable	—	8,476
Lease liability	2,166	1,608
Deferred revenue	2,311	593
Warrant liabilities	720	—
Contingent value right liability	15,983	—
Forward contract liabilities	28,307	—
Total current liabilities	68,209	25,077
Non-current liabilities:		
Loan payable, net of current portion	—	17,786
Lease liability, net of current portion	8,789	10,055
Deferred revenue, net of current portion	3,538	—
Warrant liabilities, net of current portion	5,674	19,140
Contingent value right liability, net of current portion	342,617	—
Deferred tax liabilities, net	15,853	—
Total liabilities	444,680	72,058
Commitments and contingencies (Note 19)		
Series A Preferred Stock, $0.0001 par value; 548,375 and no shares authorized as of December 31, 2023 and December 31, 2022, respectively; 435,120.513 and no shares issued and outstanding as of December 31, 2023 and December 31, 2022, respectively	296,851	—
Options for Series A Preferred Stock	3,703	—
Stockholders' (deficit) equity:		
Preferred stock, $0.0001 par value; 9,451,625 and 10,000,000 shares authorized as of December 31, 2023 and December 31, 2022, respectively; no shares issued and outstanding as of December 31, 2023 and December 31, 2022	—	—

The accompanying notes are an integral part of these consolidated financial statements.

	December 31, 2023	December 31, 2022
Common stock, $0.0001 par value; 350,000,000 shares authorized as of December 31, 2023 and December 31, 2022; 161,927,821 and 153,042,435 shares issued and outstanding as of December 31, 2023 and December 31, 2022, respectively	16	15
Additional paid-in capital	179,047	493,308
Accumulated deficit	(614,647)	(394,937)
Accumulated other comprehensive loss	(4,600)	(4,558)
Total stockholders' (deficit) equity	(440,184)	93,828
Total liabilities, convertible preferred stock, and stockholders' (deficit) equity	$ 305,050	$ 165,886

The accompanying notes are an integral part of these consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Operations and Comprehensive Income (Loss)
(Amounts in thousands, except share and per share data)

	Year Ended December 31,		
	2023	2022	2021
Collaboration and license revenue	$ 26,004	$ 110,777	$ 85,077
Operating expenses:			
Research and development	71,839	72,377	68,736
General and administrative	40,581	23,862	20,938
Total operating expenses	112,420	96,239	89,674
Operating (loss) income	(86,416)	14,538	(4,597)
Investment income	4,964	2,073	44
Foreign currency transaction gain (loss), net	38	(22)	—
Interest expense	(2,833)	(3,031)	(2,844)
Change in fair value of warrant liabilities	12,746	20,882	(2,339)
Change in fair value of contingent value right liability	(18,300)	—	—
Change in fair value of forward contract liabilities	(149,600)	—	—
Other income, net	691	330	15
(Loss) income before income taxes	(238,710)	34,770	(9,721)
Income tax benefit (expense)	19,000	609	(15,966)
Net (loss) income	$ (219,710)	$ 35,379	$ (25,687)
Other comprehensive (loss) income:			
Foreign currency translation adjustment	(53)	18	(2)
Unrealized gain (loss) on marketable securities	11	(10)	(1)
Total comprehensive (loss) income	$ (219,752)	$ 35,387	$ (25,690)
Net (loss) income per share:			
Basic	$ (1.66)	$ 0.24	$ (0.22)
Diluted	$ (1.66)	$ 0.10	$ (0.22)
Weighted-average common shares outstanding:			
Basic	155,109,561	144,758,555	114,328,798
Diluted	155,109,561	145,874,889	114,328,798

The accompanying notes are an integral part of these consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Changes in Convertible Preferred Stock and Stockholders' Equity (Deficit)
(Amounts in thousands, except share data)

	Series A Preferred stock		Options for Series A Preferred Stock	Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Stockholders' (Deficit) Equity
	Shares	Amount	Amount	Shares	Amount				
Balance at December 31, 2020	—	$—	$—	108,071,249	$11	$391,175	$(404,629)	$(4,563)	$(18,006)
Issuance of common stock under Employee Stock Purchase Plan	—	—	—	58,794	—	161	—	—	161
Issuance of common stock upon exercise of options	—	—	—	447,492	—	778	—	—	778
Issuance of vested restricted stock units	—	—	—	201,250	—	—	—	—	—
Issuance of common stock through at-the-market offering, net	—	—	—	13,767,511	1	51,933	—	—	51,934
Issuance of common stock upon exercise of warrants	—	—	—	1,076,669	—	5,624	—	—	5,624
Stock-based compensation expense	—	—	—	—	—	7,720	—	—	7,720
Currency translation adjustment	—	—	—	—	—	—	—	(2)	(2)
Unrealized loss on marketable securities	—	—	—	—	—	—	—	(1)	(1)
Net loss	—	—	—	—	—	—	(25,687)	—	(25,687)
Balance at December 31, 2021	—	$—	$—	123,622,965	$12	$457,391	$(430,316)	$(4,566)	$ 22,521
Issuance of common stock under Employee Stock Purchase Plan	—	—	—	120,877	—	189	—	—	189
Issuance of common stock upon exercise of options	—	—	—	71,190	—	156	—	—	156
Issuance of vested restricted stock units	—	—	—	131,430	—	—	—	—	—
Issuance of common stock through at-the-market offering, net	—	—	—	774,544	—	2,121	—	—	2,121
Issuance of common stock and common warrants	—	—	—	27,428,572	3	21,477	—	—	21,480
Issuance of common stock, license agreement	—	—	—	892,857	—	1,000	—	—	1,000
Reclassification of warrant liabilities	—	—	—	—	—	780	—	—	780
Stock-based compensation expense	—	—	—	—	—	10,194	—	—	10,194
Currency translation adjustment	—	—	—	—	—	—	—	18	18
Unrealized loss on marketable securities	—	—	—	—	—	—	—	(10)	(10)
Net income	—	—	—	—	—	—	35,379	—	35,379
Balance at December 31, 2022	—	$—	$—	153,042,435	$15	$493,308	$(394,937)	$(4,558)	$ 93,828

The accompanying notes are an integral part of these consolidated financial statements.

	Series A Preferred stock		Options for Series A Preferred Stock	Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Stockholders' (Deficit) Equity
	Shares	Amount	Amount	Shares	Amount				
Issuance of Series A Preferred Stock in private placement	619.627	250	—	—	—	—	—	—	—
Issuance of Series A Preferred Stock in connection with the Merger and settlement of related forward contract	384,930.724	261,753	—	—	—	—	—	—	—
Issuance of Series A Preferred Stock in connection with private placement and settlement of related forward contract	49,570.162	34,848	—	—	—	—	—	—	—
Issuance of common stock under Employee Stock Purchase Plan	—	—	—	186,044	—	231	—	—	231
Issuance of vested restricted stock units	—	—	—	636,418	—	—	—	—	—
Issuance of common stock forward in connection with the Merger	—	—	—	—	—	2,713	—	—	2,713
Issuance of common stock in connection with the Merger and settlement of related forward contract	—	—	—	6,723,639	1	(1)	—	—	—
Issuance of replacement options in Merger	—	—	3,643	—	—	6,801	—	—	6,801
Issuance of common stock, license agreement	—	—	—	1,339,285	—	1,500	—	—	1,500
Settlement of outstanding equity awards at Merger	—	—	—	—	—	(6,169)	—	—	(6,169)
Distribution of contingent value rights	—	—	—	—	—	(340,300)	—	—	(340,300)
Stock-based compensation expense	—	—	60	—	—	20,964	—	—	20,964
Currency translation adjustment	—	—	—	—	—	—	—	(53)	(53)
Unrealized gain on marketable securities	—	—	—	—	—	—	—	11	11
Net loss	—	—	—	—	—	—	(219,710)	—	(219,710)
Balance at December 31, 2023	435,120.513	$296,851	$3,703	161,927,821	$16	$ 179,047	$(614,647)	$(4,600)	$(440,184)

The accompanying notes are an integral part of these consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

	Year Ended December 31,		
	2023	2022	2021
	(Amounts in thousands)		
Cash flows from operating activities			
Net (loss) income	$(219,710)	$ 35,379	$ (25,687)
Adjustments to reconcile net (loss) income to net cash used in operating activities:			
Depreciation and amortization	843	1,287	1,252
Amortization of premiums and discounts on marketable securities	(79)	(375)	57
Non-cash lease expense	1,754	1,337	1,119
Impairment of Right of use asset	710	—	—
Loss (gain) on disposal of property and equipment	477	(147)	—
Stock-based compensation expense	22,524	11,194	7,720
Non-cash interest expense	455	953	1,012
Warrant liabilities revaluation	(12,746)	(20,882)	2,339
Contingent value right liability revaluation	18,300	—	—
Forward contract liabilities revaluation	149,600	—	—
Loss on extinguishment of debt	740	—	—
Provision (benefit) for deferred taxes	(19,000)	—	—
Changes in operating assets and liabilities:			
Accounts receivable	726	3,318	(2,690)
Unbilled receivable	181	(3,162)	—
Prepaid expenses, deposits and other assets	(1,265)	2,471	(1,451)
Accounts payable	2,834	92	(219)
Income taxes payable	—	(601)	601
Deferred revenue	5,256	(64,707)	(45,496)
Accrued expenses and other liabilities	(2,761)	2,212	1,061
Net cash used in operating activities	(51,161)	(31,631)	(60,382)
Cash flows from investing activities			
Cash assumed in acquisition of Old Cartesian	6,561	—	—
Proceeds from maturities of marketable securities	28,254	19,700	16,400
Payment made for investments	—	—	(2,000)
Purchases of marketable securities	—	(33,501)	(30,455)
Purchases of property and equipment	(206)	(1,201)	(1,085)
Net cash provided by (used in) investing activities	34,609	(15,002)	(17,140)
Cash flows from financing activities			
Proceeds from issuance of Series A Preferred Stock, gross in private placement	20,250	—	—
Repayments of principal, final payment fee, and prepayment penalty on debt	(27,457)	—	—
Debt amendment fee included in debt discount	—	(110)	—
Net proceeds from issuance of common stock- at-the-market offering	—	2,121	51,958
Net proceeds from issuance of common stock and common warrants	—	36,859	—
Settlement of outstanding equity awards at Merger	(6,169)	—	—
Proceeds from exercise of stock options	—	156	778
Proceeds from issuance of common stock under Employee Stock Purchase Plan	231	189	161
Net cash (used in) provided by financing activities	(13,145)	39,215	52,897
Effect of exchange rate changes on cash	(53)	20	(3)
Net change in cash, cash equivalents, and restricted cash	(29,750)	(7,398)	(24,628)
Cash, cash equivalents, and restricted cash at beginning of period	108,038	115,436	140,064
Cash, cash equivalents, and restricted cash at end of period	$ 78,288	$108,038	$115,436

The accompanying notes are an integral part of these consolidated financial statements.

	Year Ended December 31,		
	2023	2022	2021
	(Amounts in thousands)		
Supplement cash flow information			
Cash paid for interest	$1,853	$2,248	$2,002
Non-cash investing and financing activities			
Issuance of common stock, license agreement in stock-based compensation expense	$1,500	$1,000	$ —
Cashless warrant exercise	$ —	$ —	$5,624
Reclassification of warrant liability to equity	$ —	$ 780	$ —
Purchase of property and equipment not yet paid	$ 128	$ 17	$ 224

The accompanying notes are an integral part of these consolidated financial statements.

Cartesian Therapeutics, Inc. and Subsidiaries
Notes to Consolidated Financial Statements

1. Description of the Business

Cartesian Therapeutics, Inc., or the Company, (formerly known as Selecta Biosciences, Inc., or Selecta) was incorporated in Delaware on December 10, 2007, and is headquartered in Gaithersburg, Maryland. The Company is a clinical-stage biotechnology company developing mRNA cell therapies for the treatment of autoimmune diseases leveraging its proprietary technology and manufacturing platform to introduce one or more mRNA molecules into cells to enhance their function. The Company believes its mRNA cell therapies have the potential to deliver deep, durable clinical benefit to a broad group of patients with autoimmune diseases because they can be administered over a short period of time, in an outpatient setting, and without pre-treatment chemotherapy.

On November 13, 2023, the Company acquired, in accordance with the terms of the Agreement and Plan of Merger, or the Merger Agreement, the assets of the Delaware corporation which, immediately prior to the Merger (as defined below), was known as Cartesian Therapeutics, Inc., or Old Cartesian, as disclosed in Note 3. The transaction was structured as a stock-for-stock transaction pursuant to which all of Old Cartesian's outstanding shares of capital stock were exchanged based on a fixed exchange ratio for consideration of 6,723,639 shares of the common stock, $0.0001 per share, of the Company and 384,930.724 shares of the newly designated Series A Non-Voting Convertible Preferred Stock, $0.0001 per share, or the Series A Preferred Stock. The Series A Preferred Stock is intended to have economic rights similar to the common stock, but with only limited voting rights. Additionally, the Company assumed all outstanding stock options of Old Cartesian. The common stock and Series A Preferred Stock related to the Merger were issued on December 5, 2023. For additional information, see Note 3.

In connection with the Merger, the Company entered into a definitive agreement, or the Securities Purchase Agreement, for a private investment in public equity transaction, or the November 2023 Private Placement, with the Investors (as defined below). The Securities Purchase Agreement provides for the issuance to the Investors of an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of approximately $60.25 million. For additional information, see Note 11.

In connection with the Merger, a contractual contingent value right, or CVR, was distributed to the holders of record of the Company's common stock and 2022 Warrants as of the close of business on December 4, 2023, but was not distributed to holders of shares of common stock or Series A Preferred Stock issued to stockholders of Old Cartesian or the Investors in the transactions. Holders of the CVRs will be entitled to receive certain payments from proceeds received by the Company, if any, related to the disposition or monetization of the Company's legacy assets following the issuance of the CVRs. For additional information, see Note 6.

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. Product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel infrastructure and extensive compliance-reporting capabilities.

The Company's product candidates are in pre-clinical and clinical development. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, or maintained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies. In addition, the Company is dependent upon the services of its employees and consultants.

Liquidity and Management's Plan

The future success of the Company is dependent on its ability to develop its product candidates and ultimately upon its ability to attain and sustain profitable operations. The Company is subject to a number of risks similar to other early-stage life science companies, including, but not limited to, successful development of its product

candidates, raising additional capital with favorable terms, protection of proprietary technology and market acceptance of any approved future products. The successful development of product candidates requires substantial working capital, which may not be available to the Company on favorable terms or at all.

To date, the Company has financed its operations primarily through public offerings and private placements of its securities, funding received from research grants, collaboration and license arrangements and a credit facility. The Company currently has no source of product revenue, and it does not expect to generate product revenue for the foreseeable future. To date, the Company's revenue has primarily been from collaboration agreements. The Company has devoted substantially all of its financial resources and efforts to developing its existing product candidates, identifying potential product candidates and conducting preclinical studies and clinical trials. The Company is in the early stages of development of its product candidates, and it has not completed development of any product candidates.

As of December 31, 2023, the Company's cash, cash equivalents, and restricted cash were $78.3 million, of which $1.4 million was restricted cash related to lease commitments and $0.2 million was held by its Russian subsidiary designated solely for use in its operations. The Company believes the cash, cash equivalents and restricted cash as of December 31, 2023 combined with net proceeds of $40.0 million received subsequent to December 31, 2023 from the November 2023 Private Placement will enable it to fund its current planned operations for at least the next twelve months from the date of issuance of these financial statements, though it may pursue additional cash resources through public or private equity or debt financings or by establishing collaborations with other companies. Management's expectations with respect to its ability to fund current and long term planned operations are based on estimates that are subject to risks and uncertainties. If actual results are different from management's estimates, the Company may need to seek additional strategic or financing opportunities sooner than would otherwise be expected. However, there is no guarantee that any collaboration milestones will be achieved or that any of these strategic or financing opportunities will be executed on favorable terms, and some could be dilutive to existing stockholders. Further, the liability associated with the CVR Agreement (as defined below) will be settled solely through cash flow received under the Company's License and Development Agreement, or as so amended, the Sobi License, with Swedish Orphan Biovitrum AB (publ.), or Sobi, and any other Gross Proceeds (as defined in the CVR Agreement) net of certain agreed deductions. Under the CVR Agreement, 100% of all milestone payments, royalties and other amounts paid to the Company or controlled entities under the Sobi License, and any other Gross Proceeds will be distributed, net of specified deductions, to holders of the CVRs. There is no obligation to the Company to fund any amount related to the CVR liability. See Note 6.

The Certificate of Designation of Preferences, Rights, and Limitations of the Series A Non-Voting Convertible Preferred Stock, or the Certificate of Designation, contains a provision granting each holder of the Series A Preferred Stock the option to require the Company to redeem any or all of such holder's then-outstanding shares of Series A Preferred Stock beginning on the date that is 18 months following the date of the closing of the Merger, November 13, 2023, at a price per share equal to the ten-day trailing average closing trading price of the common stock at such time; provided, however, that no holder will have the right to seek redemption of any shares of Series A Preferred Stock to the extent that such holder would otherwise be unable to convert such shares of Series A Preferred Stock due to the common stock beneficial ownership limitation applicable to such holder. The Company could be required to use a significant amount of its cash resources on hand to satisfy this redemption obligation, particularly if its stockholders do not ever approve a proposal to convert the Company's Series A Preferred Stock into common stock, or generally if holders of Series A Preferred Stock exercise their redemption right with respect to a significant number of shares of Series A Preferred Stock or at a time when the trading price of the Company's common stock is elevated. Further, in the event that the Company does not have sufficient cash on hand to satisfy its redemption obligations, the Company may need to raise additional capital to satisfy these potential obligations. Any redemption payments could materially limit the amount of cash the Company has available to fund our operations and the potential need to redeem shares of Series A Preferred Stock may limit the flexibility with which the Company seeks to operate its business.

If the Company is unable to obtain additional funding on a timely basis, it may be forced to significantly curtail, delay, or discontinue one or more of its planned research or development programs or be unable to expand its

operations or otherwise capitalize on its commercialization of its product candidates. As of December 31, 2023, the Company had an accumulated deficit of $614.6 million. The Company anticipates operating losses to continue for the foreseeable future due to, among other things, costs related to research and development of its product candidates and its administrative organization.

Guarantees and Indemnifications

As permitted under Delaware law, the Company indemnifies its officers, directors, consultants and employees for certain events or occurrences that happen by reason of the relationship with, or position held at, the Company. Through December 31, 2023, the Company had not experienced any losses related to these indemnification obligations, and no claims were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related reserves were established.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries, Selecta (RUS), LLC, or Selecta (RUS), a Russian limited liability corporation, and Selecta Biosciences Security Corporation, a Massachusetts securities corporation, and Cartesian Bio, LLC, a Delaware limited liability company, which is a variable interest entity for which the Company is the primary beneficiary. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires the Company's management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. The Company's management considers many factors in selecting appropriate financial accounting policies and controls, and bases its estimates on historical experience and other market-specific or other relevant assumptions that it believes to be reasonable under the circumstances. In preparing these consolidated financial statements, management used significant estimates in the following areas, among others: estimated fair value of the intangible assets acquired in connection with the Merger, estimated fair value of the CVRs, deferred income taxes, revenue recognition and estimating accrued research and development expenses. The Company assesses the above estimates on an ongoing basis; however, actual results could materially differ from those estimates.

Segment Information

The Company views its operations and manages its business in one operating segment, which prior to the Merger related to the research and development of nanoparticle immunomodulatory drugs for the treatment and prevention of human diseases and subsequent to the Merger relates to the research and development of cell therapy product candidates.

Cash Equivalents, Restricted Cash, Marketable Securities and Investments

Cash equivalents include all highly liquid investments maturing within 90 days from the date of purchase. Marketable securities consist of securities with remaining maturities greater than 90 days when purchased. The Company classifies these marketable securities as available-for-sale and records them at fair value in the accompanying consolidated balance sheets. Marketable securities with less than one year until maturity are classified as short term, while marketable securities with maturities greater than one year are classified as long term. Unrealized gains or losses are included in accumulated other comprehensive income (loss). Premiums or discounts from par value are amortized to investment income over the life of the underlying investment. Although available to be sold to meet operating needs or otherwise, securities are generally held through maturity. The cost of securities sold is determined based on the specific identification method for purposes of recording realized gains and losses.

The Company has also in the past invested in equity securities of a company whose securities are not publicly traded and where fair value is not readily available. This investment is recorded using cost minus impairment adjusted for changes in observable prices, depending on our ownership percentage and other factors that suggest we have significant influence. The Company monitors this investment to evaluate whether any increase or decline in its value has occurred, based on the implied value of recent company financings, public market prices of comparable companies and general market conditions. This investment is included in investments in the consolidated balance sheets.

Concentrations of Credit Risk and Off-Balance Sheet Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of cash, cash equivalents, short-term deposits and marketable securities, investments, and accounts receivable. Cash and cash equivalents are deposited with federally insured financial institutions in the United States and may, at times, exceed federally insured limits. Management believes that the financial institutions that hold the Company's deposits are financially creditworthy and, accordingly, minimal risk exists with respect to those balances. The Company also maintains cash in Russian bank accounts in denominations of both Russian rubles and U.S. dollars. As of December 31, 2023, the Company maintained approximately $0.2 million in Russian bank accounts in denominations of both Russian rubles and U.S. dollars.

Fair Value of Financial Instruments

The Company's financial instruments consist mainly of cash equivalents, restricted cash, accounts payable, loans payable, marketable securities, investments, warrants to purchase common stock, forward contract liabilities, and contingent value rights. The carrying amounts of cash equivalents, restricted cash, accounts receivable, and accounts payable approximate their estimated fair value due to their short-term maturities.

Accounting standards define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A three-level hierarchy is used to prioritize the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements), and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1—Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2—Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3—Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

To the extent that a 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. The fair value of warrant liabilities and contingent value rights are determined using Level 3 inputs.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, the Company's own assumptions are set to reflect those that market participants would use in pricing the asset or liability at the measurement date. The Company uses prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may change for many instruments. This condition could cause an instrument to be reclassified within levels in the fair value hierarchy.

The carrying amounts reflected in the consolidated balance sheet for investments approximate fair value and are assessed for impairment quarterly.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the respective assets, generally seven years for furniture and fixtures, five years for laboratory equipment, software and office equipment and three years for computer equipment. Leasehold improvements are amortized over their useful life or the life of the lease, whichever is shorter. Major additions and betterments are capitalized. Maintenance and repairs, which do not improve or extend the life of the respective assets, are charged to operations as incurred. Costs incurred for construction in progress are recorded as assets and are not amortized until the construction is substantially complete and the assets are ready for their intended use.

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. In order to determine if assets have been impaired, assets are tested at the lowest level for which identifiable independent cash flows are available. An impairment loss is recognized when the sum of projected undiscounted cash flows is less than the carrying value of the asset group. The measurement of the impairment loss to be recognized is based on the difference between the fair value and the carrying value of the asset group. The Company recognized a $0.7 million impairment charge on a right-of-use asset during the year ended December 31, 2023.

Debt Issuance Costs

Debt issuance costs and fees paid to lenders are recorded as a direct deduction from the face amount of the related debt. Debt issuance costs are amortized over the term of the related debt using the effective interest method and recorded as interest expense.

Accumulated Other Comprehensive Income (Loss)

Comprehensive income (loss) is defined as the change in the equity of a business entity during a period from transactions and other events and circumstances from non-owner sources. It includes all changes in equity during a period except those resulting from investments by owners and distributions to owners. Comprehensive income (loss) consists of: (i) all components of net income (loss) and (ii) all components of comprehensive income (loss) other than net income (loss), referred to as other comprehensive income (loss). Other comprehensive income (loss) is comprised of unrealized gains and losses on debt securities and foreign currency translation adjustments.

Revenue Recognition

Revenue is recognized when a customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. Pursuant to ASC Topic 606, *Revenue from Contracts with Customers (ASC 606)*, a customer is a party that has contracted with an entity to obtain goods or services that are an output of the entity's ordinary activities in exchange for consideration. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract, including whether they are distinct in the context of the contract; (iii) determine the transaction price, including the constraint on variable consideration; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies each performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the 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, and assesses whether each promised good or service is distinct. If a promised good or service is not distinct, it is combined with other promised goods or services into a performance obligation. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied. For example, certain performance obligations associated with the License and Development Agreement, or Astellas Agreement, entered into with Audentes Therapeutics, Inc., or Astellas, (see Note 14) will be satisfied over time, and revenue will be recognized using the input method.

Collaboration and License Revenue: The Company currently generates its revenue through collaboration and license agreements with strategic collaborators for the development and commercialization of product candidates. Collaboration and license agreements with customers are generally accounted for in accordance with ASC 606. The Company analyzes collaboration arrangements by first assessing whether they are within the scope of ASC Topic 808, *Collaborative Arrangements (ASC 808*), and evaluates 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 that are dependent on the commercial success of such activities. Collaboration agreements with customers that are not within the scope of ASC 808 are accounted for in accordance with ASC 606. To the extent the collaboration agreement is within the scope of ASC 808, the Company also assesses whether any aspects of the agreement are within the scope of other accounting literature (specifically ASC 606). If the Company concludes that some or all aspects of the agreement are distinct and represent a transaction with a customer, the Company accounts for those aspects of the arrangement within the scope of ASC 606. The Company recognizes the shared costs incurred that are not within the scope of other accounting literature as a component of the related expense in the period incurred by analogy to ASC Topic 730, *Research and Development (ASC 730)*, and records reimbursements from counterparties as an offset to the related research and development costs. In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under the agreements in accordance with ASC 606, the Company performs the five steps above. As part of the accounting for the arrangement, the Company must develop assumptions that require judgment to determine the stand-alone selling price for each performance obligation identified in the contract. The Company uses key assumptions to determine the stand-alone selling price, which may include market conditions, reimbursement rates for personnel costs, development timelines and probabilities of regulatory success.

The terms of the Company's arrangements typically include one or more of the following: (i) upfront fees; (ii) milestone payments related to the achievement of development, regulatory, or commercial goals; (iii) royalties on net sales of licensed products; (iv) reimbursements or cost-sharing of research and development expenses; and (v) profit/loss sharing arising from co-promotion arrangements.

Licenses of Intellectual Property: If the license to the Company's intellectual property is determined to be distinct from the other promised goods and services identified in the arrangement, the Company recognizes revenues from non-refundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. If not distinct, the license is combined with other promised goods and services in the contract. For licenses that are combined with other promised goods and services, the Company assesses the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. Optional licenses are evaluated to determine if they are issued at a discount, and therefore, represent material rights and accounted for as separate performance obligations.

Milestone Payments: At the inception of each arrangement that includes developmental and regulatory milestone payments, the Company evaluates whether the achievement of each milestone specifically relates to the Company's efforts to satisfy a performance obligation or transfer a distinct good or service within a performance obligation. If the achievement of a milestone is considered a direct result of the Company's efforts to satisfy a performance obligation or transfer a distinct good or service and the receipt of the payment is based upon the achievement of the milestone, the associated milestone value is allocated to that distinct good or service. If the milestone payment is not specifically related to the Company's effort to satisfy a performance obligation or transfer a distinct good or service, the amount is allocated to all performance obligations using the relative standalone selling price method. The Company also evaluates the milestone to determine whether they 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 to be allocated, otherwise, such amounts are constrained and excluded from the transaction price. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the transaction price. Any such adjustments to the transaction price are allocated to the performance obligations on the same basis as at contract inception. Amounts allocated to a satisfied performance obligation shall be recognized as revenue, or as a reduction of revenue, in the period in which the transaction price changes.

Manufacturing Supply Services: Arrangements that include a promise for future supply of drug substance or drug product for either clinical development or commercial supply at the customer's discretion are evaluated to determine if they are distinct and optional. For optional services that are distinct, the Company assesses if they are priced at a discount, and therefore, provide a material right to the licensee to be accounted for as separate performance obligations.

Royalties: For arrangements 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 will recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied) in accordance with the royalty recognition constraint.

Research and Development Costs

Costs incurred in the research and development of the Company's products are expensed as incurred. Research and development expenses include costs incurred in performing research and development activities, including salaries and benefits, stock-based compensation expenses, facilities cost, overhead costs, contract services, supplies and other outside costs. Nonrefundable 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.

Clinical Trial Costs

Clinical trial expenses are a significant component of research and development expenses, and the Company outsources a significant portion of these costs to third parties. Third party clinical trial expenses include patient costs, clinical research organization costs and costs for data management. The accrual for site and patient costs includes inputs such as estimates of patient enrollment, patient cycles incurred, clinical site activations, and other pass-through costs. 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 on the consolidated balance sheets as a prepaid asset or accrued clinical trial cost. These third party agreements are generally cancellable, and related costs are recorded as research and development expenses as incurred. Non-refundable advance clinical payments for goods or services that will be used or rendered for future research and development activities are recorded as a prepaid asset and recognized as expense as the related goods are delivered or the related services are performed. The Company also records accruals for estimated ongoing clinical research and development costs. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the studies, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates may be made in determining the accrued balances at the end of any reporting period. Actual results could differ from the estimates made by the Company. The historical clinical accrual estimates made by the Company have not been materially different from the actual costs.

In June 2020, the Company and Sobi entered into a License and Development Agreement, which was amended in October 2023. Pursuant to the Sobi License, clinical trial costs incurred to complete development of the SEL-212 product candidate, including but not limited to costs incurred while conducting and completing the Phase 3 DISSOLVE trials, were reimbursed by Sobi. These costs, when reimbursed, were recognized as revenue consistent with the revenue recognition methodology disclosed in Note 14. The reimbursable costs exclude any costs of additional development activities required that are related to the ImmTOR platform and that are unrelated to SEL-212.

In January 2023, the Company and Astellas entered into the Astellas Agreement. Pursuant to the Astellas Agreement, Astellas will reimburse the Company for 25% of all budgeted costs incurred to complete the development of Xork for use in Pompe disease with an Astellas gene therapy investigational or authorized product. These costs, when reimbursed, will be recognized as revenue consistent with the revenue recognition methodology disclosed in Note 14.

Income Taxes

The Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax basis of assets and liabilities

using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. A valuation allowance is provided to reduce the deferred tax assets to the amount that will more-likely-than-not be realized.

The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more-likely-than-not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes. To date, the Company has not incurred interest and penalties related to uncertain tax positions.

Warrants

The Company determines the accounting classification of warrants that are issued, as either liability or equity, by first assessing whether the warrants meet liability classification in accordance with ASC 480-10, *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity*, and then in accordance with ASC 815-40, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock*. Under ASC 480, warrants are considered liability classified if the warrants are mandatorily redeemable, obligate the issuer to settle the warrants or the underlying shares by paying cash or other assets, or must or may require settlement by issuing variable number of shares.

If warrants do not meet liability classification under ASC 480-10, the Company assesses the requirements under ASC 815-40, which states that contracts that require or may require the issuer to settle the contract for cash are liabilities recorded at fair value, irrespective of the likelihood of the transaction occurring that triggers the net cash settlement feature. If the warrants do not require liability classification under ASC 815-40, in order to conclude equity classification, the Company assesses whether the warrants are indexed to its common stock and whether the warrants are classified as equity under ASC 815-40 or other applicable GAAP. After all relevant assessments are made, the Company concludes whether the warrants are classified as liability or equity. Liability classified warrants are required to be accounted for at fair value both on the date of issuance and on subsequent accounting period ending dates, with all changes in fair value after the issuance date recorded in the statements of operations as a gain or loss. Equity classified warrants are accounted for at fair value on the issuance date with no changes in fair value recognized after the issuance date.

Stock-Based Compensation

The Company accounts for all stock-based compensation granted to employees and non-employees using a fair value method. Stock-based compensation is measured at the grant date fair value and is recognized over the requisite service period of the awards, usually the vesting period, on a straight-line basis, net of estimated forfeitures. To the extent that actual forfeitures differ from the Company's estimates, the differences are recorded as a cumulative adjustment in the period the estimates were adjusted. Stock-based compensation expense recognized in the consolidated financial statements is based on awards that ultimately vest.

Net (Loss) Income Per Share

The Company applies the two-class method to compute basic and diluted net (loss) income per share attributable to common stockholders when it has issued shares that meet the definition of participating securities. The two-class method determines net (loss) income per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires (loss) income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to share in the earnings as if all (loss) income for the period had been distributed. The Company's Series A Preferred Stock and 2022 Warrants participate in any dividends declared by the Company and are therefore considered to be participating securities. The participating securities are not required to participate in the losses of the Company, and therefore during periods of loss there is no allocation required under the two-class method.

Basic net (loss) income per share attributable to common stockholders is computed by dividing the net (loss) income attributable to common stockholders by the weighted average number of shares of common stock outstanding for the period. Diluted net (loss) income attributable to common stockholders is computed by

adjusting net (loss) income per share attributable to common stockholders to reallocate undistributed earnings based on the potential impact of dilutive securities. Diluted net (loss) income per share attributable to common stockholders is computed by dividing the diluted net (loss) income attributable to common stockholders by the weighted average number of shares of common stock outstanding for the period, including potential dilutive common shares. For purpose of this calculation, outstanding options to purchase common stock and Series A Preferred Stock, forward contracts to issue Series A Preferred Stock, restricted stock units, warrants to purchase common stock, employee stock purchase plan stock, contingently issuable shares, and Series A Preferred Stock are considered potential dilutive common shares.

Contingent Liabilities

The Company accounts for its contingent liabilities in accordance with ASC No. 450, *Contingencies*. A provision is recorded when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. With respect to legal matters, provisions are reviewed and adjusted to reflect the impact of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter.

Leases

The Company accounts for its leases in accordance with ASC Topic 842, *Leases (ASC 842)*, and determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. Most leases with a term greater than one year are recognized on the balance sheet as right-of-use assets, lease liabilities and, if applicable, long-term lease liabilities. The Company elected not to recognize leases with an original term less than one year on its balance sheet. Operating lease right-of-use assets and their corresponding lease liabilities are recorded based on the present value of lease payments over the expected remaining lease term. The interest rate implicit in lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rates, which are the rates incurred to borrow, on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment.

In accordance with the guidance in ASC 842, the fixed and in-substance fixed contract consideration must be allocated to lease and non-lease components based on their relative fair values. Non-components of a contract (e.g., administrative tasks that do not transfer a good or service to the Company, reimbursement or payment of a lessor's cost, etc.) do not receive an allocation of the consideration in the contract. Although allocation of consideration of lease and non-lease components is required, the Company elected the practical expedient to not separate lease components (e.g. land, building, etc.) and non-lease components (e.g., common area maintenance, consumables, etc.). The lease component results in an operating right-of-use asset being recorded on the balance sheet and amortized on a straight-line basis as lease expense. Right-of-use assets and operating lease liabilities are remeasured upon certain modifications to leases using the present value of remaining lease payments and the estimated incremental borrowing rate upon lease modification.

The Company enters into lease agreements with terms generally ranging from two to eight years. Some of the Company's lease agreements include Company options to either extend and/or early terminate the lease, the costs of which are included in its operating lease liabilities to the extent that such options are reasonably certain of being exercised. Leases with renewal options allow the Company to extend the lease term typically between one and five years. When determining the lease term, renewal options reasonably certain of being exercised are included in the lease term. When determining if a renewal option is reasonably certain of being exercised, the Company considers several economic factors, including but not limited to, the significance of leasehold improvements incurred on the property, whether the asset is difficult to replace, underlying contractual obligations, or specific characteristics unique to that particular lease that would make it reasonably certain that the Company would exercise such option. Renewal and termination options were generally not included in the lease term for the Company's existing operating leases. Leases with an initial term of 12 months or less are not recorded on the balance sheet; the Company recognizes lease expense for these leases on a straight-line basis over the lease term.

Acquisitions

The Company evaluates acquisitions of assets and other similar transactions to assess whether or not the transaction should be accounted for as a business combination or asset acquisition by first applying a screen to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable

asset or group of similar identifiable assets. If the screen is met, the transaction is accounted for as an asset acquisition. If the screen is not met, further determination is required as to whether or not the Company has acquired inputs and processes that have the ability to create outputs, which would meet the requirements of a business. If determined to be a business combination, the Company accounts for the transaction under the acquisition method of accounting which requires the acquiring entity in a business combination to recognize the fair value of all assets acquired, liabilities assumed, and any non-controlling interest in the acquiree and establishes the acquisition date as the fair value measurement point. Accordingly, the Company recognizes assets acquired and liabilities assumed in business combinations based on the fair value estimates as of the date of acquisition. In accordance with ASC 805, Business Combinations, or ASC 805, the Company recognizes and measures goodwill as of the acquisition date, as the excess of the fair value of the consideration paid over the fair value of the identified net assets acquired.

Goodwill

Goodwill represents the amount of consideration paid in excess of the fair value of the identified net assets acquired as a result of the Company's business acquisitions accounted for using the acquisition method of accounting. Goodwill is not amortized and is subject to impairment testing at a reporting unit level on an annual basis or when a triggering event occurs that may indicate the carrying value of the goodwill is impaired. An entity is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Such qualitative factors include macroeconomic conditions, industry and market considerations, cost factors, overall financial performance and other relevant events. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that the fair value of the reporting unit is less than its carrying amount.

The Company evaluates goodwill for impairment at least annually on October 1 and whenever facts and circumstances indicate that their carrying amounts may not be recoverable. For the year ended December 31, 2023, the Company determined that there was no impairment to goodwill.

Indefinite-Lived Intangible Assets

Indefinite-lived intangible assets consist of in-process research and development, or IPR&D. The fair values of IPR&D assets acquired in business combinations are capitalized. These assets are treated as indefinite-lived intangible assets until completion or abandonment of the projects, at which time the assets are amortized over the remaining useful life or written off, as appropriate.

Intangible assets with indefinite lives, including IPR&D, are tested for impairment if impairment indicators arise and, at a minimum, annually. However, an entity is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that an indefinite-lived intangible asset's fair value is less than its carrying amount. Otherwise, no further impairment testing is required. The indefinite-lived intangible asset impairment test consists of a one-step analysis that compares the fair value of the intangible asset with its carrying amount. If the carrying amount of an intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. The Company considers many factors in evaluating whether the value of its intangible assets with indefinite lives may not be recoverable, including, but not limited to, expected growth rates, the cost of equity and debt capital, general economic conditions, the Company's outlook and market performance of the Company's industry and recent and forecasted financial performance.

The Company evaluates indefinite-lived intangible assets for impairment at least annually on October 1 and whenever facts and circumstances indicate that their carrying amounts may not be recoverable. For the year ended December 31, 2023, the Company determined that there was no impairment to the IPR&D assets.

Series A Preferred Stock

The Company records the Series A Preferred Stock upon issuance at its fair value. The fair value includes the original issuance price, the settlement of any related forward contract, and is less issuance costs. The Company classifies its Series A Preferred Stock outside of stockholders' equity as the redemption of such shares is outside the Company's control. The Company does not adjust the carrying value of the Series A Preferred Stock to redemption value until it is probable of becoming redeemable, which the Company did not conclude was probable as of December 31, 2023.

Series A Preferred Stock Options

The Company classifies a portion of the fair value of the vested stock options for Series A Preferred Stock equal to the estimated redemption value on the measurement date outside of stockholders' equity, as the redemption of the shares underlying the options are outside the Company's control. Any fair value in excess of the estimated redemption value is recognized as additional paid-in capital. The estimated redemption value is based on the intrinsic value of the option. The Company does not adjust the carrying value of the stock options for Series A Preferred Stock until the underlying Series A Preferred Stock is probable of becoming redeemable. The Company concluded the redemption was not probable of occurring as of December 31, 2023. The Company records the stock options for Series A Preferred Stock based on the intrinsic value of the vested options.

Variable Interest Entities

The Company evaluates its variable interests in variable interest entities, or VIEs, and consolidates VIEs when the Company is the primary beneficiary. The Company determines whether it is the primary beneficiary of a VIE based on its assessment of whether the Company possesses both (i) the power to direct the activities that most significantly affect the VIE's economic performance and (ii) the obligation to absorb losses that could be significant to the VIE or the right to receive benefits that could be significant to the VIE. The Company reevaluates the accounting for its VIEs upon the occurrence of events that could change the primary beneficiary conclusion.

Contingent Value Right Liability

The CVRs distributed by the Company pursuant to the terms of the CVR Agreement represent financial instruments that are accounted for under the fair value option election in ASC 825, *Financial Instruments*, or ASC 825. Under the fair value option election, the CVRs are initially measured at the aggregate estimated fair value of the CVRs and will be subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. The estimated fair value of the CVR liability was determined using the discounted cash flow method to estimate future cash flows associated with the legacy assets, including the expected milestone and royalty payments under the Sobi License, net of deductions. Changes in fair value of the liability are presented within change in fair value of contingent value right liability in the consolidated statements of operations and comprehensive income (loss). The liability value is based on significant inputs not observable in the market such as estimated cash flows, estimated probabilities of success, and risk-adjustment discount rates, which represent a Level 3 measurement within the fair value hierarchy.

Forward Contract Liabilities

The Company accounts for contracts related to the future issuance of Series A Preferred Stock as a liability because the underlying shares of Series A Preferred Stock include a redemption feature that may require the Company to settle the instrument by transferring an asset. The forward contract liability is carried at fair value through the date the underlying Series A Preferred Stock are issued. The fair value of the forward contract liability was initially measured based on the fair value of the Series A Preferred Stock issued in the November 2023 Private Placement (see Note 11), less the purchase price, if any. Subsequent measurement of the fair value of the forward contract liability is based on the market price of the Company's common stock, which represents the redemption and conversion value of the Series A Preferred Stock, less the purchase price, if any, on an as-converted basis. The remeasurement of the forward contract liability is based on Level 2 inputs within the fair value hierarchy as it's based on observable market data. Changes in fair value of the liability are presented within change in fair value of forward contract liabilities in the consolidated statements of operations and comprehensive income (loss).

Recent Accounting Pronouncements

Recently Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. Subsequently, in November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts.

ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses. This ASU is effective for smaller reporting companies for fiscal years beginning after December 15, 2022, with early adoption permitted. The Company adopted the new standard effective January 1, 2023, using a modified retrospective transition method, and there was no impact on its consolidated financial statements or results of operations upon adoption.

In January 2017, the FASB issued ASU 2017-04, *Intangibles - Goodwill and Other (Topic 350),* which eliminates Step 2 from the goodwill impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value (i.e., measure the charge based on today's Step 1). This ASU is effective for annual and interim impairment tests performed in periods beginning after December 15, 2022. Early adoption of the standard is permitted. The Company adopted the new standard effective January 1, 2023 and there was no impact on its consolidated financial statements or results of operations upon adoption.

Not Yet Adopted

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures* (ASU 2023-07), which requires an enhanced disclosure of significant segment expenses on an annual and interim basis. This guidance will be effective for the annual periods beginning the year ended December 31, 2024, and for interim periods beginning January 1, 2025. Early adoption is permitted. Upon adoption, the guidance should be applied retrospectively to all prior periods presented in the financial statements. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures* (ASU 2023-09), which improves the transparency of income tax disclosures by requiring consistent categories and greater disaggregation of information in the effective tax rate reconciliation and income taxes paid disaggregated by jurisdiction. It also includes certain other amendments to improve the effectiveness of income tax disclosures. This guidance will be effective for the annual periods beginning the year ended December 31, 2025. Early adoption is permitted. Upon adoption, the guidance can be applied prospectively or retrospectively. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

3. Merger

On November 13, 2023, the Company merged with Old Cartesian in accordance with the terms of the Merger Agreement, by and among Selecta, Sakura Merger Sub I, Inc., a wholly owned subsidiary of Selecta, or First Merger Sub, Sakura Merger Sub II, LLC, a wholly owned subsidiary of Selecta, or Second Merger Sub, and Old Cartesian. Pursuant to the Merger Agreement, First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation and became a wholly owned subsidiary of Selecta, or the First Merger. Immediately following the First Merger, Old Cartesian merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving entity, or the Second Merger and, together with the First Merger, the Merger. In connection with the Second Merger, Old Cartesian changed its name to Cartesian Bio, LLC.

The Merger was intended to qualify as a tax-free reorganization for U.S. federal income tax purposes. As a result of the Merger, Selecta changed its corporate name to Cartesian Therapeutics, Inc. and its common stock began trading on the Nasdaq Global Market under the new trading symbol "RNAC" beginning on November 14, 2023.

The Merger Agreement was unanimously approved by the board of directors, or the Board of Directors, of Selecta and the board of directors of Old Cartesian. The Merger was consummated substantially concurrently with the entry into the Merger Agreement and was not subject to approval of the Company's stockholders.

Under the terms of the Merger Agreement, following the consummation of the Merger on November 13, 2023, or the Closing Date, in exchange for 100% of the outstanding shares of capital stock of Old Cartesian immediately prior to the effective time of the First Merger, the Company agreed to issue to the stockholders of Old Cartesian (i) 6,723,639 shares of the Company's common stock and (ii) 384,930.724 shares of Series A Preferred Stock. The issuance of the shares of common stock and Series A Preferred Stock occurred on December 5, 2023 which

was after the December 4, 2023 record date for the distribution of the CVRs (see Note 6); as such, the Old Cartesian stockholders did not have rights as holders of common stock or holders of Series A Preferred Stock until such issuance on December 5, 2023. In addition, all outstanding stock options to purchase Old Cartesian common stock were assumed by the Company and converted into stock options to purchase (i) shares of the Company's common stock or (ii) shares of the Company's Series A Preferred Stock on terms substantially identical to those in effect prior to Merger Agreement, except for adjustments to the underlying number of shares and the exercise price based on the Merger Agreement exchange ratio.

Pursuant to the Merger Agreement, the Company agreed to hold a stockholders' meeting to submit the following proposals to a vote of its stockholders: (i) the approval of the conversion of shares of Series A Preferred Stock into shares of common stock, or the Conversion Proposal, and (ii) either or both of (A) the approval of an amendment to the Company's restated certificate of incorporation, as amended, or the Charter, to increase the number of shares of common stock authorized under the Charter and (B) the approval of an amendment to the Charter to effect a reverse stock split of all outstanding shares of common stock, in either case (A) or (B) by a number of authorized shares or at a stock split ratio, as the case may be, sufficient to allow the conversion of all shares of Series A Preferred Stock issued in the Merger.

The Company concluded the acquisition resulted in the Company obtaining a controlling financial interest in a VIE in accordance with *ASC 810, Consolidation*. The Company determined that Old Cartesian was considered to be a VIE as it did not have sufficient equity to finance its activities without additional subordinated financial support. Prior to the Closing Date, the primary source of funding for Old Cartesian had been preferred stock financings. The Company acquired all of the outstanding shares of Old Cartesian and, therefore, is the sole equity holder and primary beneficiary. The Company has the obligation to the absorb losses and right to receive the benefits of Old Cartesian, and the power to direct the activities that most significantly affect the economic performance of Old Cartesian which the Company considers to be its development activities. Therefore, the Company is the primary beneficiary. Further, the Company concluded the VIE qualified as a business and accounted for the transaction as the acquisition of a business in accordance with ASC 805. As the primary beneficiary, the Company was the acquirer in the transaction.

The Company exchanged the right to receive shares of common stock and Series A Preferred Stock for all of the outstanding equity of Old Cartesian. The Company determined the rights to receive shares exchanged in the Merger represent a forward contract. The fair value of the forward contracts was determined based on the fair value of shares of common stock and Series A Preferred Stock underlying the forward contracts as of the acquisition date. The total purchase price consists of the fair value of the forward contracts in addition to a portion of the fair value of options exchanged in the transaction related to prior service. Under the acquisition method, the total purchase price of the acquisition was allocated to the net tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values as of the date of the acquisition.

The total fair value of the consideration of $168.5 million as of the Closing Date is summarized as follows (in thousands):

Forward contract to issue common stock	$ 2,713
Forward contract to issue Series A Preferred Stock	155,308
Stock options allocated to consideration paid	10,444
Total consideration	$168,465

The Company recorded the assets acquired and liabilities assumed as of the Closing Date based on the information available at that date. The following table presents the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed as of the Closing Date (in thousands):

	As of November 13, 2023
Assets acquired:	
Cash and cash equivalents	$ 6,561
Prepaid expenses and other current assets	309
Property and equipment, net	215
Right-of-use asset, net	915
In-process research and development assets	150,600
Goodwill	48,163
	$206,763
Liabilities assumed	
Accrued expenses and other current liabilities	$ 2,530
Lease liability	$ 292
Lease liability, net of current portion	$ 623
Deferred tax liability	$ 34,853
	$ 38,298
Net assets acquired	$168,465

The fair value of IPR&D assets were capitalized as of the Closing Date and will be accounted for as indefinite-lived intangible assets until completion or disposition of the assets or abandonment of the associated research and development efforts. Upon successful completion of the development efforts, the carrying value of the respective IPR&D asset will be amortized over its estimated useful life. Until that time, the IPR&D assets will be subject to impairment testing and will not be amortized. The goodwill recorded related to the Merger is the excess of the fair value of the consideration transferred by the acquirer over the fair value of tangible assets, identifiable intangible assets and assumed liabilities as of the Closing Date and is not deductible for tax purposes. The goodwill balance is primarily attributable to the value of the assembled workforce and deferred tax liabilities associated with the transaction.

The following summarizes the Company's intangible assets acquired in the Merger and their carrying value as of December 31, 2023 (in thousands):

	Acquisition Date Fair Value	Impairment	Carrying Value at December 31, 2023
Descartes-08 for MG	$ 93,900	$—	$ 93,900
Descartes-08 for SLE	56,700	—	56,700
Total in-process research and development assets	$150,600	$—	$150,600

The fair value of the intangible assets was estimated using the income approach in which the after-tax cash flows were discounted to present value. The cash flows are based on estimates used to price the transaction, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital.

For the period from November 13, 2023 to December 31, 2023, Old Cartesian's revenue and net loss within the consolidated statements of operations and comprehensive (loss) income were $0.0 million and $1.6 million, respectively.

The following unaudited pro forma financial information reflects the consolidated results of operations of the Company as if the Merger had taken place on January 1, 2022. The unaudited pro forma financial information is not necessarily indicative of the results of operations as they would have been had the transactions been effected on the assumed date (in thousands):

	Year Ended December 31,	
	2023	2022
Revenue	$ 26,004	$112,226
Net (loss) income	$(232,259)	$ 29,607

The Company's transaction costs of $4.9 million were expensed as incurred and included in general and administrative expense in the consolidated statements of operations and comprehensive (loss) income.

The forward contract related to the common stock was recorded as additional paid-in capital as the instrument is indexed to the Company's common stock. The forward contract related to the Series A Preferred Stock was recorded as a liability as the underlying Series A Preferred Stock has a redemption feature that may require the Company to settle the instrument by transferring an asset. The forward contract was measured at fair value through the date of settlement through the issuance of the shares of Series A Preferred Stock on December 5, 2023.

4. Marketable Securities and Investments

No marketable securities were held as of December 31, 2023. The following table summarizes the marketable securities held as of December 31, 2022 (in thousands):

	Amortized cost	Unrealized gains	Unrealized losses	Fair value
December 31, 2022				
U.S. government agency securities and treasuries	$13,566	$—	$ (9)	$13,557
Corporate bonds	$ 1,953	$—	$ (2)	$ 1,951
Commercial paper	12,656	—	—	12,656
Total	$28,175	$—	$(11)	$28,164

Investments

As of December 31, 2023 and 2022, the Company has a $2.0 million investment in Cyrus Biotechnology, Inc., or Cyrus, pursuant to the Company's Collaboration and License Agreement with Cyrus, or the Cyrus Agreement. The Company's maximum exposure to loss related to this VIE is limited to the carrying value of the investment. See Note 16 for details.

5. Net (Loss) Income Per Share

The Company reported a net loss for the years ended December 31, 2023 and 2021, and net income for the year ended December 31, 2022. The Company used the treasury stock method to determine the number of dilutive shares. The following table sets forth the computation of basic and diluted net (loss) income per share (in thousands, except share and per-share data):

	Year Ended December 31,		
	2023	2022	2021
Numerator:			
Net (loss) income	$(219,710)	$ 35,379	$(25,687)
Less: CVR distribution to participating securities	(37,550)	—	—
Net (loss) income allocable to shares of common stock - basic	(257,260)	35,379	(25,687)
Less: Change in fair value of warrants	—	(20,882)	—
Net (loss) income allocable to shares of common stock - diluted	$(257,260)	$ 14,497	$(25,687)

	Year Ended December 31,		
	2023	2022	2021
Denominator:			
Weighted-average common shares outstanding - basic	155,109,561	144,758,555	114,328,798
Dilutive effect of employee equity incentive plans and outstanding warrants	—	1,116,334	—
Weighted-average common shares used in per share calculations - diluted	155,109,561	145,874,889	114,328,798
Net (loss) income per share:			
Basic	$ (1.66)	$ 0.24	$ (0.22)
Diluted	$ (1.66)	$ 0.10	$ (0.22)

The following table represents the potential dilutive shares of common stock excluded from the computation of the diluted net (loss) income per share for all periods presented, as the effect would have been anti-dilutive:

	Year Ended December 31,		
	2023	2022	2021
Warrants to purchase common stock	31,224,703	213,339	10,735,980
Series A Preferred Stock	435,120,513	—	—
Forward contract to issue Series A Preferred Stock	99,140,326	—	—
Common stock options, RSUs and ESPP shares	23,306,661	17,800,034	11,492,002
Series A Preferred Stock options	14,112,299	—	—
Total	602,904,502	18,013,373	22,227,982

6. Fair Value Measurements

The following tables present the Company's assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2023 and 2022 (in thousands):

	December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$ 41,161	$41,161	$ —	$ —
Total assets	$ 41,161	$41,161	$ —	$ —
Liabilities:				
Warrant liabilities	$ 6,394	$ —	$ —	$ 6,394
Contingent value right liability	358,600	—	—	358,600
Forward contract liabilities	28,307	—	28,307	—
Total liabilities	$393,301	$ —	$28,307	$364,994

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$53,552	$53,552	$ —	$—
Marketable securities:				
U.S. government agency securities and treasuries	13,557	—	13,557	—
Corporate bonds	1,951	—	1,951	—
Commercial paper	12,656	—	12,656	—
Total assets	$81,716	$53,552	$28,164	$—

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liabilities	$19,140	$—	$—	$19,140
Total liabilities	$19,140	$—	$—	$19,140

There were no transfers within the fair value hierarchy during the years ended December 31, 2023 or 2022.

Cash, Cash Equivalents, and Restricted Cash

As of December 31, 2023 and 2022, money market funds were classified as cash and cash equivalents on the accompanying consolidated balance sheets as they mature within 90 days from the date of purchase.

As of December 31, 2023, the Company had restricted cash balances relating to a secured letter of credit in connection with its lease for the Company's prior headquarters (see Note 9 included elsewhere in this Annual Report). Short-term restricted cash is included within prepaid expenses and other current assets in the consolidated balance sheets. The Company's consolidated statement of cash flows includes the following as of December 31, 2023, 2022 and 2021 (in thousands):

	Year Ended December 31,		
	2023	2022	2021
Cash and cash equivalents	$76,911	$106,438	$114,057
Short-term restricted cash	—	289	—
Long-term restricted cash	1,377	1,311	1,379
Total cash, cash equivalents, and restricted cash	$78,288	$108,038	$115,436

Marketable Securities

No marketable securities were held as of December 31, 2023. Marketable securities held as of December 31, 2022 and classified as Level 2 within the valuation hierarchy consist of U.S. government agency securities and treasuries, corporate bonds and commercial paper. Marketable securities represent holdings of available-for-sale marketable debt securities in accordance with the Company's investment policy. The Company estimates the fair value of these marketable securities by taking into consideration valuations that include market pricing based on real-time trade data for the same or similar securities, and other observable inputs. The amortized cost of available-for-sale debt securities is adjusted for amortization of premiums and accretion of discounts to the earliest call date for premiums or to maturity for discounts.

Warrants to Purchase Common Stock

In December 2019, the Company issued warrants to purchase common stock in connection with a private placement, or the 2019 Warrants. Pursuant to the terms of the 2019 Warrants, the Company could be required to settle the 2019 Warrants in cash in the event of certain acquisitions of the Company and, as a result, the common warrants are required to be measured at fair value and reported as a liability on the balance sheet. On December 20, 2022, the Company amended the terms of the outstanding 2019 Warrants held by certain members of its Board of Directors, or the Amended 2019 Warrants, to remove the cash settlement provision. As a result, the Amended 2019 Warrants were remeasured at fair value on December 20, 2022 and reclassified from a liability to equity on the balance sheet. Refer to Note 12 for further discussion on the equity-classified Amended 2019 Warrants.

In April 2022, the Company issued warrants in connection with an underwritten offering, or the 2022 Warrants. Pursuant to the terms of the 2022 Warrants, the Company could be required to settle the 2022 Warrants in cash in the event of an acquisition of the Company under certain circumstances and, as a result, the 2022 Warrants are required to be measured at fair value and reported as a liability on the balance sheet.

The Company recorded the fair value of the 2019 Warrants and the 2022 Warrants upon issuance using the Black-Scholes valuation model and is required to revalue the 2019 Warrants and the 2022 Warrants at each reporting date, with any changes in fair value recorded in the statement of operations and comprehensive income

(loss). The valuations of the 2019 Warrants and the 2022 Warrants are classified as Level 3 of the fair value hierarchy due to the need to use assumptions in the valuations that are both significant to the fair value measurement and unobservable, including the stock price volatility and the expected life of the 2019 Warrants and the 2022 Warrants. Generally, increases (decreases) in the fair value of the underlying stock and estimated term would result in a directionally similar impact to the fair value measurement. The changes in the fair values of the warrants are reflected in the statement of operations and comprehensive income (loss) for the years ended December 31, 2023, 2022 and 2021.

The estimated fair values of the 2019 Warrants and the 2022 Warrants were determined using the following inputs to the Black-Scholes simulation valuation:

Estimated fair value of the underlying stock. The Company estimates the fair value of the common stock based on the closing stock price at the end of each reporting period.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury at the valuation date commensurate with the expected remaining life assumption.

Dividend rate. The dividend rate is based on the historical rate, which the Company anticipates will remain at zero.

Expected life. The expected life of the 2019 Warrants and the 2022 Warrants is assumed to be equivalent to their remaining contractual terms which expire on December 23, 2024 and April 11, 2027, respectively.

Volatility. The Company estimates stock price volatility based on the Company's historical volatility for a period of time commensurate with the expected remaining life of the warrants.

A summary of the Black-Scholes pricing model assumptions used to record the fair value of the 2019 Warrants liability is as follows:

	December 31,	
	2023	2022
Risk-free interest rate	4.79%	4.74%
Dividend yield	—	—
Expected life (in years)	0.98	1.98
Expected volatility	83.67%	79.92%

A summary of the Black-Scholes valuation model assumptions used to record the fair value of the 2022 Warrants liability is as follows:

	December 31,	
	2023	2022
Risk-free interest rate	4.01%	4.22%
Dividend yield	—	—
Expected life (in years)	3.28	4.28
Expected volatility	84.09%	98.05%

The following table reflects a roll-forward of fair value for the Company's Level 3 warrant liabilities (see Note 12), for the year ended December 31, 2023 (in thousands):

	Warrant liabilities
Fair value as of December 31, 2022	$ 19,140
Change in fair value	(12,746)
Fair value as of December 31, 2023	$ 6,394

Contingent Value Right

On December 6, 2023, as contemplated by the Merger Agreement, the Company entered into the CVR Agreement, pursuant to which each holder of common stock as of December 4, 2023 or a 2022 Warrant was distributed a CVR, issued by the Company for each share of common stock held directly or underlying a 2022 Warrant held by such holder as of December 4, 2023. Holders of warrants other than the 2022 Warrants will be

entitled to receive, upon exercise of such warrants and in accordance with the terms of the warrants, one CVR per each share of common stock underlying such warrants.

Each CVR entitles its holder to distributions of the following, pro-rated on a per-CVR basis, during the period ending on the date on which the Royalty Term (as defined in the Sobi License) ends, or the Termination Date:

- 100% of all milestone payments, royalties and other amounts paid to the Company or its controlled affiliates, or the Company Entities, under the Sobi License or, following certain terminations of the Sobi License, any agreement a Company Entity enters into that provides for the development and commercialization of SEL-212; and
- 100% of all cash consideration and the actual liquidation value of any and all non-cash consideration of any kind that is paid to or is actually received by any Company Entity prior to the Termination Date pursuant to an agreement relating to a sale, license, transfer or other disposition of any transferable asset of the Company existing as of immediately prior to the Merger, other than those exclusively licensed under the Sobi License or which the Company Entities are required to continue to own in order to comply with the Sobi License.

The distributions in respect of the CVRs will be made on a semi-annual basis, and will be subject to a number of deductions, subject to certain exceptions or limitations, including for (i) certain taxes payable on the proceeds subject to the CVR distribution, (ii) certain out of pocket costs incurred by the Company Entities, including audit and accounting fees incurred in connection with reporting obligations relating to the CVRs and other expenses incurred in the performance of their obligations and other actions under the CVR Agreement, (iii) a fixed semi-annual amount of $0.75 million for general and administrative overhead, (iv) payments made and remaining obligations on lease liabilities of Selecta immediately prior to the Merger and (v) amounts paid and remaining obligations with regard to the Xork product candidate. Each of the deductions described in (iv) and (v) will be made only if certain milestone payments under the Sobi License are made and are also subject to certain adjustments as contemplated in the CVR Agreement.

The CVRs represent financial instruments that are accounted for under the fair value option election in *ASC 825, Financial Instruments*. Under the fair value option election, the CVRs are initially measured at the aggregate estimated fair value of the CVRs and will be subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. The liability was recorded at the date of approval, November 13, 2023, as a dividend. The estimated fair value of the CVR liability was determined using the discounted cash flow method to estimate future cash flows associated with the legacy assets, including the expected milestone and royalty payments under the Sobi License, net of deductions. Changes in fair value of the CVR liability are presented in the consolidated statements of operations and comprehensive income (loss). The liability value is based on significant inputs not observable in the market such as estimated cash flows, estimated probabilities of success, and risk-adjustment discount rates, which represent a Level 3 measurement within the fair value hierarchy. The significant inputs used to estimate the fair value of the CVR liability, which represented a financial instrument being accounted for under the fair value option, were as follows:

	December 31, 2023	At Issuance November 13, 2023
Estimated cash flow dates	2024 - 2038	2024 - 2038
Estimated probability of success	95.0%	95.0%
Risk-adjusted discount rate	13.7%	14.4%

The following table reflects a roll-forward of fair value for the Company's Level 3 CVR liability for the year ended December 31, 2023 (in thousands):

	CVR liability
Fair value as of December 31, 2022	$ —
Issuances	340,300
Change in fair value	18,300
Fair value as of December 31, 2023	$358,600

Forward Contract Liabilities

Merger Consideration

In connection with the Merger, the Company entered into a contract for the issuance of 384,930.724 shares of Series A Preferred Stock as part of the consideration transferred. The fair value of the forward contract at the Closing Date (defined below) was $155.3 million. The non-cash settlement of this liability occurred on December 5, 2023 with the issuance of the Series A Preferred Stock for $261.8 million.

November 2023 Private Placement

The Company entered into a contract for the issuance of 149,330.115 shares of Series A Preferred Stock as part of the November 2023 Private Placement which was settled in multiple tranches. The Company determined the obligation to issue 148,710.488 shares of Series A Preferred Stock to Dr. Timothy A. Springer, a member of the Company's Board of Directors, and TAS Partners LLC, an affiliate of Dr. Springer, represented a forward contract. See Note 11. The fair value of the forward contract liability on November 13, 2023 was insignificant as the fair value of the underlying Series A Preferred Stock was equal to the purchase price of the Series A Preferred Stock as agreed upon in the November 2023 Private Placement. The non-cash settlement of a portion of the liability occurred on December 13, 2023 with the issuance of the first tranche of the Series A Preferred Stock for $14.8 million.

The following table presents changes in the forward contract liabilities for the periods presented (in thousands):

	Forward contract liabilities
Fair value as of December 31, 2022	$ —
Issuances	155,308
Settlements	(276,601)
Change in fair value	149,600
Fair value as of December 31, 2023	$ 28,307

7. Property and Equipment

Property and equipment consists of the following (in thousands):

	December 31,	
	2023	2022
Laboratory equipment	$ 6,280	$ 6,001
Computer equipment and software	702	697
Leasehold improvements	61	57
Furniture and fixtures	452	453
Office equipment	196	192
Construction in process	150	599
Total property and equipment	7,841	7,999
Less accumulated depreciation	(5,728)	(5,205)
Property and equipment, net	$ 2,113	$ 2,794

Depreciation expense was $0.7 million, $0.7 million and $0.6 million for the years ended December 31, 2023, 2022 and 2021, respectively.

8. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	December 31,	
	2023	2022
Payroll and employee related expenses	$ 4,390	$ 4,242
Accrued patent fees	472	696
Accrued external research and development costs	4,896	7,274
Accrued professional and consulting services	4,331	985
Accrued interest	—	222
Other	644	665
Accrued expenses	$14,733	$14,084

9. Leases

65 Grove Street Lease

In July 2019, the Company entered into a lease with BRE-BMR Grove LLC for 25,078 square feet of laboratory and office space located at 65 Grove Street, Watertown, Massachusetts, or the Watertown Lease. As part of the Watertown Lease, the Company incurred $0.8 million in non-reimbursable construction costs. The lease began in March 2020, when the Company took control of the office space, and the lease term is 8 years. The discount rate of 8.9% was determined based on the Company's incremental borrowing rate adjusted for the lease term, including any reasonably certain renewal periods. In connection with the Watertown Lease, the Company secured a letter of credit from Silicon Valley Bank, a division of First-Citizens Bank & Trust Company (successor by purchase to the Federal Deposit Insurance Corporation as Receiver for Silicon Valley Bridge Bank, N.A. (as successor to Silicon Valley Bank)), or SVB, for $1.6 million, of which $0.3 million is recognized as short-term restricted cash and $1.3 million is recognized as long-term restricted cash, as of December 31, 2022.

On September 1, 2022, the Company entered into an amendment, or the Lease Agreement Amendment, to its lease agreement with BRE-BMR Grove LLC, originally entered into on July 23, 2019, or the Lease Agreement, to expand the Company's laboratory and office space located at 65 Grove Street, Watertown, Massachusetts by 7,216 square feet. The lease term began on September 1, 2022, consistent with when the Company took control of the office space and the expected lease term is 5.7 years. The discount rate of 11.3% was determined based on the Company's incremental borrowing rate adjusted for the lease term including any reasonably certain renewal periods. Rent payments began in November 2022, and the base rent for the first year is $0.1 million per month. The Company recorded the right-of-use asset and operating lease liabilities of $3.2 million during the year ended December 31, 2022 as control of the premises was transferred to the Company.

On October 6, 2022, the Company entered into a sublease agreement to sublease 7,216 square feet of space currently rented by the Company at 65 Grove Street, Watertown, Massachusetts. The sublease commenced on October 24, 2022, when the Company, the sublessee and BRE-BMR Grove LLC, executed a Consent to Sublease. The term of the sublease expires on March 31, 2024 with no option to extend the sublease term. Sublease income is included within other income, net in the consolidated statements of operations and comprehensive income (loss).

As a result of the sublease agreement and Consent to Sublease, rent payments to BRE-BMR Grove LLC for the lease of the office space increased. The change of consideration in the contract was accounted for as a lease modification and the right-of-use asset and lease liability were remeasured at the modification date of October 24, 2022. The discount rate of 11.9% was determined based on the Company's incremental borrowing rate adjusted for the lease term including any reasonably certain renewal periods as of October 24, 2022, resulting in a decrease of less than $0.1 million to both the right-of-use asset and lease liabilities.

In May 2023, the Company received notice from BRE-BMR Grove LLC that the requirements to reduce the amount of the letter of credit for the Watertown Lease had been met. In connection therewith, in June 2023, the Company secured a letter of credit from JPMorgan Chase Bank, N.A. for $1.4 million, which is recognized as long-term restricted cash as of December 31, 2023, and renews automatically each year. The $1.6 million letter of credit with SVB was released from restriction and returned to the Company on July 17, 2023, and therefore was reclassified into cash and cash equivalents in the consolidated balance sheets.

On October 31, 2023, in connection with entering into Amendment No. 1 to the License and Development Agreement with Sobi as described in Note 14, the Company entered into a sublease agreement with Sobi to sublease approximately 5,600 square feet of space currently rented by the Company at 65 Grove Street, Watertown, Massachusetts for which Sobi paid $1.0 million upfront rental payment. The sublease commenced on November 6, 2023, when the Company, Sobi, and BRE-BMR Grove LLC, executed a Consent to Sublease. The term of the sublease expires on November 5, 2024 with no option to extend the sublease term. As of December 31, 2023, deferred rent of $0.8 million is included within accrued expenses and other current liabilities in the consolidated balance sheets.

During the year ended December 31, 2023, the Company determined that the right-of-use asset related to the operating lease for approximately 7,216 square feet at 65 Grove Street was partially impaired as of November 30, 2023. As a result, the Company recognized a $0.7 million right-of-use asset impairment charge with $0.6 million and $0.1 million recognized in research and development and general and administrative operating expense categories, respectively, on its consolidated statements of operations and comprehensive income (loss) during the year ended December 31, 2023.

704 Quince Orchard Road Leases

In connection with the Merger, the Company acquired two operating leases for office and laboratory space in Gaithersburg, Maryland. The leases expire in January 2027 and do not contain any renewal rights. The discount rate of 11.5% was determined based on the Company's incremental borrowing rate adjusted for the lease term.

Moscow, Russia Lease

The Company has a month-to-month facility agreement for Selecta (RUS)'s Moscow, Russia office. Rent expense is recognized as incurred.

Rent expense for the years ended December 31, 2023, 2022 and 2021 was $3.8 million, $3.2 million, and $2.9 million, respectively.

For the years ended December 31, 2023, 2022 and 2021, the components of lease costs were as follows (in thousands):

	Year Ended December 31,		
	2023	2022	2021
Operating lease cost	$ 2,828	$2,276	$2,023
Variable lease cost	965	910	834
Short-term lease cost	8	11	10
Less sublease income	(1,172)	(176)	—
Total lease cost	$ 2,629	$3,021	$2,867

The maturity of the Company's operating lease liabilities as of December 31, 2023 were as follows (in thousands):

	December 31, 2023
2024	$ 3,077
2025	3,164
2026	3,248
2027	3,017
2028	946
Thereafter	—
Total future minimum lease payments	13,452
Less: Imputed interest	2,497
Total operating lease liabilities	$10,955

The supplemental disclosure for the statement of cash flows related to operating leases were as follows (in thousands):

	December 31,	
	2023	2022
Cash paid for amounts included in the measurement of lease liabilities:	$2,696	$2,048

Other than the initial recording and modification of the right-of-use asset and lease liability for the Watertown Lease during the year ended December 31, 2022 and the impairment on the right-of-use asset for the Watertown Lease and the assumption of the right-of-use assets and lease liabilities in connection with the Merger during the year ended December 31, 2023, which were non-cash, the changes in the Company's right-of-use asset and lease liability for the years ended December 31, 2023 and 2022 are reflected in the non-cash lease expense and accrued expenses and other liabilities, respectively, in the consolidated statements of cash flows.

The following summarizes additional information related to operating leases:

	December 31,	
	2023	2022
Weighted-average remaining lease term	4.3 years	5.4 years
Weighted-average discount rate	9.9 %	9.7 %

10. Debt

2020 Term Loan

On August 31, 2020, the Company entered into a Loan and Security Agreement with Oxford Finance LLC, or Oxford, and Silicon Valley Bank, or the Loan and Security Agreement, and such facility, the 2020 Term Loan. On March 10, 2023, Silicon Valley Bank was closed by the California Department of Financial Protection and Innovation, and the Federal Deposit Insurance Corporation, or the FDIC, was appointed as receiver. On March 13, 2023, the FDIC announced that all of Silicon Valley Bank's deposits and substantially all of its assets had been transferred to a newly created, full-service, FDIC-operated bridge bank, Silicon Valley Bridge Bank, N.A., or SVBB. SVBB assumed all loans that were previously held by Silicon Valley Bank. On March 27, 2023, First-Citizens Bank & Trust Company assumed all of SVBB's customer deposits and certain other liabilities and acquired substantially all of SVBB's loans and certain other assets from the FDIC, including the 2020 Term Loan.

On September 11, 2023, the Company entered into a payoff letter with Oxford and SVB, pursuant to which the Company paid all outstanding amounts under the 2020 Term Loan, together with accrued interest and a prepayment penalty, resulting in the full extinguishment of the 2020 Term Loan. The total payoff amount was $22.3 million, consisting of the remaining principal amount due of $19.8 million, the final payment fee of $2.3 million, the prepayment penalty of $0.2 million, and less than $0.1 million of accrued interest.

During the year ended December 31, 2023, the Company recorded a loss of $0.7 million on the extinguishment of the 2020 Term Loan, consisting of the prepayment penalty of $0.2 million and the write-off of $0.5 million of unamortized debt issuance costs and venture debt termination fee, which was included within interest expense in the consolidated statements of operations and comprehensive income (loss).

As of December 31, 2023, the Company had no outstanding borrowings, and as of December 31, 2022, the outstanding principal balance under the 2020 Term Loan was $25.0 million.

During the years ended December 31, 2023, 2022 and 2021, the Company recognized $2.1 million, $3.0 million and $2.8 million respectively of interest expense related to the 2020 Term Loan.

11. Series A Preferred Stock

The Certificate of Designation was filed on November 13, 2023, which provided for the designation of shares of the Series A Preferred Stock and authorized the issuance of 548,375 shares of Series A Preferred Stock.

Additionally on November 13, 2023, the Company entered into the Securities Purchase Agreement with (i) Dr. Timothy A. Springer, a member of the Company's Board of Directors; (ii) TAS Partners LLC, an affiliate of Dr. Springer, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat

Kalayoglu, a co-founder and the former chief executive officer of Old Cartesian, who joined the Company's Board of Directors effective immediately after the effective time of the Merger, or the Investors. Pursuant to the Securities Purchase Agreement, the Company agreed to issue and sell an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million in the November 2023 Private Placement.

In the November 2023 Private Placement Dr. Timothy A. Springer agreed to settle his purchases in three tranches of shares of Series A Preferred Stock, the first for a purchase price of $10.0 million and each thereafter for a purchase price of approximately $20.0 million, with the three tranches settling 30, 60, and 90 days, respectively, following the Closing Date. TAS Partners LLC agreed to settle its purchase for approximately $10.0 million within 30 days following the Closing Date. The first, second and third tranches were settled on December 13, 2023, January 12, 2024 and February 11, 2024, respectively, under which (i) 24,785.081 shares of Series A Preferred Stock were issued to each of TAS Partners LLC and Dr. Timothy A. Springer in the first tranche, (ii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the second tranche, and (iii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Timothy A. Springer in the third tranche. On November 15, 2023, the Company issued 619.627 shares of Series A Preferred Stock to Seven One Eight Three Four Irrevocable Trust for $0.25 million.

The Company determined the obligation to issue 148,710.488 shares of Series A Preferred Stock to Dr. Springer and TAS Partners LLC represented a forward contract and was accounted for as a liability with changes in fair value recorded in earnings. A portion of the liability was settled with the initial issuance of 49,570.162 shares of Series A Preferred Stock on December 13, 2023 (see Note 6).

On December 5, 2023, the Company issued 384,930.724 shares of Series A Preferred Stock as part of its consideration transferred in connection with the Merger which settled the related forward contract liability (see Note 6).

As of December 31, 2023, the Company had 435,120.513 shares of Series A Preferred Stock issued and outstanding.

In accordance with the guidance in ASC 480, *Distinguishing Liabilities from Equity* the Series A Preferred Stock is classified outside of stockholders' equity because the shares of Series A Preferred Stock contain redemption features that are not solely within the control of the Company. The Series A Preferred Stock is not currently redeemable, nor is it probable that the instrument will become redeemable, as it is only redeemable upon the occurrence of a contingent event. Accordingly, no accretion has been recognized for the Series A Preferred Stock and it will not be accreted until it is probable that the shares of Series A Preferred Stock will become redeemable.

The Series A Preferred Stock had the following rights and preferences as of December 31, 2023:

Conversion

Prior to the stockholder approval of the Conversion Proposal, the Series A Preferred Shares are not convertible. Following the stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will automatically convert into 1,000 shares of common stock, subject to certain limitations, including that a holder of Series A Preferred Stock is prohibited from converting shares of Series A Preferred Stock into shares of common stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of common stock issued and outstanding immediately after giving effect to such conversion; provided, however, that such beneficial ownership limitation does not apply to Dr. Springer, TAS Partners LLC, or any of their respective affiliates.

Each share of Series A Preferred Stock outstanding that is not otherwise automatically converted into common stock as a result of the beneficial ownership limitation shall be convertible at any time at the option of the holder following stockholder approval of the Conversion Proposal, only to the extent the beneficial ownership limitation does not apply to the shares of Series A Preferred Stock to be converted.

Redemption

Each share of Series A Preferred Stock will be redeemable at the option of the holder at any time following the date that is 18 months after the initial issuance date of the Series A Preferred Stock, other than any shares of

Series A Preferred Stock that would not be convertible into shares of common stock as a result of the beneficial ownership limitation referred to above. The amount payable upon redemption will be equal to the average closing sale price of the common stock listed over the ten consecutive trading days ending on, and including, the day immediately prior to the redemption date multiplied by the number of shares of common stock the Series A Preferred Stock would be convertible into.

Dividends

Holders of Series A Preferred Stock are entitled to receive dividends on shares of Series A Preferred Stock on an as-converted basis equal to the dividends paid on shares of the common stock; provided, however, that holders of Series A Preferred Stock (or any shares of common stock into which the Series A Preferred Stock are convertible) are not entitled to any CVRs or any amounts paid under the CVR Agreement.

Voting

Except as otherwise required by law, the Series A Preferred Stock does not have voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, the Company will not, without the affirmative vote of the holders of a majority of the then-outstanding shares of the Series A Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock, (b) alter or amend the Certificate of Designation, (c) amend the Charter or other organizational documents in any manner that adversely affects any rights of the holders of Series A Preferred Stock, (d) issue further shares of Series A Preferred Stock (other than in connection with the exercise of the stock options to purchase Series A Preferred Stock) or increase or decrease (other than by conversion) the number of authorized shares of Series A Preferred Stock, (e) prior to the stockholder approval of the Conversion Proposal or at any time while at least 30% of the originally issued Series A Preferred Stock remains issued and outstanding, consummate either (A) a Fundamental Transaction (as defined in the Certificate of Designation) or (B) any merger or consolidation of the Company or other business combination in which the stockholders of the Company immediately before such transaction do not hold at least a majority of the capital stock of the Company immediately after such transaction, (f) amend or fail to comply with, in any manner that would be reasonably likely to prevent, impede or materially delay the conversion (or the stockholder approval thereof), or terminate, any of the stockholder support agreements entered into in connection with the Merger, or the Support Agreements, or agree to any transfer, sale or disposition of such shares subject to the Support Agreements (except for such transfers, sales or dispositions with respect to which the approval of the Company is not required pursuant to the applicable Support Agreement) or (g) enter into any agreement with respect to any of the foregoing.

Liquidation

The holders of Series A Preferred Stock shall rank on parity with the common stockholders as to distributions of assets upon liquidation, dissolution or winding up of the Company, whether voluntarily or involuntarily.

Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary each holder of Series A Preferred Stock shall be entitled to receive out the assets of the Company equal to of the same amount that a holder of common stock would receive if the Series A Preferred Stock were fully converted, which shall be paid pari passu with holders of common stock, plus an amount equal to any dividends declared but unpaid. If the assets available for distribution are not sufficient to pay the holders of the Series A Preferred Stock pursuant to the preceding sentence, the assets will be distributed ratably to the holders of the Series A Preferred Stock and common stock.

Reserved Shares

As of December 31, 2023, the Company has authorized shares of Series A Preferred Stock for future issuance as follows:

	As of December 31, 2023
Shares reserved for issuance in November 2023 Private Placement	99,140.326
Outstanding Series A Preferred Stock options	14,112.299
Total	113,252.625

12. Equity

Equity Financings

Merger

On December 5, 2023, the Company issued 6,723,639 shares of common stock as part of its consideration transferred in connection with the Merger which settled the related equity-classified forward contract (see Note 3).

Underwritten Offering

On April 6, 2022, the Company entered into an underwriting agreement with SVB Securities LLC (now known as Leerink Partners LLC), as representative of the several underwriters named therein, relating to an underwritten offering of 27,428,572 shares of the Company's common stock and 2022 Warrants to purchase up to 20,571,429 shares of common stock. The offering of such shares and the 2022 Warrants is referred to as the 2022 Offering. Each share and accompanying 2022 Warrant to purchase 0.75 shares of common stock was sold at a combined offering price of $1.41. The exercise price for the 2022 Warrants is $1.55 per share. The Company received net proceeds from the 2022 Offering of approximately $36.9 million.

The 2022 Warrants are subject to adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the Company's common stock and also upon any distributions for no consideration of assets to the Company's stockholders. Each 2022 Warrant is exercisable at any time and from time to time after issuance. In the event of certain corporate transactions, the holders of the 2022 Warrants will be entitled to receive the kind and amount of securities, cash or other property that the holders would have received had they exercised the Warrants immediately prior to such transaction. Therefore, the Company is required to account for the 2022 Warrants as liabilities and record the 2022 Warrants at fair value. The 2022 Warrants do not entitle the holders thereof to any voting rights or any of the other rights or privileges to which holders of Common Stock are entitled.

"At-the-Market" Offerings

2020 Sales Agreement

On August 6, 2020, the Company entered into a sales agreement, or the 2020 Sales Agreement with Jefferies LLC, as sales agent, pursuant to which the Company was permitted, from time to time, to issue and sell common stock with an aggregate value of up to $50.0 million in an "at the market offering." On October 8, 2021, the Company delivered notice to Jefferies LLC that the Company was terminating the 2020 Sales Agreement, with effect as of October 19, 2021.

2021 Sales Agreement

On October 25, 2021, the Company entered into a Sales Agreement, or the 2021 Sales Agreement, with Leerink Partners LLC (then known as SVB Leerink LLC), or Leerink Partners, pursuant to which the Company may sell shares of the Company's common stock, from time to time, through an "at the market" equity offering program under which Leerink Partners will act as sales agent. The shares of common stock sold pursuant to the 2021 Sales Agreement, if any, would be issued and sold pursuant to a registration statement to be filed by the Company with the SEC, for aggregate remaining gross sales proceeds of up to $51.0 million.

During the year ended December 31, 2023, the Company sold no shares of its common stock pursuant to the 2021 Sales Agreement. During the year ended December 31, 2022, the Company sold 774,544 shares of its common stock pursuant to the 2021 Sales Agreement for aggregate net proceeds of $2.1 million, after deducting commissions and other transaction costs.

June 2020 Sobi Stock Purchase

On June 11, 2020, the Company entered into a stock purchase agreement with Sobi, pursuant to which the Company sold an aggregate of 5,416,390 shares of its common stock at a purchase price equal to $4.6156 per share, which represented 120% of the 10-day volume-weighted average price of the Company's common stock prior to signing, for aggregate gross proceeds of $25.0 million, or the Sobi Private Placement. The closing of the Sobi Private Placement occurred on July 31, 2020.

In accordance with ASC 815, this forward sale treatment qualified as equity classification as the shares are not within the scope of ASC 480. The gross proceeds of $25.0 million were determined to include a premium to the fair value of the Company's shares as of July 28, 2020 of approximately $14.5 million. As a result, such amount was included in the transaction price for revenue recognition of the Sobi License. See Note 14 for details.

Also on June 11, 2020, the Company entered into a registration rights agreement, as amended by that certain letter agreement, dated as of November 4, 2020, or the Sobi Registration Rights Agreement, with Sobi, pursuant to which the Company agreed to prepare and file a registration statement with respect to the resale of the shares of common stock acquired in the Sobi Private Placement. The Company will be required to file this resale registration statement within 30 days following receipt by the Company of a written request from Sobi to file such resale registration statement, and to have the registration statement declared effective within ten business days after the SEC informs the Company that no review of such resale registration statement will be made or that the SEC has no further comments on such resale registration statement.

December 2019 Financing

On December 18, 2019, the Company entered into a securities purchase agreement, or the 2019 Purchase Agreement, with a group of institutional investors and certain members of the Board of Directors. Pursuant to the 2019 Purchase Agreement, the Company sold an aggregate of 37,634,883 shares of its common stock at a purchase price of $1.46 per share, warrants to purchase an aggregate of 22,988,501 shares of common stock at a purchase price of $0.125 per share underlying each common warrant, and pre-funded warrants to purchase an aggregate of 8,342,128 shares of common stock at a purchase price of $1.46 per share, all with five year terms, or the 2019 PIPE. The closing of the 2019 PIPE occurred on December 23, 2019. The exercise price of the pre-funded warrants is $0.0001 per share and the exercise price for the common warrants is $1.46 per share. In the event of a certain sale of the Company, the terms of the common warrants require us to make a payment to such common warrant holders based on a Black-Scholes valuation (using variables as specified in the warrants). This provision does not apply to the pre-funded warrants. Therefore, the Company is required to account for the common warrants as liabilities and record them at fair value, while the pre-funded warrants met the criteria to be classified as permanent equity.

The Company recorded the fair value of the 2019 Warrants of $40.7 million upon issuance using the Black-Scholes valuation model. Issuance costs were allocated between the equity component with an offset to additional paid-in capital and the liability component recorded as expense on a relative fair value basis. Total net proceeds from the equity offering was $65.6 million, after deducting transaction costs and commissions of $4.4 million.

As discussed in Note 6, the Company remeasured the Amended 2019 Warrants at the fair value of $0.8 million on December 20, 2022 and reclassified this amount to additional paid-in capital.

The remaining 2019 Warrants liability and the 2022 Warrants liability were revalued as of December 31, 2023 at $6.4 million. During the years ended December 31, 2023, 2022 and 2021, the Company recorded a decrease of $12.7 million and $20.9 million and an increase of $2.3 million, respectively, in the fair value of the warrants in the consolidated statements of operations and comprehensive income (loss).

June 2017 Financing

In June 2017, the Company entered into a securities purchase agreement, or the Institutional Purchase Agreement, with certain institutional investors and a securities purchase agreement with Timothy A. Springer,

Ph.D., a member of the Board of Directors, or the Springer Purchase Agreement, for a private placement of the Company's securities, or the 2017 PIPE. Pursuant to the Institutional Purchase Agreement, the Company sold an aggregate of 2,750,000 shares of its common stock at a purchase price equal to $16.00 per share. Pursuant to the Springer Purchase Agreement, the Company sold to Dr. Springer an aggregate of 338,791 shares of common stock at a purchase price equal to $17.71 per share, which was equal to the most recent consolidated closing bid price on the Nasdaq Stock Market on June 23, 2017, and warrants to purchase up to 79,130 shares of common stock, or the Warrant Shares, exercisable at $17.71 per Warrant Share, and with a term of five years. The equity-classified warrants expired during the year ended December 31, 2022.

Warrants

The following is a summary of warrant activity for the years ended December 31, 2023 and 2022:

	Number of Warrants			
	Equity classified	Liability classified	Total	Weighted average exercise price
Outstanding at December 31, 2021	292,469	10,443,511	10,735,980	$ 1.62
Issuance	—	20,571,429	20,571,429	1.55
Canceled	(79,130)	—	(79,130)	$17.71
Reclassification of warrant liability to equity on modification	2,022,987	(2,022,987)	—	$ 1.46
Outstanding at December 31, 2022	2,236,326	28,991,953	31,228,279	$ 1.53
Canceled	(3,576)	—	(3,576)	16.77
Outstanding at December 31, 2023	2,232,750	28,991,953	31,224,703	$ 1.53

Common Stock

As of December 31, 2023, the Company had 350,000,000 shares of common stock authorized for issuance, $0.0001 par value per share, with 161,927,821 shares issued and outstanding. The voting, dividend and liquidation rights of the common stockholders are subject to and qualified by the rights, powers and preferences of the preferred stock. The common stock has the following characteristics:

Voting

Common stockholders are entitled to one vote for each share of common stock held with respect to all matters voted on by the stockholders of the Company.

Dividends

Common stockholders are entitled to receive dividends, if and when declared by the Board of Directors. Through December 31, 2023, no cash dividends have been declared or paid on common stock.

Liquidation

Upon liquidation of the Company, common stockholders are entitled to receive all assets of the Company available for distribution to such stockholders.

Reserved Shares

The Company has authorized shares of common stock for future issuance as follows:

	As of December 31, 2023
Exercise of warrants	31,224,703
Shares available for future stock incentive awards	35,836,268
Outstanding common stock options	23,306,661
Total	90,367,632

As described in Note 11, prior to the stockholder approval of the Conversion Proposal, the Series A Preferred Shares are not convertible. Following the stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will automatically convert into 1,000 shares of common stock.

13. Stock Incentive Plans

The Company maintained the 2008 Stock Incentive Plan, or the 2008 Plan, for employees, consultants, advisors, and directors. The 2008 Plan provided for the granting of incentive and non-qualified stock option and restricted stock awards as determined by the Board. In connection with the Merger, all outstanding awards issued under the 2008 Plan were cancelled, and the Board formally terminated the 2008 Plan.

In June 2016, the Company's stockholders approved the 2016 Incentive Award Plan, or the 2016 Plan, which authorized 1,210,256 shares of common stock for future issuance under the 2016 Plan and the Company ceased granting awards under the 2008 Plan. Upon the effective date of the 2016 Plan, awards issued under the 2008 Plan remained subject to the terms of the 2008 Plan. Awards granted under the 2008 Plan that expired, lapsed or terminated became available under the 2016 Plan as shares available for future grants.

Additionally, pursuant to the terms of the 2016 Plan, the Board is authorized to grant awards with respect to common stock, and may delegate to a committee of one or more members of the Board or executive officers of the Company the authority to grant options and restricted stock units. On December 9, 2020, the Board established a Stock Option Committee authorized to grant awards to certain employees and consultants subject to conditions and limitations within the 2016 Plan. In January 2023 and 2022, the number of shares of common stock that may be issued under the 2016 Plan was increased by 6,121,697 and 4,944,919 shares, respectively. As of December 31, 2023, 22,504,503 shares remain available for future issuance under the 2016 Plan.

In September 2018, the Company's 2018 Employment Inducement Incentive Award Plan, or the 2018 Inducement Incentive Award Plan was adopted by the Board without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Stock Market LLC listing rules, which authorized 1,175,000 shares of its common stock for issuance. In March 2019, the Board approved an amendment and restatement of the 2018 Inducement Incentive Award Plan to reserve an additional 2,000,000 shares of the Company's common stock for issuance thereunder. In December 2023, the Board approved an amendment and restatement of the 2018 Inducement Incentive Award Plan to reserve an additional 1,825,000 shares of the Company's common stock for issuance thereunder. As of December 31, 2023, there are 4,500,858 shares available for future grant under the 2018 Inducement Incentive Award Plan.

In accordance with the Merger Agreement, the Company assumed Old Cartesian's 2016 Stock Incentive Plan, or the Old Cartesian Plan. The Old Cartesian Plan permits the granting of options or restricted stock to employees, officers, directors, consultants and advisors to the Company. The unvested common stock options and Series A Preferred Stock options assumed by the Company in connection with the Merger generally vest over a four-year period. Additionally, the stock options granted have a contractual term of ten years and only full shares can be exercised as per the individual award agreements. As of December 31, 2023, there are 3,848,809 shares available for future grant under the Old Cartesian Plan.

In connection with the Merger, the outstanding stock options to purchase Old Cartesian common stock were converted into stock options to purchase 23,306,661 shares of common stock and 14,112.299 shares of Series A Preferred Stock of the Company. These replacement awards were revalued at their acquisition-date fair value and then attributed to pre and post-combination service. This resulted in $2.6 million attributed to post-combination service to be recognized as stock-based compensation expense over the remaining terms of the replacement awards, of which $0.2 million was recognized as research and development expense in the consolidated statements of operations and comprehensive (loss) income during the year ended December 31, 2023.

Settlement of Equity Compensation Awards

Upon consummation of the First Merger, the equity compensation awards of the Company outstanding as of the date of the Merger were settled as follows: (i) each unvested option to acquire shares of common stock and each unvested restricted stock unit award with respect to shares of common stock was accelerated and vested in full at the effective time of the First Merger; (ii) each option to acquire shares of common stock was canceled and in exchange therefore, former holders became entitled to receive an amount in cash equal to the product of (A) the total number of shares of common stock subject to the unexercised portion the stock option (determined after

giving effect to the accelerated vesting) multiplied by (B) the excess, if any, of $2.06, or the Cash-out Amount, over the applicable exercise price per share of common stock under such stock option; and (iii) each restricted stock unit award with respect to shares of common stock was cancelled and the former holder of such canceled restricted stock unit became entitled, in exchange therefor, to receive an amount in cash equal to the product of (A) the total number of shares of common stock deliverable under such restricted stock unit (determined after giving effect to the accelerated vesting) multiplied by (B) the Cash-out Amount. Stock options with an exercise price in excess of the Cash-out Amount received no cash payment.

The modification to accelerate the vesting of all awards upon the Merger resulted in full recognition of unrecognized compensation of $13.1 million, of which $5.9 million and $7.2 million was classified as research and development expense and general and administrative expense, respectively, in the consolidated statements of operations and comprehensive (loss) income. In addition, with the exception of any options with an exercise price greater than $2.06 per share, all awards were settled in cash for an amount equal to $2.06 less any exercise price associated with the awards. The total cash payment made to the holders of stock options and restricted stock units was $9.4 million. The fair value of the awards prior to the settlement was recorded to additional paid-in capital in an amount of $6.2 million and the amount in excess of fair value was recognized as additional stock-based compensation expense in an amount of $3.2 million, of which $1.5 million and $1.7 million was classified as research and development expense and general and administrative expense, respectively, in the consolidated statements of operations and comprehensive (loss) income.

Stock-Based Compensation Expense

Stock-based compensation expense by classification included within the consolidated statements of operations and comprehensive income (loss), including $1.5 million recognized as stock-based compensation expense upon the achievement of a technical milestone by Ginkgo Bioworks Holdings, Inc., or Ginkgo, during the year ended December 31, 2023 and $1.0 million recognized as stock-based compensation expense upon the issuance of common stock to Ginkgo during the year ended December 31, 2022 as described in Note 16, was as follows (in thousands):

	Year Ended December 31,		
	2023	2022	2021
Research and development	$12,985	$ 5,061	$3,204
General and administrative	12,793	6,133	4,516
Total stock-based compensation expense	$25,778	$11,194	$7,720

Stock Options

The fair value of the stock options assumed in connection with the Merger was calculated using a Black-Scholes option pricing model based on the following weighted-average assumptions:

	Common Stock	Series A Preferred Stock
Risk-free interest rate	4.83 %	4.92 %
Dividend yield	—	—
Expected term	3.59	3.29
Expected volatility	83.77 %	83.87 %
Weighted-average fair value of common stock or Series A Preferred Stock, as applicable	$ 0.40	$403.47

The estimated grant date fair values of employee stock option awards granted under the 2016 Plan and the 2018 Inducement Incentive Award Plan were calculated using the Black-Scholes option pricing model, based on the following weighted-average assumptions:

	Year Ended December 31,		
	2023	2022	2021
Risk-free interest rate	3.95 %	2.24 %	0.79 %

	Year Ended December 31,		
	2023	2022	2021
Dividend yield	—	—	—
Expected term	5.94	6.02	6.03
Expected volatility	94.64 %	92.21 %	95.04 %
Weighted-average fair value of common stock	$ 1.15	$ 2.63	$ 3.58

The expected term of the Company's stock options granted to employees has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. Under the simplified method, the expected term is presumed to be the midpoint between the vesting date and the end of the contractual term. The Company utilizes this method due to lack of historical exercise data and the plain nature of its stock-based awards. Expected volatilities are based on the Company's historical volatility.

The weighted average grant date fair value of stock options granted to employees during the years ended December 31, 2023, 2022 and 2021 was $0.90, $1.99, and $2.73 respectively.

As of December 31, 2023, total unrecognized compensation expense related to unvested common stock options and Series A Preferred Stock options was $1.4 million and $1.0 million, respectively, which is expected to be recognized over a weighted average period of 2.4 years and 2.5 years, respectively.

The following table summarizes the stock option activity under the 2008 Plan, the 2016 Plan, the 2018 Inducement Incentive Award Plan, and Old Cartesian Plan for options for common stock:

	Number of Common Stock options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Employees				
Outstanding at December 31, 2022	15,578,412	$3.44	7.57	$ 4
Granted	5,477,200	$1.15		
Assumed in connection with Merger	23,306,661	$0.10		
Exercised	—	$ —		
Forfeited	(2,215,020)	$2.68		
Cancelled/settled in connection with the Merger	(18,840,592)	$2.86		
Outstanding at December 31, 2023	23,306,661	$0.10	6.50	$13,760
Vested at December 31, 2023	18,067,999	$0.10	6.13	$10,725
Vested and expected to vest at December 31, 2023	23,306,661	$0.10	6.50	$13,760
Non-employee consultants				
Outstanding at December 31, 2022	266,239	$8.05	5.08	$ —
Forfeited	—	$ —		
Cancelled/settled in connection with the Merger	(266,239)	$8.05		
Outstanding at December 31, 2023	—	$ —	—	$ —

The following table summarizes the stock option activity under the Old Cartesian Plan for options for Series A Preferred Stock:

	Number of Series A Preferred Stock options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Employees				
Outstanding at December 31, 2022	—	$ —	—	$ —
Assumed in connection with Merger	14,112.299	$79.94		
Outstanding at December 31, 2023	14,112.299	$79.94	5.91	$8,601

	Number of Series A Preferred Stock options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Vested at December 31, 2023	10,860.441	$71.67	5.15	$6,709
Vested and expected to vest at December 31, 2023	14,112.299	$79.94	5.91	$8,601

Restricted Stock Units

During the year ended December 31, 2023, the Company granted 1,054,600 restricted stock awards with a weighted average fair value of $1.13 per share based on the closing price of the Company's common stock on the date of grant to employees under the 2016 Plan, which vested over a four-year term . Forfeitures are estimated at the time of grant and are adjusted, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company has estimated a forfeiture rate of 10% for restricted stock awards to employees based on historical experience.

There was no unrecognized compensation expense and no outstanding restricted stock units as of December 31, 2023.

The following table summarizes the Company's restricted stock units under the 2016 Plan and 2018 Inducement Incentive Award Plan:

	Number of shares	Weighted average grant date fair value ($)
Unvested at December 31, 2022	1,705,558	$2.62
Granted	1,054,600	1.13
Vested	(636,418)	2.40
Forfeited	(446,108)	1.91
Cancelled/settled in connection with the Merger	(1,677,632)	1.96
Unvested at December 31, 2023	—	$ —

Employee Stock Purchase Plan

In June 2016, the Company approved the 2016 Employee Stock Purchase Plan, or the ESPP, which authorized 173,076 shares of common stock for future issuance under the ESPP to participating employees. In January 2023 and 2022, the number of shares of common stock authorized for issuance under the ESPP was increased by 1,530,424 shares and 1,236,229 shares, respectively. During the year ended December 31, 2023, the Company issued 186,044 shares of common stock under the ESPP. As of December 31, 2023, 4,982,098 shares remain available for future issuance under the ESPP. In connection with the Merger, the Board suspended the current ESPP offering period.

For each of the years ended December 31, 2023 and 2022, the Company recognized $0.1 million of stock-based compensation expense under the ESPP.

14. Revenue Arrangements

Astellas Gene Therapies

In January 2023, the Company entered into the Astellas Agreement, with Astellas. Under the Astellas Agreement, the Company granted Astellas an exclusive license to the Company's IdeXork technology arising from Xork, to develop and commercialize Xork for use in Pompe disease in combination with an Astellas gene therapy investigational or authorized product. Xork, Genovis' IgG Protease, is licensed pursuant to an Exclusive License Agreement with Genovis, or the Genovis Agreement, as described in Note 16 to these consolidated financial statements. Astellas paid a $10.0 million upfront payment to the Company upon signing of the Astellas Agreement, and the Company is entitled to receive up to $340.0 million in future additional payments over the course of the partnership that are contingent on the achievement of various development and regulatory milestones and, if commercialized, sales thresholds for annual net sales where Xork is used as a pre-treatment for

an Astellas investigational or authorized product. The Company is also eligible for tiered royalty payments ranging from low to high single digits. Any proceeds received from milestone payments or royalties relating to Xork would be required to be distributed to holders of CVRs, net of certain deductions.

Pursuant to the Astellas Agreement, the Company will have the exclusive right and responsibility to complete research and development of Xork products and to conduct all preclinical studies and clinical trials for Xork for use in Pompe disease with an Astellas gene therapy investigational or authorized product, or the Xork Development Services. Astellas will reimburse the Company for 25% of all budgeted costs incurred to complete the development of Xork for use in Pompe disease with an Astellas gene therapy investigational or authorized product. The Company will have control and responsibility over regulatory filings, including any investigational drug applications, biologics license applications, and marketing authorization applications relating to the licensed product. Astellas will have the exclusive right and responsibility to research, develop, and commercialize Astellas products used in combination with Xork and will have control and responsibility over all regulatory filings, including any investigational drug applications, biologics license applications, and marketing authorization applications, relating to Astellas products and Astellas products used in combination with Xork.

The Company determined the Astellas Agreement represents a service arrangement under the scope of ASC 606. The Company determined that the sublicense of Xork to Astellas, the licensed know-how, and the Xork Development Services represent a single promise and performance obligation to be transferred to Astellas over time due to the nature of the promises in the contract. As such, the Company will recognize the transaction price as revenue utilizing the input method to measure the progress of satisfying the single performance obligation to Astellas.

In determining the transaction price, the Company concluded the upfront payment of $10.0 million and development cost reimbursements of $5.5 million will be included in the initial transaction price. All other development milestones will be fully constrained and will only be included in the transaction price when the applicable milestone is deemed probable of achievement. Each of these variable consideration items were evaluated under the most likely amount method to determine whether such amounts were probable of occurrence, or whether such amounts should be constrained until they become probable. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt and timing of such development milestones is outside the control of the Company and probability of success criteria is estimated. The Company will re-evaluate the transaction price in each reporting period, as uncertain events are resolved, or as other changes in circumstances occur. In accordance with ASC 606, the Company will only recognize revenue associated with sales-based milestones and royalties when the subsequent sales thresholds are reached and underlying sales occur, respectively. The Company determined that a significant financing component does not exist in its arrangement with Astellas. The Company also determined the options to negotiate additional fields, enter into a clinical supply agreement, and enter into a commercial supply agreement do not represent material rights under the Astellas Agreement. Astellas has the right to terminate the Astellas Agreement in its entirety or on a field-by-field basis, upon 90 days' written notice to the Company.

As of December 31, 2023, the Company recorded $2.3 million as a short-term contract liability and $3.5 million as a long-term contract liability, representing deferred revenue associated with the Astellas Agreement. As of December 31, 2023, the Company recorded a receivable of $0.3 million, representing billings for the Xork Development Services that are subject to reimbursement by Astellas. Revenue of $5.5 million related to the Astellas Agreement was recognized during the year ended December 31, 2023.

Takeda Pharmaceuticals USA, Inc.

License and Development Agreement

On October 1, 2021, the Company entered into a License Agreement, or the Takeda Agreement, with Takeda. Under the Takeda Agreement, the Company granted Takeda an exclusive license to the Company's ImmTOR technology initially for two specified disease indications within the field of lysosomal storage disorders. Takeda paid a $3.0 million upfront payment to the Company upon signing of the Takeda Agreement, and the Company was entitled to receive up to $1.124 billion in future additional payments over the course of the partnership that were contingent on the achievement of development or commercial milestones or Takeda's election to continue its activities at specified development stages. The Company was also eligible for tiered royalties on future commercial sales of any licensed products.

Pursuant to the Takeda Agreement, the Company determined the Takeda Agreement represented a service arrangement under the scope of ASC 606, and given the reversion of the rights under the Takeda Agreement represented a penalty in substance for a termination by Takeda, the contract term would remain the stated term of the Takeda Agreement. The Company determined that the research license, the licensed know-how, and the manufactured supply and delivery of materials represented a single promise and performance obligation to be transferred to Takeda over time due to the nature of the promises in the contract. The delivery of the manufactured supply was the predominant promise within the arrangement, as it was essential to the utility of the licensed intellectual property. The material supplied by the Company to Takeda was unique to the Company and cannot be obtained by other vendors. As such, consideration in the initial transaction price was allocated to the single performance obligation and the recognition period would not extend beyond the initial contractual period. The Company recognized the revenue associated with the upfront payment and combined single performance obligation utilizing the output method over the term that manufactured supply was delivered to Takeda.

In determining the transaction price, the Company concluded the payment associated with all the performance milestones was fully constrained and only included in the transaction price when the respective milestone was deemed probable of achievement. Each of these variable consideration items were evaluated under the most likely amount method to determine whether such amounts were probable of occurrence, or whether such amounts should be constrained until they become probable. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt and timing of such study milestones is outside the control of the Company and probability of success criteria is estimated. The Company re-evaluated the transaction price in each reporting period, as uncertain events were resolved, or as other changes in circumstances occurred. Takeda had the right to exercise covenant release rights on a field-by-field basis. If Takeda exercised its covenant release rights, we could have received exercise payments per indication and would have been entitled to significant development and commercial milestone payments and tiered royalties on commercial sales. The Company determined that a significant financing component did not exist in its arrangement with Takeda. The Company also determined the options to negotiate additional fields, pursue other products, enter into a supply agreement explore additional fields, and pursue additional development under the initial fields did not represent material rights under the agreement. Takeda had the right to terminate the Takeda Agreement in its entirety or on a field-by-field basis, upon 90 days' written notice to the Company.

On March 9, 2023, the Company was notified by Takeda of the achievement of the milestone event related to the completion of a non-clinical milestone for one of the specified disease indications within the field of lysosomal storage disorders under the Takeda Agreement. Accordingly, the Company received a milestone payment of $0.5 million during the year ended December 31, 2023.

The Takeda Agreement was terminated effective July 25, 2023, following Takeda's decision to discontinue discovery and pre-clinical activities in adeno-associated virus, or AAV, gene therapy.

As of December 31, 2023, the Company recorded no contract liability. As of December 31, 2022, the Company recorded $0.1 million as a short-term contract liability and no long-term contract liability representing deferred revenue associated with this agreement. Revenue of $0.6 million and $1.8 million related to the Takeda Agreement was recognized during the years ended December 31, 2023 and 2022, respectively.

Swedish Orphan Biovitrum

License and Development Agreement

On June 11, 2020, the Company and Sobi entered into a License and Development Agreement. Pursuant to the Sobi License, the Company agreed to grant Sobi an exclusive, worldwide (except as to Greater China) license to develop, manufacture and commercialize the SEL-212 drug candidate, which is currently in development for the treatment of chronic refractory gout. The SEL-212 drug candidate is a pharmaceutical composition containing a combination of SEL-037, or the Compound, and ImmTOR. Pursuant to the Sobi License, in consideration of the license, Sobi agreed to pay the Company a one-time, upfront payment of $75.0 million. Sobi has also agreed to make milestone payments totaling up to $630.0 million to the Company upon the achievement of various development and regulatory milestones and, if commercialized, sales thresholds for annual net sales of SEL-212, and tiered royalty payments ranging from the low double digits on the lowest sales tier to the high teens on the highest sales tier. Any proceeds received from milestone payments or royalties relating to the Sobi License would be required to be distributed to holders of CVRs, net of certain deductions.

Pursuant to the Sobi License, the Company agreed to supply (at cost) quantities of the Compound and ImmTOR as necessary for completion of the two Phase 3 clinical trials of SEL-212 (DISSOLVE I and DISSOLVE II) and a six-month placebo extension. The Company was required to supply quantities of the Compound until all rights to the Compound and any materials needed to manufacture the Compound were transferred to Sobi, which transfer occurred upon the execution of Amendment No. 1 to the License and Development Agreement on October 31, 2023. Sobi has agreed to reimburse the Company for all budgeted costs incurred to complete development of SEL-212, including but not limited to costs incurred while conducting and completing the Phase 3 DISSOLVE trials, except for any costs of additional development activities required that are related to ImmTOR and that are unrelated to SEL-212. Sobi will have control and responsibility over all regulatory filings, including any investigational drug applications (IND), biologics license applications (BLA), and marketing authorization applications (MAA) relating to the licensed product.

The transactions contemplated by the Sobi License were consummated on July 28, 2020. Sobi may terminate the Sobi License for any reason upon 180 days' written notice to the Company, whereby all rights granted under the Sobi License would revert back to the Company. In addition, if Sobi were to terminate the Sobi License, the Company has the option to obtain a license to all patents and know-how necessary to exploit SEL-212 in existence as of the termination date from Sobi in return for making an equitable royalty payment to Sobi.

Additionally, on June 11, 2020, the Company entered into the Sobi Purchase Agreement in connection with the Sobi License. The closing of the Sobi Private Placement occurred on July 31, 2020, following the closing of the transactions contemplated under the Sobi License. See Note 12 for details.

The Company determined that the Sobi License represents a service arrangement under the scope of ASC 606. In addition, given the Sobi License and Sobi Purchase Agreement were executed contemporaneously and negotiated as a package with a single commercial objective, the Company will account for the two agreements as a single contract. The term of the Sobi License commenced upon the effective date of July 28, 2020 and will continue on a product-by-product basis until the royalty terms for each country have expired. The royalty term for a given product begins upon the first commercial sale of the product in a country and ends at the later of ten years from the first commercial sale, expiration of the last valid patent claim covering the product and expiration of all regulatory exclusivity periods for the product in a country. Given the reversion of the rights under the Sobi License represents a penalty in substance for a termination by Sobi, the contract term would remain the stated term of the Sobi License.

The Company determined that the Sobi License contains three distinct performance obligations due to the nature of the promises in the contract, which includes conducting the Phase 3 DISSOLVE trials, Sobi's option to set-up a second source supplier, and a combined obligation comprised of the delivery of the license to SEL-212, transfer of the know-how and the manufacturing and delivery of SEL-212 supply for development, or the Combined License Obligation. As the set-up of a second source supplier is optional for Sobi and the Company will be reimbursed at cost for its efforts in the subsequent set-up and technology transfer, the option for this future service was determined to be at a significant and incremental discount to its standalone selling price and treated as a material right in the arrangement, namely a distinct performance obligation.

In determining the transaction price, the Company concluded the upfront payment of $75.0 million and the $5.0 million development milestone associated with the dosing of the first patient in the Phase 3 DISSOLVE trials were included in the transaction price. All other development milestones will be fully constrained and only be included in the transaction price when the respective milestone is deemed probable of achievement. Each of these variable consideration items was evaluated under the most likely amount method to determine whether such amounts were probable of occurrence, or whether such amounts should be constrained until they become probable. As part of the evaluation of the constraint, the Company considered numerous factors, including that receipt of such milestones is outside the control of the Company and probability of success criteria is estimated. The Company re-evaluates the transaction price in each reporting period, as uncertain events are resolved. In accordance with ASC 606, the Company will only recognize revenue associated with sales-based milestones and royalties when the subsequent sales thresholds are reached and underlying sales occur, respectively. In connection with the Sobi Purchase Agreement, the Company determined that the gross proceeds of $25.0 million from the Sobi Private Placement included a premium to the fair value of the Company's shares as of July 28, 2020 equal to approximately $14.5 million. The premium amount is included in the transaction price for revenue recognition.

The Company estimates and includes in the transaction price the total reimbursements to be received from Sobi for both the manufacturing and delivery of the Compound and ImmTOR as well as conducting the Phase 3 DISSOLVE trials. The Company determined that a significant financing component does not exist in its arrangement with Sobi.

The Company allocated the transaction price based on the relative standalone selling prices of the three distinct performance obligations. The Company estimated the standalone selling price of conducting the Phase 3 DISSOLVE trials by forecasting its anticipated costs and applying a margin reflective of the industry. The Company must determine the standalone selling price of the second source supplier option by determining the discount given to Sobi multiplied by the likelihood that Sobi will exercise the option in the future. Similar to the Phase 3 program estimate, the Company estimated the discount of the option by forecasting the set-up costs and applying a margin that is reflective of the industry. As the Company will be providing the set-up and technology transfer services and the future supply at cost, the discount of the option is equal to the margin amount. The Company considered discussions with Sobi as well as probability of regulatory success of SEL-212 in determining the likelihood of exercise. The Company estimated the standalone selling price of the Combined License Obligation by utilizing a discounted cash flow model.

The Company determined that the delivery of the supply to Sobi best represents the pattern of delivery of the Combined License Obligation as the supply is essential to the utility of the license and know-how. The Company will recognize the revenue allocated to the Combined License Obligation by utilizing the output method. The Company estimated the total supply of the Compound and ImmTOR to be required during the clinical trial period and will recognize revenue as this supply is shipped for use in the clinical trials. The Company will recognize the revenue allocated to the conducting of the Phase 3 DISSOLVE trials obligation by utilizing the input method. The Company estimated the total budgeted costs to be incurred over the Phase 3 DISSOLVE trials and will recognize revenue as these costs are incurred. The Company's costs best represent the pattern of transfer as these will capture all performance of the trials completed to date and can be readily measured. The Company will recognize the revenue allocated to the second source supplier option when the future services and goods are transferred.

On June 29, 2022, the Company completed enrollment of the DISSOLVE II trial. The completion of enrollment of the DISSOLVE II trial resulted in the achievement of a development milestone and a $10.0 million payment obligation from Sobi to the Company. This amount was added to the overall transaction price and payment was received during the year ended December 31, 2022.

On October 31, 2023, the Company and Sobi entered into Amendment No. 1 to the License and Development Agreement, pursuant to which the Company granted Sobi an exclusive license to manufacture ImmTOR solely in connection with Sobi's development of SEL-212 under the License and Development Agreement and transferred certain contracts and manufacturing equipment to Sobi. Additionally, in connection with entry into the amendment, Sobi agreed to make employment offers to certain of the Company's employees engaged in ImmTOR manufacturing activities on or prior to a specified date, and the Company agreed not to terminate the employment of such employees prior to such specified date. The Company maintains no responsibilities to Sobi to manufacture, or supply Sobi with, ImmTOR under the Sobi License.

As of December 31, 2023 and 2022, the Company recorded a total outstanding receivable of $4.6 million and $5.0 million, respectively, representing billings for the Phase 3 DISSOLVE program that are subject to reimbursement by Sobi. Additionally, as of December 31, 2023 and 2022, the Company recorded a total unbilled receivable of $3.0 million and $3.2 million, respectively, representing revenue earned but not yet billed for the Phase 3 DISSOLVE program. Revenue of $19.4 million and $82.6 million related to the Sobi License was recognized during the years ended December 31, 2023 and 2022, respectively, inclusive of $1.1 million of revenue recognized from performance obligations related to prior periods as a result of the change in transaction price during the year ended December 31, 2023.

Sarepta Therapeutics, Inc.

Research License and Option Agreement

In June 2020, the Company and Sarepta Therapeutics, Inc., or Sarepta, entered into a Research License and Option Agreement, or the Sarepta Agreement. Pursuant to the Sarepta Agreement, the Company agreed to grant Sarepta a license under the Company's intellectual property rights covering the Company's antigen-specific biodegradable nanoparticle encapsulating ImmTOR to research and evaluate ImmTOR in combination with

Sarepta's adeno-associated virus gene therapy technology, or gene editing technology, using viral or non-viral delivery, to treat Duchenne Muscular Dystrophy and certain Limb-Girdle Muscular Dystrophy subtypes, or the Indications. Sarepta initially had an option term of 24 months during which it could opt-in to obtain an exclusive license to further develop and commercialize the Product to treat at least one Indication, with a potential to extend the option term for an additional fee. The Company will supply ImmTOR to Sarepta for clinical supply on a cost-plus basis.

Sarepta paid a $2.0 million upfront payment to the Company upon signing of the Sarepta Agreement, and the Company is eligible to receive additional preclinical payments during the option term. If Sarepta opts-in to an exclusive license agreement, the Company could receive option exercise payments per Indication upon execution of the exclusive license, and the Company would be entitled to significant development and commercial milestone payments and tiered royalties ranging from the mid-to-high single digits based on net sales.

Pursuant to the Sarepta Agreement, the Company determined the Sarepta Agreement represents a service arrangement under the scope of ASC 606, with a 24-month contract duration. Given the reversion of the rights under the Sarepta Agreement represents a penalty in substance for a termination by Sarepta, the contract term would remain the stated term of the Sarepta Agreement.

The Company determined that the Sarepta Agreement and supply obligation including the delivery of the research license, the licensed know-how, the manufactured supply and delivery of materials represent a single promise and performance obligation to be transferred to Sarepta over time due to the nature of the promises in the contract. The delivery of the manufactured supply is the predominant promise within the arrangement, as it is essential to the utility of the licensed intellectual property. As such, consideration in the initial transaction price will be allocated to the single performance obligation based on the contractual price.

In determining the transaction price, the Company concluded the payment associated with all the performance milestones will be fully constrained and only be included in the transaction price when the respective milestone is deemed probable of achievement. Each of these variable consideration items was evaluated under the most likely amount method to determine whether such amounts were probable of occurrence, or whether such amounts should be constrained until they become probable. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt of such study milestones is outside the control of the Company and probability of success criteria is estimated.

The Company also determined the option to enter into a future commercial license agreement and extend the term of the option does not represent a material right since it was not priced at an incremental discount. Sarepta may terminate the Sarepta Agreement for any reason upon 30 days' written notice to the Company. The Sarepta Agreement contains other customary terms and conditions, including representations and warranties, covenants, termination, and indemnification obligations in favor of each party.

On April 13, 2021, the Company was notified by Sarepta of the achievement of the milestone event related to the completion of a non-clinical study for Duchenne muscular dystrophy and certain limb-girdle muscular dystrophies under the Sarepta Agreement. Accordingly, the Company received a milestone payment of $3.0 million during the three months ended June 30, 2021.

On June 10, 2022, the Company was notified by Sarepta that Sarepta would be extending their options under the Sarepta Agreement. In exchange for a nine-month extension to Sarepta's options to both Duchenne muscular dystrophy and certain limb-girdle muscular dystrophies, the Company received a milestone payment of $2.0 million during the year ended December 31, 2022.

On June 15, 2022, the Company was notified by Sarepta of the achievement of a milestone event related to certain preclinical study milestones under the Sarepta Agreement. Accordingly, the Company received a milestone payment of $4.0 million during the year ended December 31, 2022.

On March 13, 2023, the Company was notified by Sarepta that Sarepta would not be exercising its exclusive option under the Sarepta Agreement. The Sarepta Agreement terminated upon the expiration of the option in March 2023.

As of December 31, 2023, the Company recorded no contract liability. As of December 31, 2022, the Company recorded $0.5 million as a short-term contract liability representing deferred revenue associated with this agreement. Revenue of $0.5 million and $10.2 million related to the Sarepta Agreement was recognized during the years ended December 31, 2023 and 2022, respectively.

Asklepios Biopharmaceutical, Inc.

License Agreement for Pompe Disease

In December 2019, the Company and Asklepios Biopharmaceutical, Inc., or AskBio, entered into a license agreement, or the AskBio License Agreement. Pursuant to the AskBio License Agreement, AskBio exercised its option to exclusively license the Company's intellectual property rights covering the Company's ImmTOR platform to research, develop, and commercialize certain AAV gene therapy products utilizing ImmTOR, and targeting the GAA gene, or derivatives thereof, to treat Pompe Disease.

On November 18, 2022, both parties agreed to mutually terminate the AskBio License Agreement. Therefore, the remaining contract liability of $7.0 million was recognized as revenue during the period ended December 31, 2022.

Spark Therapeutics, Inc.

In December 2016, the Company entered into a license and option agreement, or the Spark License Agreement, with Spark Therapeutics, Inc., or Spark, pursuant to which the Company and Spark agreed to collaborate on the development of gene therapies for certain targets utilizing the ImmTOR platform. The Spark License Agreement provided Spark with certain exclusive, worldwide, royalty bearing licenses to the Company's intellectual property, allowing Spark to develop and commercialize gene therapies in combination with ImmTOR for Factor VIII, an essential blood clotting protein relevant to the treatment of hemophilia A, the initial target.

On January 18, 2022, both parties agreed to mutually terminate the Spark License Agreement. Therefore, the remaining contract liability of $9.2 million was recognized as revenue during the year ended December 31, 2022.

Transaction Price Allocated to Future Performance Obligations

Remaining performance obligations represent the transaction price of contracts for which work has not been performed (or has been partially performed). As of December 31, 2023, the aggregate amount of the transaction price allocated to remaining performance obligations was $5.8 million.

Contract Balances from Contracts with Customers (*Astellas, Takeda, Sobi, Sarepta, AskBio, and Spark*)

The following table presents changes in the Company's contract liabilities during the year ended December 31, 2023 (in thousands):

	Balance at beginning of period	Additions	Deductions	Balance at end of period
Contract liabilities:				
Deferred revenue	$593	$10,500	$(5,244)	$5,849
Total contract liabilities	$593	$10,500	$(5,244)	$5,849

15. Related-Party Transactions

November 2023 Securities Purchase Agreement

On November 13, 2023, the Company entered into the Securities Purchase Agreement with (i) Dr. Timothy A. Springer, (ii) TAS Partners LLC, an affiliate of Dr. Springer, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat Kalayoglu, in which the Company agreed to issue and sell an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million (see Note 11). The November 2023 Private Placement includes a delayed settlement mechanism, and as a result, the below issuances and sales to related parties of the Company were made during the year ended December 31, 2023.

Name	Shares of Series A Preferred Stock purchased	Total aggregate purchase price
Timothy A. Springer, Ph.D.	24,785.081	$10,000,000
TAS Partners LLC (affiliate of Timothy A. Springer, Ph.D.)	24,785.081	$10,000,000
Seven One Eight Three Four Irrevocable Trust (affiliate of Murat Kalayoglu, MD, Ph.D.)	619.627	$ 250,000

April 2022 Offering

During the year ended December 31, 2022, the Company completed the 2022 Offering as described in Note 12. The following table sets forth the number of shares of Common Stock and 2022 Warrants purchased in the 2022 Offering by directors and executive officers, as of the time of the Offering, and related parties thereto:

Name	Shares of Common Stock purchased	2022 Warrants purchased	Total aggregate purchase price
TAS Partners LLC (affiliate of Timothy A. Springer, Ph.D.)	6,681,600	5,011,200	$9,421,056

Warrant liability reclassification

During the year ended December 31, 2022, the Company amended the terms of certain of the outstanding 2019 Warrants held by members of the Company's Board of Directors and remeasured the Amended 2019 Warrants as described in Note 6.

Consulting Services

The Company entered into consulting agreements with its founders to serve on its Scientific Advisory Board, effective January 1, 2020 to December 31, 2021, under which they were paid quarterly for their services. The Company incurred expenses for consulting services provided by its founders totaling $0.1 million during the year ended December 31, 2021. No expenses were incurred for the years ended December 31, 2023 and 2022.

16. Collaboration and License Agreements

Biogen MA, Inc.

On September 8, 2023, the Company entered into a non-exclusive, sublicensable, worldwide, perpetual patent license agreement, or the Biogen Agreement with Biogen MA, Inc., or Biogen to research, develop, make, use, offer, sell and import products or processes containing or using an engineering T-cell modified with an mRNA comprising, or encoding a protein comprising, certain sequences licensed under the Biogen Agreement for the prevention, treatment, palliation and management of autoimmune diseases and disorders, excluding cancers, neoplastic disorders, and paraneoplastic disorders. The Company is not obligated to pay Biogen any expenses, fees, or royalties.

The Company may terminate the Biogen Agreement for any reason or no reason, and Biogen may terminate the agreement after a notice-and-cure period of 30 days if the Company fails to pay a fee owed to Biogen or for any other material breach of the agreement. The Biogen Agreement will otherwise expire when all claims of all issued patents within the patents and patent applications licensed to the Company under the Biogen Agreement have expired or been finally rendered revoked, invalid or unenforceable by a decision of a court or government agency.

National Cancer Institute of the National Institutes of Health

Effective September 16, 2019, the Company entered into a nonexclusive, worldwide license agreement, or the NCI Agreement with the U.S. Department of Health and Human Services, represented by the National Cancer Institute of the National Institutes of Health, or NCI.

Under the NCI Agreement, the Company was granted a license under certain NCI patents and patent applications designated in the agreement, to make, use, sell, offer and import products and processes within the scope of the

patents and applications licensed under the NCI Agreement when developing and manufacturing anti-BCMA CAR-T cell products for the treatment of myasthenia gravis, pemphigus vulgaris, and immune thrombocytopenic purpura according to methods designated in the NCI Agreement.

In connection with the Company's entry into the NCI Agreement, Old Cartesian paid to NCI a one-time $0.1 million license royalty payment. Under the NCI Agreement, the Company is further required to pay NCI a low five-digit annual royalty. The Company must also pay earned royalties on net sales in a low single-digit percentage and pay up to $0.8 million in benchmark royalties upon the Company's achievement of designated benchmarks that are based on the commercial development plan agreed between the parties.

Under the NCI Agreement, the Company must use reasonable commercial efforts to bring licensed products and licensed processes to the point of Practical Application (as defined in the NCI Agreement). Upon the Company's first commercial sale, the Company must use reasonable commercial efforts to make licensed products and licensed processes reasonably accessible to the United States public. After the Company's first commercial sale, the Company must make reasonable quantities of licensed products or materials produced via licensed processes available to patient assistance programs and develop educational materials detailing the licensed products. Unless the Company obtains a waiver from NCI, the Company must have licensed products and licensed processes manufactured substantially in the United States. Prior to the first commercial sale, upon NCI's request, the Company is obligated to provide NCI with commercially reasonable quantities of licensed products made through licensed processes to be used for in vitro research.

Additionally, the Company must use reasonable commercial efforts to initiate a Phase 3 clinical trial of a licensed product by the fourth quarter of 2024, submit a BLA with respect to a licensed product by the fourth quarter of 2026, and make a first commercial sale of a licensed product by the fourth quarter of 2028.

The NCI Agreement terminates upon the expiration of the last to expire of the patent rights licensed thereunder, if not sooner terminated. NCI has the right to terminate this agreement, after giving written notice and providing a cure period in accordance with its terms, if the Company is in default of a material obligation. The Company has the unilateral right to terminate the agreement in any country or territory by giving NCI 60 days' written notice. The Company agreed to indemnify NCI against any liability arising out of the Company's, sublicensees' or third parties' use of the licensed patent rights and licensed products or licensed processes developed in connection with the licensed patent rights.

Ginkgo Bioworks Holdings, Inc.

Collaboration and License Agreements

On October 25, 2021, the Company entered into a Collaboration and License Agreement, or the First Ginkgo Agreement, with Ginkgo. Under the First Ginkgo Agreement, Ginkgo will design next generation IgA proteases with potentially transformative therapeutic potential. In return, Ginkgo is eligible to earn both upfront research and development fees and milestone payments, including certain milestone payments for fixed fair values in the form of the Company's common stock, clinical and commercial milestone payments of up to $85.0 million in cash. The First Ginkgo Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company will expense costs related to the First Ginkgo Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company is accounting for the contingently issuable shares to be issued in exchange for the license obtained from Ginkgo as a liability classified stock-based compensation arrangement with a non-employee which will be recognized when achievement of the milestones is probable. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Ginkgo tiered royalties ranging from low-single digit to high-single digit percentages of annual net sales of collaboration products which will be expensed as the commercial sales occur.

On January 3, 2022, the Company entered into a Collaboration and License Agreement, or the Second Ginkgo Agreement, with Ginkgo. Under this agreement, the Company will engage with Ginkgo to develop AAV capsids designed to enhance transduction efficiency and transgene expression. In return, Ginkgo is eligible to earn both upfront research and development fees and milestone payments, including certain milestone payments in the form of shares of the Company's common stock, clinical and commercial milestone payments of up to $207 million in cash. The Second Ginkgo Agreement was assessed for collaboration components and was determined not to be

within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company will expense costs related to the Second Ginkgo Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company is accounting for the contingently issuable shares of common stock to be issued in exchange for the license obtained from Ginkgo as a liability-classified, stock-based compensation arrangement with a non-employee which will be recognized when achievement of the milestones is probable. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Ginkgo tiered royalties ranging from low-single digit to high-single digit percentages of annual net sales of collaboration products which will be expensed as the commercial sales occur.

On June 13, 2022, the Company was notified of the achievement of the midpoint of the technical development plan under the First Ginkgo Agreement by Ginkgo. This milestone resulted in the payment of $0.5 million and issuance of 892,857 shares of the Company's common stock then-valued at $1.0 million to Ginkgo during the year ended December 31, 2022.

On July 19, 2023, the Company and Ginkgo mutually agreed that the completion of the technical development plan's midpoint task under the Second Ginkgo Agreement had been achieved as of June 30, 2023. This milestone resulted in the payment of $1.0 million and issuance of 1,339,285 shares of the Company's common stock then-valued at $1.5 million to Ginkgo during the year ended December 31, 2023.

Genovis AB (publ.)

License Agreement

On October 21, 2021, the Company entered into the Genovis Agreement with Genovis. Under the Genovis Agreement, the Company paid to Genovis an upfront payment in exchange for an exclusive license to Genovis' IgG Protease, Xork, enzyme technology across all therapeutic uses in humans, excluding research, preclinical, diagnostic and other potential non-therapeutic applications of the enzyme. Genovis is eligible to earn from the Company development and sales-based milestones and sublicensing fees. The Genovis Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company will expense costs related to the Genovis Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company will assess the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, will amortize these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company is also obligated to pay Genovis tiered royalties of low double digit percentages of worldwide annual net sales of collaboration products which will be expensed as the commercial sales occur.

In February 2023, the Company made a $4.0 million payment to Genovis as a result of the sublicense of Xork to Astellas. See Note 14 to these consolidated financial statements for further discussion on the Astellas Agreement.

Cyrus Biotechnology, Inc.

Collaboration and License Agreement

On September 7, 2021, the Company and Cyrus entered into the Cyrus Agreement. Pursuant to the Cyrus Agreement, Cyrus agreed to grant the Company an exclusive, worldwide license to certain intellectual property to form a protein engineering collaboration combining the Company's ImmTOR platform with Cyrus' ability to redesign protein therapeutics. The lead program was a proprietary interleukin-2, or IL-2, protein agonist designed to selectively promote expansion of regulatory T cells for treatment of patients with autoimmune diseases and other deleterious immune conditions. In return for the licensed intellectual property, the Company made an upfront payment and was obligated to pay certain discovery, development, and sales-based milestones which could have potentially totaled up to approximately $1.5 billion across multiple programs. The Cyrus Agreement was assessed for collaboration components and was determined not to be within the scope of ASC 808 as the risk and rewards are not shared by both parties. The Company expensed costs related to the Cyrus Agreement as incurred until regulatory approval is received in accordance with ASC 730. The Company assessed the capitalization of costs incurred after the receipt of regulatory approval and, if applicable, would have amortized

these payments based on the expected useful life of each asset, typically based on the expected commercial exclusivity period. The Company was also obligated to pay Cyrus tiered royalties ranging from mid-single digit to low-double digit percentages of annual net sales of collaboration products which would have been expensed as commercial sales occur.

On June 13, 2022, the Company and Cyrus mutually agreed that the preclinical key in-vitro success milestone had been achieved.

In October 2023, the Company notified Cyrus of its termination of the Cyrus Agreement, effective December 29, 2023.

Stock Purchase Agreement

Additionally, on September 7, 2021, the Company entered into a stock purchase agreement, or the Series B Preferred Stock Purchase Agreement, in connection with the Cyrus Agreement. Pursuant to the Series B Preferred Stock Purchase Agreement, the Company purchased 2,326,934 shares of Cyrus' Series B Preferred Stock, par value $0.0001 per share, at a purchase price of $0.8595 per share for $2.0 million.

In accordance with ASC 810, the Company has a variable interest in Cyrus resulting from its equity investment. The Company will share in Cyrus' expected losses or receive a portion of its expected returns and absorb the variability associated with changes in the entity's net assets. However, the Company is not the primary beneficiary as it does not have the power to direct the activities most significant to Cyrus, and therefore it is not required to consolidate Cyrus. The Company has recognized the $2.0 million investment of Cyrus' Series B Preferred Stock at cost on the purchase date.

As of December 31, 2023, no impairment indicators are present and therefore the carrying value of the investment in Cyrus is $2.0 million on the accompanying consolidated balance sheet. The Company's maximum exposure to loss related to this VIE is limited to the carrying value of the investment. The Company has not provided financing to Cyrus other than the amount contractually required by the Series B Preferred Stock Purchase Agreement.

Asklepios Biopharmaceutical, Inc.

Feasibility Study and License Agreement

In August 2019, the Company entered into a feasibility study and license agreement with AskBio, or the AskBio Collaboration Agreement. Pursuant to the AskBio Collaboration Agreement, the Company and AskBio agreed to license intellectual property rights to each other as part of a collaboration to research, develop, and commercialize certain AAV gene therapy products utilizing the Company's ImmTOR platform to enable re-dosing of such AAV gene therapy products to treat serious rare and orphan genetic diseases for which there is a significant unmet medical need.

Pursuant to the AskBio Collaboration Agreement, the Company and AskBio agreed to conduct proof of concept studies to potentially validate the use of ImmTOR in conjunction with AskBio's AAV gene therapy, or SEL-302, (previously disclosed as MMA-101, in combination with ImmTOR) for the treatment of methylmalonic acidemia, or MMA, to mitigate the formation of neutralizing anti-AAV capsid antibodies. On April 29, 2021, the Company was notified by AskBio that it intended to opt-out of development of the MMA indication.

The Company and AskBio shared responsibility for the research, development and commercialization of products developed under the SEL-399 program collaboration. The parties also shared research, development, and commercialization costs equally for all collaboration products, but with a right of either party to opt out of certain products, and thereby not be required to share costs for such products. Each party would have received a percentage of net profits under the collaboration equal to the percentage of shared costs borne by such party in the development of such product. Pursuant to the AskBio Collaboration Agreement, AskBio was responsible for manufacturing the AAV capsids and AAV vectors and the Company was responsible for manufacturing ImmTOR.

The Company and AskBio mutually agreed to the termination of the AskBio Collaboration Agreement, effective December 13, 2023.

For the years ended December 31, 2023 and 2022, the Company recognized $0.1 million and $0.9 million, respectively, of collaboration expense under the AskBio Collaboration Agreement in which actual costs incurred by both parties approximate a 50% cost share.

Shenyang Sunshine Pharmaceutical Co., Ltd

In May 2014, the Company entered into a license agreement, or the 3SBio License, with Shenyang Sunshine Pharmaceutical Co., Ltd., or 3SBio. The Company has paid to 3SBio an aggregate of $7.0 million in upfront and milestone-based payments under the 3SBio License as of December 31, 2023. The Company is required to make future payments to 3SBio contingent upon the occurrence of events related to the achievement of clinical and regulatory approval milestones of up to an aggregate of $15.0 million for products containing the Company's ImmTOR platform.

17. Income Taxes

The Company provides for income taxes under ASC 740. Under ASC 740, the Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax bases of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse.

On November 13, 2023, the Company acquired, in accordance with the terms of the Merger Agreement, the assets of Old Cartesian. In accordance with ASC 805-740-25-3, recognition of deferred tax assets and liabilities is required for substantially all temporary differences and acquired tax carryforwards and credits. The Company has computed estimated temporary differences and acquired tax carryforwards and credits as of the transaction date. The Company will not have tax basis in IPR&D booked as part of the purchase accounting. For accounting purposes, the IPR&D will not be amortized and only subject to impairment review and testing. Though the tax effects may be delayed indefinitely, ASC 740-10-55-63 states that "deferred tax liabilities may not be eliminated or reduced because a reporting entity may be able to delay the settlement of those liabilities by delaying the events that would cause taxable temporary differences to reverse." As such, the Company can potentially only utilize indefinite-lived assets as it relates to this indefinite lived intangible deferred tax liability reversal. As such, the Company has booked a deferred tax liability for the portion of the liability that cannot be reduced based on scheduling. Additionally, a portion of this target deferred tax liability is offset with the Company's pre-Merger deferred tax assets on a combined basis, and as such the portion of deferred tax liability reduced by the Company's pre-Merger deferred tax assets has been charged to income rather than to goodwill.

For the year ended December 31, 2023, the Company recognized a current tax benefit, of $19.0 million. For the year ended December 31, 2022, the Company recognized a current tax benefit for penalty abatements received of $0.6 million. For the year ended December 31, 2021, the Company had recorded a tax expense of $16.0 million, inclusive of penalties and interest of $1.3 million assessed as of December 31, 2021. The following table reconciles the federal statutory income tax rate to the Company's effective income tax rate:

	Year Ended December 31,		
	2023	2022	2021
Statutory U.S. federal rate	21.0 %	21.0 %	21.0 %
State income taxes - net of federal benefit	2.3 %	1.6 %	(166.0)%
Permanent items	(1.6)%	(18.6)%	8.3 %
Research tax credits	0.6 %	(3.2)%	55.0 %
Deferred revenue	— %	— %	156.5 %
Other	— %	— %	(3.7)%
Change in fair value of forward contract liabilities	(13.2)%	— %	— %
Valuation allowance, net	2.8 %	(4.4)%	(230.1)%
Stock-based compensation	(3.9)%	1.8 %	(5.2)%
Effective income tax rate	8.0 %	(1.8)%	(164.2)%

The tax effects of temporary differences that give rise to the Company's net deferred tax assets are as follows (in thousands):

	Year Ended December 31,	
	2023	2022
Deferred Tax Assets		
Net operating loss carryforwards	$ 29,841	$ 17,015
Research and development credits	5,649	2,806
Stock-based compensation expense	8	5,892
Other expenses	705	1,697
Deferred revenue	84,626	83,417
Operating lease liabilities	2,718	3,186
R&E Capitalization	19,778	9,588
Patent and license costs	9,140	7,472
Gross deferred tax assets	152,465	131,073
Deferred Tax Liabilities		
Intangible assets	$ (41,144)	$ —
Depreciation	(128)	(81)
Operating lease right-of-use assets	(2,751)	(3,174)
Gross deferred tax liabilities	(44,023)	(3,255)
Net deferred tax assets before valuation allowance	108,442	127,818
Valuation allowance	(124,295)	(127,818)
Net deferred tax assets/(liabilities)	$ (15,853)	$ —

The Company has provided a full valuation allowance against its net deferred tax assets, outside of the indefinite tax liability booked as part of the Merger. The Company believes that it is more likely than not that the net deferred tax assets will not be realized.

Realization of future tax benefits is dependent on many factors, including the Company's ability to generate taxable income. The Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets and concluded that it is more likely than not that the Company will not realize the benefit of its net deferred tax assets. The valuation allowance decreased by $3.5 million for the year ended December 31, 2023, primarily as a result of tax benefit booked as part of the Merger. The valuation allowance decreased by $1.5 million for the year ended December 31, 2022, primarily as a result of pre-tax income and credits. As of December 31, 2023, the Company is in the process of winding down operations in Russia and does not expect any tax liability relating to such operations.

At December 31, 2023, the Company has federal net operating loss carryforward of $108.7 million, which can be carried forward indefinitely, subject to an 80% limitation and state net operating loss carryforward of $110.3 million, which will expire at various times through 2043. The Company has $4.9 million and $0.9 million, respectively, of federal and state research and development tax credit carryforwards, which will expire at various times through 2043. Utilization of the NOL carryforwards and research and orphan drug credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, and similar state law due to ownership changes that could occur in the future.

These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income. If the Company experiences a change of control, as defined by Section 382 of the Code and similar state law, utilization of the NOL carryforwards or research and orphan drug credit carryforwards may be subject to an annual limitation under Section 382 of the Code, which is determined by first multiplying the value of the Company's stock at the time of the ownership change by the applicable long-term tax-exempt rate, and then could be subject to additional adjustments, as required. Any limitation may result in expiration of a portion of the NOL carryforwards or research and orphan drug credit carryforwards before utilization. The Company

performed an analysis of ownership changes through December 31, 2023. Based on this analysis, the Company does not believe that any of its tax attributes through December 31, 2023 will expire unutilized due to Section 382 limitations. To the extent the Company enters into future equity transactions, there could be a limitation on the Company's tax attributes.

The Company applies ASC 740, *Income Taxes* to uncertain tax positions. As of the adoption date on January 1, 2010 and through December 31, 2023, the Company had no unrecognized tax benefits or related interest and penalties accrued.

During 2023, the Company completed a detailed study of its research and development and orphan drug credits through December 31, 2022. As a result, the Company adjusted its deferred tax asset balances and the impacts are included in the research tax credits and state income taxes - net of federal benefit lines in the effective rate reconciliation above.

The Tax Cuts and Jobs Act requires taxpayers to capitalize and amortize, rather than deduct, research and experimental, or R&E, expenditures under section 174 for tax years beginning after December 31, 2021. These rules became effective for the Company during the year ended December 31, 2022. As a result, the Company has capitalized R&E costs of $44.7 million and $29.3 million for the years ended December 31, 2023 and December 31, 2022, respectively. The Company will amortize these costs for tax purposes over five years if the R&E was performed in the U.S. and over 15 years if the R&E was performed outside the U.S.

Interest and penalty charges, if any, related to unrecognized tax benefits would be classified as income tax expense in the accompanying statement of operations. As of December 31, 2023, the Company had no accrued interest related to uncertain tax positions.

The statute of limitations for assessment by the Internal Revenue Service and Massachusetts tax authorities is open for tax years since inception as the Company claimed research tax credits on its 2020 tax return which remains open for examination for the 2020 year as well as for any year in which a credit has been claimed for. The Company files income tax returns in the United States and Massachusetts. There are currently no federal, state or foreign audits in progress.

18. Defined Contribution Plan

The Company maintains a defined contribution plan, or the 401(k) Plan, under Section 401(k) of the Internal Revenue Code. 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 pretax basis. The 401(k) Plan provides for matching contributions on a portion of participant contributions pursuant to the 401(k) Plan's matching formula. As of January 2022, all matching contributions vest ratably over two years and participant contributions vest immediately. Contributions by the Company totaled $0.3 million, $0.3 million, and $0.2 million during each of the years ended December 31, 2023, 2022 and 2021, respectively.

19. Commitments and Contingencies

As of December 31, 2023, the Company was not a party to any litigation that could have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

Other

As permitted under Delaware law, the Company indemnifies its directors for certain events or occurrences while the director is, or was, serving at the Company's request in such capacity. The term of the indemnification is for the director's lifetime. The maximum potential amount of future payments the Company could be required to make is unlimited; however, the Company has directors' insurance coverage that limits its exposure and enables it to recover a portion of any future amounts paid. The Company also has indemnification arrangements under certain of its facility leases that require it to indemnify the landlord against certain costs, expenses, fines, suits, claims, demands, liabilities, and actions directly resulting from certain breaches, violations, or non-performance of any covenant or condition of the Company's lease. The term of the indemnification is for the term of the related lease agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. To date, the Company had not experienced any material losses related to any of its indemnification obligations, and no material claims with respect thereto were outstanding.

The Company is a party in various other contractual disputes and potential claims arising in the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect the Company's business, financial position, results of operations or cash flows.

20. Restructuring

In April 2023, in light of current market conditions, the Board of Directors, took steps to extend the Company's cash runway by pausing further development of SEL-302 for the treatment of MMA, and conducting a targeted headcount reduction. On August 17, 2023, the Company announced additional steps to extend cash runway and maximize value for stockholders by continuing to prioritize development of SEL-212 and support of its collaboration with Astellas for Xork, and pausing further development of all of the Company's other clinical and preclinical product candidates that it was no longer actively advancing.

As a result of these measures, the Company implemented a restructuring plan resulting in an approximate 79% reduction of the Company's existing headcount by December 31, 2023. The Company recognized restructuring expenses consisting of one-time cash severance payments and other employee-related costs of $6.4 million during the year ended December 31, 2023. Cash payments for employee related restructuring charges of $2.5 million were paid as of December 31, 2023. The Company recorded $5.6 million and $0.8 million based on each employee's role to research and development and general and administrative operating expense categories, respectively, on its consolidated statements of operations and comprehensive income (loss) for the year ended December 31, 2023.

The following table summarizes the change in the Company's accrued restructuring balance (in thousands):

	Beginning Balance December 31, 2022	Charges	Payments	Ending Balance December 31, 2023
Severance liability	$—	$6,431	$2,535	$3,896

21. Subsequent Events

On February 28, 2024, the Company entered into a lease agreement with 7495 RP, LLC, or the Landlord, pursuant to which it agreed to lease from the Landlord the manufacturing space located at 7495 New Horizon Way, Frederick, Maryland, or the Frederick Lease Agreement. The space consists of 19,199 leasable square feet of integrated manufacturing and office space. The initial term of the Frederick Lease Agreement is expected to commence no later than April 1, 2024, once the Landlord has obtained legal possession of the premises free of the existing tenant and delivered full possession of the premises to the Company, or the Commencement Date. The Frederick Lease Agreement will terminate seven full lease years following the Commencement Date which, assuming a Commencement Date of April 1, 2024, will be May 31, 2031. The Company will have one option to extend the term of the Frederick Lease Agreement for a period of five years. The base rent for the initial term is $0.1 million per month.

Cartesian Therapeutics, Inc.
Balance Sheets
(Amounts in thousands, except share data)
(Unaudited)

	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 6,875	$ 12,001
Accounts receivable	994	994
Payroll tax credit receivable	248	351
Prepaid expenses and other current assets	51	59
Total current assets	$ 8,168	$ 13,405
Non-current assets:		
Property and equipment, net	228	197
Right-of-use asset, net	891	983
Security deposit	25	25
Total assets	$ 9,312	$ 14,610
Liabilities, preferred stock and stockholders' deficit		
Current liabilities:		
Lease liability	$ 273	$ 228
NIH liability	569	461
Accrued expenses and other current liabilities	1,513	949
Total current liabilities	$ 2,355	$ 1,638
Non-current liabilities:		
Lease liability, net of current	743	880
Total liabilities	$ 3,098	$ 2,518
Commitments and contingencies (Note 10)		
Series A Preferred Stock; $0.01 par value, 220 authorized, 219.125 issued and outstanding as of September 30, 2023 and December 31, 2022	9,623	9,623
Series B Preferred Stock; $0.01 par value, 110 authorized, 109.267 issued and outstanding as of September 30, 2023 and December 31, 2022	7,128	7,128
Series B-1 Preferred Stock; $0.01 par value, 77 authorized, 65.017 issued and outstanding as of September 30, 2023 and December 31, 2022	3,162	3,162
Series B-2 Preferred Stock; $0.01 par value, 195 authorized, 193.644 issued and outstanding as of September 30, 2023 and December 31, 2022	12,144	12,144
Series B-2 Preferred Stock Subscription Receivable	—	(1,333)
Stockholders' deficit:		
Common stock, $0.01 par value, 3,200 authorized, 1,244.625 issued and outstanding as of September 30, 2023 and 1,240.625 issued and outstanding as of December 31, 2022	—	—
Additional paid-in capital	7,985	7,432
Accumulated deficit	(33,828)	(26,064)
Total stockholders' deficit	$(25,843)	$(18,632)
Total liabilities, preferred stock and stockholders' deficit	$ 9,312	$ 14,610

The accompanying notes are an integral part of these unaudited financial statements.

Cartesian Therapeutics, Inc.
Statements of Operations and Comprehensive Loss
(Amounts in thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2023	2022
Grant revenue:	$ —	$ 1,035
Operating expenses:		
Research and development	6,965	5,273
General and administrative	1,286	1,069
Total operating expenses	8,251	6,342
Loss from operations	(8,251)	(5,307)
Other income, net:		
Interest income	311	20
Other income, net	176	101
Total other income	487	121
Net loss	$(7,764)	$(5,186)

The accompanying notes are an integral part of these unaudited financial statements.

Cartesian Therapeutics, Inc.
Statements of Preferred Stock and Stockholders' Deficit
(Amounts in thousands, except share amounts)
(Unaudited)

	Series A Preferred Stock		Series B Preferred Stock		Series B-1 Preferred Stock		Series B-2 Preferred Stock		Series B-2 Preferred Stock Subscription Receivable	Series A Preferred Stock		Series B Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount		Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2022	219.125	$9,623	109.267	$7,128	65.017	$3,162	193.644	$12,144	$(1,333)	—	$—	—	$—	1,240.625	$—	$7,432	$(26,064)	$(18,632)
Subscription Receivable from preferred stockholders	—	—	—	—	—	—	—	—	1,333	—	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	461	—	461
Exercise of options to purchase common stock	—	—	—	—	—	—	—	—	—	—	—	—	—	4.000	—	92	—	92
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(7,764)	(7,764)
Balance at September 30, 2023	219.125	$9,623	109.267	$7,128	65.017	$3,162	193.644	$12,144	$ —	—	$—	—	$—	1,244.625	$—	$7,985	$(33,828)	$(25,843)

	Series A Preferred Stock		Series B Preferred Stock		Series B-1 Preferred Stock		Series B-2 Preferred Stock		Series B-2 Preferred Stock Subscription Receivable	Series A Preferred Stock		Series B Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount		Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2021	219.125	$9,623	109.267	$7,128	65.017	$3,162	—	$—	$—	—	$—	—	$—	1,237.625	$—	$6,644	$(19,609)	$(12,965)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	579	—	579
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(5,186)	(5,186)
Balance at September 30, 2022	219.125	$9,623	109.267	$7,128	65.017	$3,162	—	$—	$—	—	$—	—	$—	1,237.625	$—	$7,223	$(24,795)	$(17,572)

The accompanying notes are an integral part of these unaudited financial statements.

Cartesian Therapeutics, Inc.
Statements of Cash Flows
(Amounts in thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2023	2022
Cash flows from operating activities		
Net loss	$ (7,764)	$ (5,186)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation expense	69	88
Non-cash lease expense	92	157
Stock-based compensation expense	461	579
Changes in operating assets and liabilities:		
Accounts receivable	—	2,377
Payroll tax credit receivable	103	(99)
Prepaid expenses and other current assets	8	15
Operating lease liability	(92)	(120)
Deferred revenue	—	54
NIH liability	108	39
Accrued expenses and other current liabilities	514	240
Net cash used in operating activites	(6,501)	(1,856)
Cash flows from investing activities		
Purchases of property and equipment	(50)	(151)
Net cash used in investing activities	(50)	(151)
Cash flows from financing activities		
Net proceeds from issuance of Series B-2 Preferred Stock	1,333	—
Proceeds from exercise of stock options	92	—
Net cash provided by financing activities	1,425	—
Net change in cash and cash equivalents	(5,126)	(2,007)
Cash and cash equivalents at beginning of period	12,001	4,735
Cash and cash equivalents at end of period	$ 6,875	$ 2,728
Noncash investing and financing activities		
Purchase of equipment not yet paid	$ 50	$ —

The accompanying notes are an integral part of these unaudited financial statements.

Cartesian Therapeutics, Inc.
Notes to the Unaudited Financial Statements

1. Description of the Business

Cartesian Therapeutics, Inc. (the Company) is a clinical-stage cell therapy company engaged in the research and development of therapies for autoimmune diseases. The Company was incorporated in Delaware in December 2010, and is based in Gaithersburg, Maryland.

Since inception, the Company has devoted its efforts principally towards research and development, recruiting personnel, and raising capital. The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. Product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel infrastructure and extensive compliance-reporting capabilities.

There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, or maintained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies.

Unaudited Interim Financial Information

The accompanying unaudited financial statements for the nine months ended September 30, 2023 and 2022 have been prepared by the Company, pursuant to the rules and regulations of the Securities and Exchange Commission, or the SEC, for interim financial statements. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP, have been condensed or omitted pursuant to such rules and regulations. These financial statements should be read in conjunction with the Company's audited financial statements and the notes thereto for the year ended December 31, 2022. The unaudited interim financial statements have been prepared on the same basis as the audited financial statements. In the opinion of management, the accompanying unaudited interim financial statements contain all adjustments that are necessary for a fair statement of the Company's financial position as of September 30, 2023 and December 31, 2022, the results of operations for the nine months ended September 30, 2023 and 2022, and cash flows for the nine months ended September 30, 2023 and 2022. Such adjustments are of a normal and recurring nature. The results of operations for the nine months ended September 30, 2023 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2023.

Liquidity and Management's Plan

To date, the Company has financed its operations primarily through private sales of its securities and funding received from research grants. The Company currently has no source of product revenue, and it does not expect to generate product revenue in the near term. The Company has devoted substantially all of its financial resources and efforts to developing its RNA cell therapies for autoimmune diseases.

As of September 30, 2023, the Company's cash and cash equivalents were $6.9 million. On November 13, 2023, the Company merged with Selecta Biosciences, Inc. (Selecta). See Note 12 for further details.

2. Summary of Significant Accounting Policies

The Company disclosed its significant accounting policies in Note 2 – Summary of Significant Accounting Policies included in the Company's annual financial statements for the year ended December 31, 2022 included elsewhere in this filing. There have been no material changes to the Company's significant accounting policies during the nine months ended September 30, 2023, with the exception of the matters discussed in recent accounting pronouncements.

Recent Accounting Pronouncements

Recently Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. Subsequently, in November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts. ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses. This ASU is effective for smaller reporting companies for fiscal years beginning after December 15, 2022, with early adoption permitted. The Company adopted the new standard effective January 1, 2023, using a modified retrospective transition method, and there was no impact on its consolidated financial statements or results of operations upon adoption.

3. Fair Value Measurements

The following tables present the Company's assets and liabilities that are measured at fair value on a recurring basis (in thousands):

	September 30, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$6,531	$6,531	$—	$ —
Total assets	$6,531	$6,531	$—	$ —
Liabilities:				
Contingent payment to NIH	$ 569	$ —	$—	$569
Total liabilities	$ 569	$ —	$—	$569

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$1,004	$1,004	$—	$ —
Certificates of deposits (included in cash equivalents)	25	25	—	—
Total assets	$1,029	$1,029	$—	$ —
Liabilities:				
Contingent payment to NIH	$ 461	$ —	$—	$461
Total liabilities	$ 461	$ —	$—	$461

The following table provides a reconciliation of all assets and liabilities measured at fair value using Level 3 significant unobservable inputs which were settled during the period from December 31, 2022 to September 30, 2023 (in thousands):

	Total
Balance at December 31, 2022	$ 461
Change in fair value of contingent payment to NIH	108
Balance at September 30, 2023	$ 569

There were no transfers within the fair value hierarchy during the nine months ended September 30, 2023 or the year ended December 31, 2022.

4. Property and Equipment

Property and equipment consist of the following (in thousands):

	September 30, 2023	December 31, 2022
Laboratory equipment	$ 879	$ 779
Less accumulated depreciation	(651)	(582)
Property and equipment, net	$ 228	$ 197

Depreciation expense was approximately $69,000 and $88,000 for the nine months ended September 30,2023 and 2022, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	September 30, 2023	December 31, 2022
Accrued external research and development costs	$1,317	$758
Accrued professional and consulting services	48	60
Accrued payroll	42	98
Accrued equipment	50	—
Other current liabilities	56	33
Accrued expenses and other current liabilities	$1,513	$949

6. Leases

The Company entered into an office lease in May 2018 for 4,762 square feet of space in an office building in Gaithersburg, Maryland. In 2021, the Company amended its lease for an additional 3,147 square feet of space in the same building and to extend the lease term for its current leased space. The lease ends for both leased spaces in December 2027. The lease does not contain any renewal rights.

In September 2023, the Company entered into an operating lease for a piece of lab equipment.

For the nine month ended September 30, 2023 and 2022, the components of lease costs were as follows (in thousands):

	Nine Months Ended September 30,	
	2023	2022
Operating lease cost	$227	$224
Variable lease cost	143	113
Total lease cost	$370	$337

The maturity of the Company's operating lease liabilities as of September 30, 2023 were as follows (in thousands):

	September 30, 2023
2023	$ 82
2024	336
2025	346
2026	346
2027	28
Thereafter	—
Total future minimum lease payments	1,138
Less imputed interest	(122)
Total operating lease liabilities	$1,016

The supplemental disclosure for the statement of cash flows related to operating leases were as follows (in thousands):

	September 30,	
	2023	2022
Cash paid for amounts included in the measurement of lease liabilities:	$227	$187

Other than the initial recording of the right-of-use asset and lease liability, which were non-cash, the changes in the Company's right-of-use asset and lease liability for the nine months ended September 30, 2023 and 2022 are reflected in the non-cash lease expense and accrued expenses and other liabilities, respectively, in the consolidated statements of cash flows.

The following summarizes additional information related to operating leases:

	September 30,	
	2023	2022
Weighted-average remaining lease term	3.03 years	4.33 years
Weighted-average discount rate	7.09 %	7.34 %

7. Stock-Based Compensation Expense

The Company has a 2016 Stock Incentive Plan (the 2016 Plan) that permits granting of options or restricted stock to employees, officers, directors, consultants and advisors to the Company. The grantees, and grant dates, are determined and approved by the Board or a committee designated by the Board. The plan allows for the issuance of up to 200 shares of common stock. The awards typically include graded vesting over four years (i.e., 25% vest at the end of each year) with a ten year contractual term. Additionally, under the individual award agreements, only full shares can be exercised.

Stock-based compensation expense by classification included within the statements of operations and comprehensive income (loss) was as follows (in thousands):

	Nine Months Ended September 30,	
	2023	2022
Research and development	$461	$579
General and administrative	—	—
Total stock-based compensation expense	$461	$579

The estimated grant date fair values of employee stock option awards granted under the 2016 Plan were calculated using the Black-Scholes option pricing model, based on the following range of assumptions:

	Nine Months Ended September 30,	
	2023	2022
Risk-free interest rate	3.6 – 4.0%	1.3% – 2.0%
Dividend yield	—	—
Expected term	6.20 - 6.25	5.0 - 6.25
Expected volatility	95%	95%
Fair value of common stock	$18,505	$23,005

The expected term of the Company's stock options granted to employees has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. Under the simplified method, the expected term is presumed to be the midpoint between the vesting date and the end of the contractual term. The Company utilizes this method due to lack of historical exercise data and the plain nature of its stock-based awards.

The weighted average grant date fair value of stock options granted to employees during the nine months ended September 30, 2023 and 2022 was $14,159.28 and $16,862.94, respectively.

As of September 30, 2023, total unrecognized compensation expense related to unvested employee stock options was $0.9 million, which is expected to be recognized over a weighted average period of 2.18 years.

The following table summarizes the stock option activity under the 2016 Plan:

	Number of options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2022	152	$18,727	6.90	$425
Granted	29	$23,005		
Exercised	(4)	$23,005		
Forfeited	(4)	$23,005		
Outstanding at September 30, 2023	173	$19,246	6.60	$425
Vested at September 30, 2023	119	$17,541	5.72	$425
Vested and expected to vest at September 30, 2023	173	$19,246	6.60	$425

8. Income Taxes

The Company provides for income taxes under ASC 740. Under ASC 740, the Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax bases of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse.

The Company has provided a full valuation allowance against its net deferred tax assets, as the Company believes that it is more likely than not that the deferred tax assets will not be realized.

The Company files income tax returns in the U.S. federal and Maryland jurisdictions. The Company is no longer subject to U.S. federal and Maryland income tax examinations by tax authorities for years before 2019. There are currently no federal, state or foreign audits in progress.

9. Defined Contribution Plan

The Company maintains a defined contribution plan, or the 401(k) Plan, under Section 401(k) of the Internal Revenue Code. 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 pretax basis. The 401(k) Plan provides for matching contributions on a portion of participant contributions pursuant to the 401(k) Plan's matching formula. The Company did not make any matching contributions during the nine months ended September 30, 2023 and 2022, respectively.

10. Commitments and Contingencies

As of September 30, 2023, the Company was not a party to any litigation that could have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

11. License Agreements

National Institutes of Health – multiple myeloma

In September 2015, the Company entered into an exclusive license agreement, which was subsequently amended in December 2022, with the National Institutes of Health (NIH) for rights relating to anti-BCMA CARs and CAR T-cells for treatment of multiple myeloma, wherein the CAR is expressed by certain non-viral methods. The license granted is worldwide and sublicensable. The Company agreed to pay, with certain exceptions, minimum five-figure annual license fees, which shall increase to $150,000 beginning in 2025. Additionally, the Company will incur a low single-digit royalty on Net Sales, plus a low double-digit sublicensing royalty, if any, on any sublicense consideration.

Additionally, the Company agreed to a non-refundable license royalty of either i) three-quarters of one percent (0.75%) of the Company's fair market value at the time of its first Liquidity Event; or ii) $579,000 upon

reaching forty million dollars ($40,000,000) in cumulative investor financing. The Company concluded the contingent payment met the definition of a derivative liability under ASC 815. As such, the Company recorded a liability on its balance sheet of $569,194 and 460,758 as of September 30, 2023 and December 31, 2022, respectively. The associated expense was recorded as research and development expense in the respective periods. The Company estimated the liability at each balance sheet date as the present value of the probability weighted continent payment amounts. In November 2023, the Company entered into a merger agreement with Selecta (see Subsequent Event note below), whereby the Company elected to pay $579,000 to the NIH in full satisfaction of the royalty provision. Payment was made in December 2023.

National Institutes of Health - autoimmune diseases

In July 2019, the Company entered into a nonexclusive license agreement with the National Institutes of Health for rights relating to certain anti-BCMA CARs and CAR T-cells for treatment of certain autoimmune diseases, wherein the CAR is expressed by certain mRNA methods. The license granted is worldwide and sublicensable.

In connection with this license agreement, the Company agreed to an upfront $100,000 license fee. The Company agreed to pay, with certain exceptions, minimum low five-figure annual license fees. Additionally, the Company will incur low single-digit royalties on Net Sales. The Company also agreed to pay up to $0.8 million upon the achievement of designated milestones.

Biogen MA, Inc,- Multiple Myeloma

In September 2023, the Company entered into a non-exclusive license agreement with Biogen MA, Inc. (Biogen) for rights related to certain anti-BCMA proteins. The license granted is worldwide and sublicensable. In connection with this license agreement, the Company agreed to an upfront payment of $500,000 license fee that was paid in October 2023. Additionally, the Company agreed to pay a mid-five-figure annual fee to Biogen. There are no other fees or royalties associated with the license. Biogen remains responsible for maintenance of the licensed patents and costs thereof.

12. Subsequent Events

The Company has evaluated subsequent events through the date on which the consolidated financial statements were issued. The Company has concluded that no subsequent events have occurred that require disclosure, except as disclosed within these financial statements.

On November 13, 2023, the Company entered into an Agreement and Plan of Merger with Selecta Biosciences, Inc. under which the existing shareholders of the Company received 6,723,639 shares of Selecta common stock and 384,930.724 shares of Selecta Series A Non-Voting Convertible Preferred Stock in exchange for all of the Company’s assets. Upon the merger, the Company became a wholly owned subsidiary of Selecta, which on the merger date, changed its name to Cartesian Therapeutics, Inc.

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

On November 13, 2023, Selecta Biosciences, Inc., a Delaware corporation ("Selecta"), acquired Cartesian Therapeutics, Inc., a Delaware corporation ("Old Cartesian"), in accordance with the terms of an Agreement and Plan of Merger, dated November 13, 2023 (the "Merger Agreement"), by and among Selecta, Sakura Merger Sub I, Inc., a Delaware corporation and wholly owned subsidiary of Selecta ("First Merger Sub"), Sakura Merger Sub II, LLC, a Delaware limited liability company and wholly owned subsidiary of Selecta ("Second Merger Sub"), and Old Cartesian. Pursuant to the Merger Agreement, First Merger Sub merged with and into Old Cartesian, pursuant to which Old Cartesian was the surviving corporation and became a wholly owned subsidiary of Selecta (the "First Merger"). Immediately following the First Merger, Old Cartesian merged with and into Second Merger Sub, pursuant to which Second Merger Sub was the surviving entity (the "Second Merger" and, together with the First Merger, the "Merger"). In connection with the Second Merger, Old Cartesian changed its name to Cartesian Bio, LLC.

The Merger is intended to qualify as a tax-free reorganization for U.S. federal income tax purposes. As a result of the Merger, Selecta changed its corporate name to Cartesian Therapeutics, Inc. ("Cartesian" or the "Company") and commenced trading under the symbol "RNAC" beginning on November 14, 2023.

The Board of Directors of Selecta (the "Board") unanimously approved the Merger Agreement and the related transactions. The Merger has been consummated substantially concurrently with the entry into the Merger Agreement and was not subject to approval of Selecta stockholders.

Under the terms of the Merger Agreement, following the consummation of the Merger (the "Closing"), in exchange for the outstanding shares of capital stock of Old Cartesian immediately prior to the effective time of the First Merger, the Company agreed to issue to the stockholders of Old Cartesian (A) 6,723,639 shares of common stock of the Company, par value $0.0001 per share (the "Common Stock"), and (B) 384,930.724 shares of Series A Non-Voting Convertible Preferred Stock, par value $0.0001 per share (the "Series A Preferred Stock"), each share of which is convertible into 1,000 shares of Common Stock, subject to certain conditions. The issuance of the shares of Common Stock and Series A Preferred Stock occurred after the December 4, 2023 record date for the distribution of contingent value rights discussed below. The Old Cartesian stockholders did not have rights as holders of Common Stock or holders of Series A Preferred Stock until such issuance. Additionally, the Company assumed all outstanding stock options of Old Cartesian, subject to an exercise blackout period that ended December 8, 2023.

Pursuant to the Merger Agreement, the Company will hold a special stockholders' meeting to submit the following proposals to a vote of its stockholders: (i) the approval of the conversion of shares of Series A Preferred Stock into shares of Common Stock in accordance with the rules of the Nasdaq Stock Market LLC (the "Conversion Proposal"), and (ii) either or both of (A) the approval of an amendment to the Company's restated certificate of incorporation, as amended (the "Charter"), to increase the number of shares of Common Stock authorized under the Charter and (B) the approval of an amendment to the Charter to effect a reverse stock split of all outstanding shares of Common Stock, in either case (A) or (B) by a number of authorized shares or at a stock split ratio, as the case may be, sufficient to allow the conversion of all shares of Series A Preferred Stock issued in the Merger.

Following stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will automatically convert into 1,000 shares of Common Stock, subject to certain limitations, including that a holder of Series A Preferred Stock is prohibited from converting shares of Series A Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion; provided, however, that such beneficial ownership limitation does not apply to TAS Partners, LLC, an affiliate of Dr. Springer, or any of its affiliates.

Each share of Series A Preferred Stock will be redeemable at the option of the holder at any time following the date that is 18 months after the initial issuance date of the Series A Preferred Stock, other than any shares of Series A Preferred Stock that would not be convertible into shares of Common Stock as a result of the beneficial ownership limitation referred to in the foregoing paragraph (without regard to whether the requisite stockholder approval to convert the Series A Preferred Stock into Common Stock has been obtained).

Contingent Value Rights Agreement

On December 6, 2023, as contemplated in the Merger Agreement, the Company entered into a contingent value rights agreement (the "CVR Agreement") pursuant to which each holder of Common Stock as of December 4, 2023 was entitled to one contractual contingent value right (each, a "CVR") issued by the Company for each share of Common Stock held by such holder as of December 4, 2023, which CVRs were distributed to such holders on December 13, 2023. Holders of the warrants to purchase Common Stock of the Company outstanding as of such date (each, a "Selecta Warrant") will be entitled to receive, upon exercise of such Selecta Warrant and in accordance with the terms thereof, one CVR per each such share of Common Stock underlying such Selecta Warrant, assuming the same had been exercised on December 4, 2023; except that the holders of the warrants issued by Selecta on April 11, 2022 (the "Selecta Warrants"), as required by the terms of such Selecta Warrants, received such CVRs on December 13, 2023, together with the distribution of CVRs made to the holders of Common Stock, even if such Selecta Warrants were not exercised.

Each CVR entitles its holder to distributions of the following, pro-rated on a per-CVR basis, during the period ending on the date on which the Royalty Term (as defined in the Company's License and Development Agreement, as amended, with Swedish Orphan Biovitrum AB (publ.) (the "Sobi License")) ends (the "Termination Date"):

- 100% of all milestone payments, royalties and other amounts paid to the Company or its controlled affiliates (the "Company Entities") under the Sobi License or, following certain terminations of the Sobi License, any agreement a Company Entity enters into that provides for the development and commercialization of SEL-212; and
- 100% of all cash consideration and the actual liquidation value of any and all non-cash consideration of any kind that is paid to or is actually received by any Company Entity prior to the Termination Date pursuant to an agreement relating to a sale, license, transfer or other disposition of any transferable asset of the Company existing as of immediately prior to the Merger, other than those exclusively licensed under the Sobi License or which the Company Entities are required to continue to own in order to comply with the Sobi License.

The distributions in respect of the CVRs will be made on a semi-annual basis, and will be subject to a number of deductions, subject to certain exceptions or limitations, including for (i) certain taxes payable on the proceeds subject to the CVR distribution, (ii) certain out of pocket costs incurred by the Company Entities, including audit and accounting fees incurred in connection with reporting obligations relating to the CVRs and other expenses incurred in the performance of their obligations and other actions under the CVR Agreement, (iii) a fixed semi-annual amount of $750,000 for general and administrative overhead, (iv) payments made and remaining obligations on lease liabilities of Selecta immediately prior to the Merger and (v) amounts paid and remaining obligations with regard to Selecta's Xork product candidate. Each of the deductions described in (iv) and (v) will be made only if certain milestone payments under the Sobi License are made, and are also subject to certain adjustments as contemplated in the CVR Agreement.

Series A Preferred Stock Financing

On November 13, 2023, the Company entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with (i) Timothy A. Springer, a member of the Company's Board; (ii) TAS Partners, LLC, and (iii) Seven One Eight Three Four Irrevocable Trust, a trust associated with Dr. Murat Kalayoglu, a co-founder and the former chief executive officer of Old Cartesian, who joined the Board effective immediately after the effective time of the Merger (the "Investors"). Pursuant to the Securities Purchase Agreement, the Company agreed to issue and sell an aggregate of 149,330.115 shares of Series A Preferred Stock for an aggregate purchase price of $60.25 million (collectively, the "Financing"). Each share of Series A Preferred Stock is convertible into 1,000 shares of Common Stock.

In the Financing, each of TAS Partners, LLC and Dr. Springer agreed to settle its purchases in three approximately equal tranches of shares of Series A Preferred Stock, each for a purchase price of approximately $20.0 million, with the three tranches settling 30, 60, and 90 days, respectively, following the Closing. The first and second tranches were settled on December 13, 2023 and January 12, 2024, respectively, under which (i) 24,785.081 shares of Series A Preferred Stock were issued to each of TAS Partners, LLC and Dr. Springer in the first tranche, and (ii) 49,570.163 shares of Series A Preferred Stock were issued to Dr. Springer in the second tranche. The third tranche is expected to settle on February 11, 2024.

Settlement of Selecta Equity Awards

Upon consummation of the First Merger, the equity compensation awards of Selecta were settled as follows:

- Each option to acquire shares of Common Stock and each restricted stock unit award with respect to shares of Common Stock, in each case that was outstanding and unvested immediately prior to the Merger, was accelerated and vested in full at the effective time of the First Merger;
- each option to acquire shares of Common Stock was canceled and in exchange therefor, former holders became entitled to receive an amount in cash equal to the product of (A) the total number of shares of Common Stock subject to the unexercised portion the stock option (determined after giving effect to the accelerated vesting) multiplied by (B) the excess, if any, of $2.06 (the "Cash-out Amount") over the applicable exercise price per share of Common Stock under such stock option; and
- each restricted stock unit award with respect to shares of Common Stock was cancelled and the former holder of such canceled restricted stock unit became entitled, in exchange therefor, to receive an amount in cash equal to the product of (A) the total number of shares of Common Stock deliverable under such restricted stock unit (determined after giving effect to the accelerated vesting) multiplied by (B) the Cash-out Amount.

Pro Forma Presentation

The unaudited pro forma condensed combined financial information was prepared in accordance with Article 11 of Regulation S-X. The Selecta and Old Cartesian unaudited pro forma condensed combined balance sheet data assume that the Merger took place on September 30, 2023, and combines the Selecta and Old Cartesian historical balance sheets at September 30, 2023. The Selecta and Old Cartesian unaudited pro forma condensed combined statements of operations data assume that the Merger took place as of January 1, 2022, and combine the historical results of Selecta and Old Cartesian for the year ended December 31, 2022, and for the nine months ended September 30, 2023. The historical financial statements of Selecta and Old Cartesian have been adjusted to give pro forma effect to events that are (i) directly attributable to the Merger, (ii) factually supportable, and (iii) with respect to the statements of operations, expected to have a continuing impact on the combined results.

The unaudited pro forma condensed combined financial statements are based on the assumptions and adjustments that are described in the accompanying notes. The unaudited pro forma condensed combined financial statements and pro forma adjustments have been prepared based on preliminary estimates of fair value of assets acquired and liabilities assumed. The final determination of these estimated fair values will be based on the actual net tangible assets of Old Cartesian that existed as of the date of completion of the Merger.

The unaudited pro forma condensed combined financial statements do not give effect to the potential impact of current financial conditions, regulatory matters, operating efficiencies or other savings or expenses that may be associated with the Merger. The unaudited pro forma condensed combined financial statements have been prepared for illustrative purposes only and are not necessarily indicative of the financial position or results of operations in future periods or the results that actually would have been realized had Selecta and Old Cartesian been a combined company during the specified period. The unaudited pro forma condensed combined financial statements, including the notes thereto, should be read in conjunction with the separate historical audited financial statements of Selecta and Old Cartesian.

Unaudited Pro Forma Condensed Combined Balance Sheet
As of September 30, 2023
(in thousands)

	Selecta Biosciences, Inc.	Cartesian Therapeutics, Inc. (Old Cartesian)	Transaction Adjustments	Notes	Pro Forma Combined
ASSETS					
Current assets:					
Cash and cash equivalents	$79,603	$6,875	$(9,423)	B	$137,305
			60,250	G	
Accounts receivable	4,898	994	—		5,892
Unbilled receivables	1,875	—	—		1,875
Prepaid expenses and other current assets	3,493	299	—		3,792
Total current assets	89,869	8,168	50,827		148,864
Non-current assets:					
Property and equipment, net	2,421	228	—		2,649
Right-of-use asset, net	10,339	891	—		11,230
Intangible assets	—	—	150,700	F	150,700
Goodwill	—	—	48,062	F	48,062
Other assets	3,405	25	—		3,430
TOTAL ASSETS	$106,034	$9,312	$249,589		$364,935
LIABILITIES, PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)					
Current liabilities:					
Accounts payable and accrued expenses	$14,012	$2,082	$4,895	A	$20,989
Lease liability	1,787	273	—		2,060
Deferred revenue	4,140	—	—		4,140
Total current liabilities	19,939	2,355	4,895		27,189
Non-current liabilities:					
Lease liability	8,694	743	—		9,437
Deferred revenue	3,981	—	—		3,981
Warrant liabilities	13,091	—	—		13,091
Deferred tax liability	—	—	34,853	F	15,854
			(18,999)	J	
Contingent value right obligation	—	—	340,300	H	340,300
Total liabilities	45,705	3.098	361,049		409,852
Commitments and contingencies					
Convertible Preferred Stock	—	32,057	155,308	F	215,558
			60,250	G	
			(32,057)	I	
Stockholders' equity (deficit):					
Common stock	15	—	—	F I	15
Additional paid-in capital	501,919	7,985	6,977	B	182,372
			619	D	
			13,157	F	
			(340,300)	H	
			(7,985)	I	
Accumulated deficit	(436,989)	(33,828)	(4,895)	A	(438,246)
			(16,400)	B	
			(619)	D	
			35,486	I	
			18,999	J	
Accumulated other comprehensive loss	(4,616)	—	—		(4,616)
Total stockholders' equity (deficit)	60,329	(25,843)	(294,961)		(260,475)
TOTAL LIABILITIES, PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)	$106,034	$9,312	$249,589		$364,935

Unaudited Pro Forma Condensed Combined Statement of Operations
For the Year Ended December 31, 2022
(in thousands, except share and per share amounts)

	Selecta Biosciences, Inc.	Cartesian Therapeutics, Inc. (Old Cartesian)	Transaction Adjustments	Notes	Pro Forma Combined
Revenue:					
Collaboration and license revenue	$110,777	$—	$—		$110,777
Grant revenue	—	1,449	—		1,449
Total revenue	110,777	1,449	—		112,226
Operating expenses:					
Research and development	72,377	6,841	7,462	B	88,488
			619	D	
			1,189	E	
General and administrative	23,862	1,244	4,895	A	38,939
			8,938	B	
Total operating expenses	96,239	8,085	23,103		127,427
Operating income (loss)	14,538	(6,636)	(23,103)		(15,201)
Investment income	2,073	35	—		2,108
Foreign currency transaction, net	(22)	—	—		(22)
Interest (expense) income, net	(3,031)	—	—		(3,031)
Change in fair value of warrant liabilities	20,882	—	—		20,882
Other income, net	330	146	(108)	C	368
Income (loss) before income taxes	34,770	(6,455)	(23,211)		5,104
Income tax benefit	609	—	18,999	J	19,608
Net income (loss)	35,379	(6,455)	(4,212)		24,712
Other comprehensive income (loss)					
Foreign currency translation adjustment	18	—	—		18
Unrealized gain on marketable securities	(10)	—	—		(10)
Total comprehensive income (loss)	$35,387	$(6,455)	$(4,212)		$24,720
Net (loss) income per share					
Basic	$0.24			K	$(0.08)
Diluted	$0.10			K	$(0.22)
Weighted-average common shares outstanding					
Basic	144,758,555			K	151,482,194
Diluted	145,874,889			K	152,282,286

Unaudited Pro Forma Condensed Combined Statements of Operations
For the period ended September 30, 2023
(in thousands, except share and per share amounts)

	Selecta Biosciences, Inc.	Cartesian Therapeutics, Inc. (Old Cartesian)	Transaction Adjustments	Notes	Pro Forma Combined
Collaboration and license revenue	$17,738	$—	$—		$17,738
Operating expenses:					
Research and development	49,408	6,965	684	E	57,057
General and administrative	18,414	1,286	—		19,700
Total operating expenses	67,822	8,251	684		76,757
Operating loss	(50,084)	(8,251)	(684)		(59,019)
Investment income	4,024	311	—		4,335
Foreign currency transaction, net	39	—	—		39
Interest expense	(2,833)	—	—		(2,833)
Change in fair value of warrant liabilities	6,049	—	—		6,049
Other income, net	753	176	108	C	1,037
Loss before income taxes	(42,052)	(7,764)	(576)		(50,392)
Income tax (expense) benefit	—	—	—		—
Net loss	(42,052)	(7,764)	(576)		(50,392)
Other comprehensive income (loss):					
Foreign currency translation adjustment	(69)	—	—		(69)
Unrealized gain on marketable securities	11	—	—		11
Total comprehensive loss	$(42,110)	$(7,764)	$(576)		$(50,450)
Net loss per share					
Basic	$(0.27)				$(0.31)
Diluted	$(0.27)				$(0.31)
Weighted-average common shares outstanding					
Basic	153,870,912			F K	160,594,551
Diluted	153,870,912			F K	160,594,551

NOTES TO UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

1. Description of Transaction

Merger Transaction

The Merger occurred on November 13, 2023, as a result of which Selecta acquired all of the equity of Old Cartesian. Selecta, as the surviving corporation, was renamed "Cartesian Therapeutics, Inc." and is trading under the symbol "RNAC" on the Nasdaq Global Market as of November 14, 2023.

In exchange for the outstanding shares of capital stock of Old Cartesian immediately prior to the effective time of the First Merger, the Company issued to the stockholders of Old Cartesian (A) 6,723,639 shares of Common Stock and (B) 384,930.724 shares of Series A Preferred Stock, each share of which is convertible into 1,000 shares of Common Stock, subject to certain conditions.

Pursuant to the Merger Agreement, the Company will hold a special stockholders' meeting to submit the following proposals to a vote of its stockholders: (i) the approval of the conversion of shares of Series A Preferred Stock into shares of Common Stock in accordance with the rules of the Nasdaq Stock Market LLC, and (ii) either or both of (A) the approval of an amendment to the Charter to increase the number of shares of Common Stock authorized under the Charter and (B) the approval of an amendment to the Charter to effect a reverse stock split of all outstanding shares of Common Stock, in either case (A) or (B) by a number of authorized shares or at a stock split ratio, as the case may be, sufficient to allow the conversion of all shares of Series A Preferred Stock issued in the Merger.

Following stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will automatically convert into 1,000 shares of Common Stock, subject to certain limitations, including that a holder of Series A Preferred Stock is prohibited from converting shares of Series A Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be established by the holder between 0% and 19.9%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion; provided, however, that such beneficial ownership limitation does not apply to TAS Partners, LLC or any of its affiliates.

Each share of Series A Preferred Stock will be redeemable at the option of the holder at any time following the date that is 18 months after the initial issuance date of the Series A Preferred Stock, other than any shares of Series A Preferred Stock that would not be convertible into shares of Common Stock as a result of the beneficial ownership limitation referred to in the foregoing paragraph (without regard to whether the requisite stockholder approval to convert the Series A Preferred Stock into Common Stock has been obtained).

The outstanding stock option awards of Old Cartesian were assumed by the Company in connection with the Merger. As a result, the Company issued (i) stock options in respect of 23,306,661 shares of Common Stock and (ii) stock options in respect of 14,112.299 shares of Series A Preferred Stock.

Additionally, Selecta accelerated the vesting of unvested equity compensation awards and settled such awards as follows: (i) each Selecta stock option was canceled and its holder received an amount in cash equal to the product of (A) the total number of shares of Common Stock subject to the unexercised portion the stock option (determined after giving effect to the accelerated vesting) multiplied by (B) the excess, if any, of the Cash-out Amount over the applicable exercise price per share of Common Stock under such stock option; and (ii) each Selecta restricted stock unit award was cancelled and its holder received an amount in cash equal to the product of (A) the total number of shares of Common Stock deliverable under such restricted stock unit multiplied by (B) the Cash-out Amount. Stock options with an exercise price in excess of the Cash-out Amount received no cash payment. The total cash payment to cancel such equity compensation awards amounted to $9.4 million.

Financing

On November 13, 2023, certain investors entered into the Securities Purchase Agreement with the Company, pursuant to which such investors committed to purchasing Series A Preferred Stock for an aggregate purchase price of $60.25 million.

Contingent Value Rights Agreement

On December 6, 2023, as contemplated in the Merger Agreement, the Company entered into the CVR Agreement, pursuant to which each holder of Common Stock as of December 4, 2023 was entitled to one CVR

issued by the Company for each share of Common Stock held by such holder as of December 4, 2023, which CVRs were distributed to such holders on December 13, 2023. Holders of the Selecta Warrants will be entitled to receive, upon exercise of such Selecta Warrant and in accordance with the terms thereof, one CVR per each such share of Common Stock underlying such Selecta Warrant, assuming the same had been exercised on December 4, 2023; except that the holders of the Selecta Warrants issued on April 11, 2022, as required by the terms of such Selecta Warrants, received such CVRs on December 13, 2023, together with the distribution of CVRs made to the holders of Common Stock, even if such Selecta Warrants were not exercised.

Each CVR represents the contractual right to receive contingent cash payments upon the receipt by the Company of (i) certain amounts payable by Sobi, if any, pursuant to the Sobi License, upon the achievement by Sobi of certain milestones or on the account of royalties, in each due as set forth in the Sobi License, and (ii) the proceeds from any sale, license, transfer or other disposition of any transferable asset of the Company existing as of immediately prior to the Merger, other than those exclusively licensed under the Sobi License or which the Company Entities are required to continue to own in order to comply with the Sobi License. The distributions in respect of the CVRs are subject to certain deductions, including for specified expenses, taxes and obligations of Selecta as of prior to the Merger or in connection with performance of the Company's obligations under the CVR Agreement. The CVRs do not have any voting or dividend rights and do not represent any equity or ownership interest in the Company.

The CVR will be recognized as a distribution to the Selecta stockholders and warrant holders upon the record date for its distribution, which was December 4, 2023, in an amount equal to the fair value of the right conveyed under the CVR.

2. Basis for Presentation

The unaudited pro forma condensed combined balance sheet as of September 30, 2023, is presented as if the Merger had been completed on September 30, 2023. The unaudited pro forma condensed combined statements of operations for the years ended December 31, 2022, and the nine months ended September 30, 2023, assumes that the Merger occurred on January 1, 2022, and combines the historical results of Selecta and Old Cartesian.

The Merger is accounted for as a business combination under U.S. GAAP because Selecta has obtained control of Old Cartesian as a result of the Merger. As such, for financial reporting purposes, Selecta has been determined to be the accounting acquirer as Old Cartesian is deemed to be a variable interest entity to which Selecta is the primary beneficiary as Selecta has (i) the power to direct the activities that most significantly impact the economic performance of Old Cartesian and (ii) the obligation to absorb losses or the right to receive benefits of Old Cartesian. Under the terms of the Merger: (A) the pre-Merger stockholders of Selecta continue to control the combined company, as the Series A Preferred Stock issued in connection with the Merger and Financing are non-voting shares, unless and until there is a stockholder vote which approves the Conversion Proposal, (B) Selecta holds the majority of Board seats of the combined company, and (C) Selecta's management holds all key positions in the management of the combined company.

The pro forma adjustments are subject to further adjustments as additional information becomes available and as additional analyses are conducted following the completion of the Merger. There can be no assurances that these additional analyses will not result in material changes to the estimates of fair value.

3. Purchase Price Allocation

The net purchase price of Old Cartesian was approximately $168.5 million and was funded by the issuance of Common Stock, Series A Preferred Stock and the exchange of stock options of Old Cartesian for stock options of the Company. The total purchase price has been allocated to Old Cartesian's tangible assets, identifiable intangible assets and assumed liabilities based on their estimated fair values as of November 13, 2023. The excess of the purchase price over the tangible assets, identifiable intangible assets and assumed liabilities will be recorded as goodwill. The Company's estimates and assumptions in determining the estimated fair values of certain assets and liabilities are preliminary and are subject to change. The total estimated purchase price was allocated as follows (in thousands):

	Amounts
Total purchase consideration	
Common Stock	$ 2,713
Series A Preferred Stock	155,308
Assumption of Cartesian stock options	10,444
Total purchase price	$168,465
Allocation of the purchase consideration	
Tangible assets	$ 8,000
Liabilities assumed	(3,444)
Intangible assets	150,700
Deferred tax liabilities	(34,853)
Goodwill	48,062
Total purchase price allocation	$168,465

The preliminary fair value of the intangible assets has been estimated using the income approach in which the after-tax cash flows are discounted to present value. The cash flows are based on estimates used to price the transaction, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital. Based on the preliminary valuation, the acquired intangible assets are comprised of in-process research and development associated with Descartes-08 for myasthenia gravis and Descartes-08 for systemic lupus erythematosus development programs. These preliminary estimates of fair value may vary materially from the final acquisition accounting, and the difference could have a material impact on the accompanying unaudited pro forma condensed combined financial statements.

After allocation of the preliminary purchase price to the estimated fair values of acquired assets and liabilities as of November 13, 2023, goodwill is approximately $48.1 million. The factors contributing to the recognition of the amount of goodwill are primarily attributable to the value of the assembled workforce and deferred tax liabilities associated with the transaction.

4. Pro Forma Adjustments

The pro forma adjustments were based on the preliminary information available at the time of the preparation of the unaudited pro forma condensed combined financial information. The unaudited pro forma condensed combined financial information, including the notes thereto, are qualified in their entirety by reference to, and should be read in conjunction with, the separate historical audited financial statements of Selecta and Old Cartesian for the years ended December 31, 2022, and 2021 and for the nine months ended September 30, 2023.

Merger Transaction Adjustments

A To accrue additional $4.9 million of transaction costs incurred by Selecta subsequent to September 30, 2023.

B Recognize total research and development expense of $7.5 million and general and administrative expense of $8.9 million associated with the modification of Selecta stock options and restricted stock units to accelerate the vesting of all awards upon the Merger and the cash settlement of certain awards.

The modification resulted in full recognition of unrecognized compensation of $13.1 million of which $5.9 million and $7.2 million was classified as research and development expense and general and administrative expense, respectively.

In addition, with the exception of any options with an exercise price greater than $2.06 per share, all awards were settled in cash for an amount equal to $2.06 less any exercise price associated with the awards. The total cash payment made to the holders of stock options and restricted stock units was $9.4 million. The fair value of the awards prior to the settlement was recorded to additional paid in capital in an amount of $6.2 million and the amount in excess of fair value was recognized as additional compensation expense in an amount of $3.3 million, of which $1.6 million and $1.7 million was classified as research and development expense and general and administrative expense, respectively.

C An in-license agreement held by Old Cartesian included a payment to the licensor that is contingent upon certain corporate transactions. In connection with the Merger, a payment in the amount of $0.6 million was due to the licensor and fully accrued as of September 30, 2023. The Company accounted for the obligation as a derivative which was remeasured at fair value at the end of each reporting period. The expense related to the remeasurement of the contingent liability which is recorded in other income, net for the nine months ended September 30, 2023 ($0.1 million) was removed. The expense has been reflected in the year ended December 31, 2022, as the Merger is assumed to have occurred on January 1, 2022, for pro forma purposes.

D In connection with the Merger, one Old Cartesian employee had a pre-existing provision in the employee's stock option agreement, which provided for an acceleration of vesting upon a change in control, which was triggered as a result of the Merger. The additional expense of $0.6 million will be included in Old Cartesian's pre-acquisition net loss, upon the Merger. This amount is included as a pro forma adjustment as the expense is not included in the historical financial statements presented.

E To record stock compensation expense for the assumed unvested stock option awards (valued at approximately $2.6 million) that is to be recorded prospectively over the remaining service period of the awards. Total expense of $1.2 million and $0.7 million was classified as research and development expense during the year ended December 31, 2022 and the nine months ended September 30, 2023, respectively. There are no awards related to general and administrative activities.

F To record purchase consideration and acquired intangible assets, goodwill and deferred tax liabilities.

G To reflect the $60.25 million Financing associated with the issuance of Series A Preferred Stock under the Securities Purchase Agreement.

H In connection with the Merger, the Company entered into the CVR Agreement to distribute the rights to future cash flows associated with certain licensed products and other assets to its stockholders. One CVR was distributed with respect to each share of Common Stock outstanding as of December 4, 2023 and each share of Common Stock underlying the Selecta Warrants issued on April 11, 2022. Further, one CVR will be distributed in respect of each share of Common Stock underlying the other Selecta Warrants, in each case if and to the extent each such Selecta Warrant is exercised in the future in accordance with its own terms. Each CVR was valued at $1.83 per Common Stock equivalent. The aggregate fair value of the CVR obligation on November 13, 2023 (the date that the CVR dividend was declared) was $340.3 million, which is recognized as a liability with the dividend recognized to additional paid in capital.

I To eliminate the historical equity of Cartesian Therapeutics, Inc. (Old Cartesian).

J To recognize the tax benefit associated with the deferred tax liability recorded as part of the purchase price allocation.

K The Series A Preferred Stock and the Selecta Warrants issued on April 11, 2022 are considered participating securities and therefore the Company follows the two-class method when computing pro forma net loss (income) per share. During periods of net loss, there is no allocation of undistributed earnings required under the two-class method since the participating securities do not have a contractual obligation to fund the losses of the Company. The following represents the pro forma calculation of basic EPS for the year ended December 31, 2022:

Net income	$ 24,712
Less: CVR distribution to participating securities	(37,550)
Net loss allocable to shares of common stock, basic	(12,838)
Net loss per share, basic	$ (0.08)
Weighted-average shares of common stock outstanding, basic	151,482,194

The CVR distribution to participating securities represents the amount of the CVR distribution attributable to the Selecta Warrants issued on April 11, 2022 which participated in that distribution. The Series A Preferred Stock did not participate in the CVR distribution. During the nine months ended September 30, 2023, there were no adjustments to net loss to determine net loss allocable to shares of Common Stock, basic.

The following represents the pro forma calculation of diluted earnings per share for the year ended December 31, 2022:

Net loss allocable to shares of common stock, basic	$ (12,838)
Less: change in fair value of dilutive warrants	(21,029)
Net loss allocable to shares of common stock, diluted	(33,867)
Net loss per share, diluted	$ (0.22)
Weighted-average shares of common stock outstanding, diluted	152,282,286

During the nine months ended September 30, 2023, there were no adjustments to net loss to determine net loss allocable to shares of Common Stock, diluted.

Potentially dilutive Common Stock equivalents excluded from the computation of diluted net loss per share at September 30, 2023 and December 31, 2022, as the effect would have been anti-dilutive, are as follows:

	September 30, 2023	December 31, 2022
Warrants to purchase Common Stock	31,224,703	22,807,755
Series A preferred stock issued to Cartesian stockholders	384,930,724	384,930,724
Series A preferred stock issued in Financing	149,330,115	149,330,115
Common Stock options	23,306,661	23,306,661
Series A Preferred Stock options	14,112,299	14,112,299
Total	602,904,502	594,487,554

Independent Auditor's Report

Board of Directors
Cartesian Therapeutics, Inc.
704 Quince Orchard Road
Gaithersburg, MD 20878

Opinion

We have audited the financial statements of Cartesian Therapeutics, Inc. (the Company), which comprise the balance sheets as of December 31, 2022 and 2021, and the related statements of operations and comprehensive loss, preferred stock and stockholders' deficit, and cash flows for the years then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the financial statements are available to be issued.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

/s/ BDO USA, P.C.

Potomac, Maryland
January 23, 2024

Cartesian Therapeutics, Inc.
Balance Sheets
(Amounts in thousands, except share data)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 12,001	$ 4,735
Accounts receivable	994	3,129
Payroll tax credit receivable	351	225
Prepaid expenses and other current assets	59	50
Total current assets	$ 13,405	$ 8,139
Non-current assets:		
Property and equipment, net	197	309
Right-of-use asset, net	983	1,195
Security deposit	25	25
Total assets	$ 14,610	$ 9,668
Liabilities, preferred stock and stockholders' deficit		
Current liabilities:		
Lease liability	$ 228	$ 172
Deferred revenue	—	117
NIH liability	461	—
Accrued expenses and other current liabilities	949	978
Total current liabilities	$ 1,638	$ 1,267
Non-current liabilities:		
NIH liability	—	345
Lease liability, net of current	880	1,108
Total liabilities	$ 2,518	$ 2,720
Commitments and contingencies (Note 11)		
Series A Preferred Stock; $0.01 par value, 220 authorized, 219.125 issued and outstanding as of December 31, 2022 and December 31, 2021	9,623	9,623
Series B Preferred Stock; $0.01 par value, 110 authorized, 109.267 issued and outstanding as of December 31, 2022 and December 31, 2021	7,128	7,128
Series B-1 Preferred Stock; $0.01 par value, 77 authorized, 65.017 issued and outstanding as of December 31, 2022 and December 31, 2021	3,162	3,162
Series B-2 Preferred Stock; $0.01 par value, 195 authorized, 193.644 issued and outstanding as of December 31, 2022 and none authorized, issued and outstanding as of December 31, 2021	12,144	—
Series B-2 Preferred Stock Subscription Receivable	(1,333)	—
Stockholders' deficit:		
Common stock, $0.01 par value, 3,200 authorized, 1,240.625 issued and outstanding as of December 31, 2022 and 1,237.625 issued and outstanding as of December 31, 2021	—	—
Additional paid-in capital	7,432	6,644
Accumulated deficit	(26,064)	(19,609)
Total stockholders' deficit	$(18,632)	$(12,965)
Total liabilities, preferred stock and stockholders' deficit	$ 14,610	$ 9,668

The accompanying notes are an integral part of these financial statements.

Cartesian Therapeutics, Inc.
Statements of Operations and Comprehensive Loss
(Amounts in thousands)

	Year Ended December 31,	
	2022	2021
Grant revenue:	$ 1,449	$ 3,337
Operating expenses:		
Research and development	6,841	6,090
General and administrative	1,244	1,006
Total operating expenses	8,085	7,096
Loss from operations	(6,636)	(3,759)
Other income, net:		
Interest income	35	3
Other income, net	146	116
Total other income	181	119
Net loss	$ (6,455)	$ (3,640)

The accompanying notes are an integral part of these financial statements.

Cartesian Therapeutics, Inc.
Statements of Preferred Stock and Stockholders' Deficit
(Amounts in thousands, except share data)

	Series A Preferred Stock		Series B Preferred Stock		Series B-1 Preferred Stock		Series B-2 Preferred Stock		Series B-2 Preferred Stock Subscription Receivable	Series A Preferred Stock		Series B Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount		Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2020	—	$ —	—	$ —	—	$ —	—	$ —	$ —	169.125	$ —	109.267	$ —	1,287.625	$ —	$ 20,909	$ (15,319)	$ 5,590
Issuance of Series B-1 Preferred Stock, net of $16 of issuance costs	—	—	—	—	65.017	4,207	—	—	—	—	—	—	—	—	—	—	—	—
Exchange of Common Stock to Series A Preferred Stock	50.000	2,196	—	—	—	(1,045)	—	—	—	—	—	—	—	(50.000)	—	(500)	(650)	(1,150)
Reclassification of Series A and Series B Preferred Stock	169.125	7,427	109.267	7,128	—	—	—	—	—	(169.125)	—	(109.267)	—	—	—	(14,555)	—	(14,555)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	790	—	790
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(3,640)	(3,640)
Balance at December 31, 2021	219.125	$ 9,623	109.267	$ 7,128	65.017	$ 3,162	—	$ —	$ —	—	$ —	—	$ —	1,237.625	$ —	$ 6,644	$ (19,609)	$ (12,965)
Issuance of Series B-2 Preferred Stock, net of $24 of issuance costs	—	—	—	—	—	—	193.644	12,144	(1,333)	—	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	719	—	719
Exercise of options to purchase common stock	—	—	—	—	—	—	—	—	—	—	—	—	—	3.000	—	69	—	69
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(6,455)	(6,455)
Balance at December 31, 2022	219.125	$ 9,623	109.267	$ 7,128	65.017	$ 3,162	193.644	$ 12,144	$ (1,333)	—	$ —	—	$ —	1,240.625	$ —	$ 7,432	$ (26,064)	$ (18,632)

The accompanying notes are an integral part of these financial statements.

Cartesian Therapeutics, Inc.
Statements of Cash Flows
(Amounts in thousands)

	Year Ended December 31,	
	2022	**2021**
Cash flows from operating activities		
Net loss	$ (6,455)	$(3,640)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation expense	112	123
Non-cash lease expense	212	128
Stock-based compensation expense	719	790
Changes in operating assets and liabilities:		
Accounts receivable	2,135	(2,135)
Payroll tax credit receivable	(126)	(72)
Prepaid expenses and other current assets	(9)	(51)
Operating lease liability	(172)	(108)
Deferred revenue	(117)	117
NIH liability	116	79
Accrued expenses and other current liabilities	122	(32)
Net cash used in operating activites	(3,463)	(4,801)
Cash flows from investing activities		
Purchases of property and equipment	(151)	—
Net cash used in investing activities	(151)	—
Cash flows from financing activities		
Net proceeds from issuance of Series B-1 Preferred Stock	—	4,207
Net proceeds from issuance of Series B-2 Preferred Stock	10,811	—
Proceeds from exercise of stock options	69	—
Net cash provided by financing activities	10,880	4,207
Net change in cash and cash equivalents	7,266	(594)
Cash and cash equivalents at beginning of period	4,735	5,329
Cash and cash equivalents at end of period	$12,001	$ 4,735
Noncash investing and financing activities		
Issuance of Series B-2 Preferred Stock subscription	$ 1,333	$ —
Purchase of equipment not yet paid	$ —	$ 151
Increase in right-of-use asset due to lease modification	$ —	$ 893
Increase in lease liability due to lease modification	$ —	$ 893

The accompanying notes are an integral part of these financial statements.

Cartesian Therapeutics, Inc.
Notes to the Financial Statements

1. Description of the Business

Cartesian Therapeutics, Inc. (the Company) is a clinical-stage cell therapy company engaged in the research and development of therapies for autoimmune diseases. The Company was incorporated in Delaware in December 2010, and is based in Gaithersburg, Maryland.

Since inception, the Company has devoted its efforts principally towards research and development, recruiting personnel, and raising capital. The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. Product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel, infrastructure and extensive compliance-reporting capabilities.

There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, or maintained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies.

Liquidity and Management's Plan

To date, the Company has financed its operations primarily through private sales of its securities and funding received from research grants. The Company currently has no source of product revenue, and it does not expect to generate product revenue in the near term. The Company has devoted substantially all of its financial resources and efforts to developing its RNA cell therapies for autoimmune diseases.

As of December 31, 2022, the Company's cash and cash equivalents were $12.0 million. On November 13, 2023, the Company merged with Selecta Biosciences, Inc. (Selecta). See Note 14 for further details.

2. Summary of Significant Accounting Policies

Basis of Presentation

The financial statements are prepared in accordance with U.S. generally accepted accounting principles (GAAP) and pursuant to the applicable rules and regulations of the Securities and Exchange Commission (SEC). Any reference in these notes to applicable guidance is meant to refer to the authoritative accounting principles generally accepted in the United States as found in the Accounting Standard Codification (ASC) and Accounting Standards Updates (ASU) of the Financial Accounting Standards Board (FASB).

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires the Company's management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The Company's management considers many factors in selecting appropriate financial accounting policies and controls, and bases its estimates on historical experience and other market-specific or other relevant assumptions that it believes to be reasonable under the circumstances. In preparing these financial statements, management used significant estimates in the following areas, among others: the valuation of the Company's common stock and estimating accrued research and development expenses. The Company assesses the above estimates on an ongoing basis; however, actual results could materially differ from those estimates.

Cash Equivalents

Cash equivalents include all highly liquid investments maturing within 90 days from the date of purchase. As of December 31, 2022 and 2021, the Company's cash held in money market funds and certificate of deposits were classified as cash and cash equivalents on the accompanying balance sheets.

Concentrations of Credit Risk and Off-Balance Sheet Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of cash, cash equivalents, and accounts receivable. Cash and cash equivalents are deposited with federally insured financial institutions in the United States and may, at times, exceed federally insured limits. Management believes that the financial institutions that hold the Company's deposits are financially creditworthy and, accordingly, minimal risk exists with respect to those balances.

Fair Value of Financial Instruments

The Company's financial instruments consist mainly of cash and cash equivalents, accounts receivable, and accounts payable. The carrying amounts of cash and cash equivalents, prepaid assets, accounts receivable, and accounts payable approximate their estimated fair value due to their short-term maturities.

Accounting standards define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A three-level hierarchy is used to prioritize the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements), and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1—Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2—Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3—Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

To the extent that a 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.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, the Company's own assumptions are set to reflect those that market participants would use in pricing the asset or liability at the measurement date. The Company uses prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may change for many instruments. This condition could cause an instrument to be reclassified within levels in the fair value hierarchy.

Accounts Receivable

The Company has accounts receivable due from contracts from government sponsored organizations. Amounts payable to the Company are recorded in accounts receivable when the Company's right to consideration is unconditional. There is no allowance for doubtful accounts at December 31, 2022 or 2021. No account receivable balances were written off during the years ended December 31, 2022 or 2021.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the respective assets, which is generally five years for laboratory equipment. Maintenance and repairs, which do not improve or extend the life of the respective assets, are charged to operations as incurred.

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. In order to determine if assets have been impaired, assets are tested at the lowest level for which identifiable independent cash flows are available, which is at the entity level ("asset group"). An impairment loss is recognized when the sum of projected undiscounted cash flows is less than the carrying value of the asset group. The measurement of the impairment loss to be recognized is based on the difference between the fair value and the carrying value of the asset group. No impairment loss has been recorded during the years ended December 31, 2022 or 2021.

Revenue Recognition

The Company has contracts with the Department of Health and Human Services National Institute of Health (NIH) and other government-sponsored organizations for research and development related activities that provide for payments for reimbursed costs, which may include overhead and general and administrative costs as well as a related profit margin. The Company recognizes grant revenue from these contracts as it performs services under these arrangements when the funding is committed. Associated expenses are recognized when incurred as research and development expense. Grant revenue and related expenses are presented gross in the statements of operations as we have determined we are the primary obligor under the arrangements relative to the research and development services we perform as lead technical expert. Prefunded grant amounts are recorded as deferred revenue on the Company's balance sheets. Amounts incurred that are subject to reimbursement from the sponsor are recorded as accounts receivable on the Company's balance sheets.

Research and Development Costs

Costs related to research, design and development of cellular therapies are charged to research and development expense as incurred unless there is an alternative future use in other research and development projects. Research and development costs include, but are not limited to, payroll and personnel expenses, including stock-based compensation, for personnel contributing to research and development activities, laboratory supplies, outside services, and licenses and patent costs acquired to be used in research and development. Payments made prior to the receipt of goods or services to be used in research and development are deferred and recognized as expense in the period in which the related goods are received or services are rendered. License costs are expensed as research and development upon execution of the license agreement unless there is an alternative future use.

Clinical Trial Costs

Clinical trial expenses are a significant component of research and development expenses, and the Company outsources a significant portion of these costs to third parties. Third party clinical trial expenses include patient costs and costs for management of the trial. The accrual for site and patient costs includes inputs such as estimates of patient enrollment, patient cycles incurred, clinical site activations, and other pass-through costs. 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 on the balance sheets as a prepaid asset or accrued clinical trial cost. These third party agreements are generally cancellable, and related costs are recorded as research and development expenses as incurred. Non-refundable advance clinical payments for goods or services that will be used or rendered for future research and development activities are recorded as a prepaid asset and recognized as expense as the related goods are delivered or the related services are performed. The Company also records accrued liabilities for estimated ongoing clinical research and development costs. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the studies, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates may be made in determining the accrued balances at the end of any reporting period. Actual results could differ from the estimates made by the Company. The historical clinical accrual estimates made by the Company have not been materially different from the actual costs.

Payroll Tax Credits

The Company has generated research and development payroll tax credits under the provisions of the Internal Revenue Code. The Company adopted a policy to account for such government assistance as income when all conditions imposed by the government to be entitled to receive the funding have been substantially met.

Therefore, the Company recognizes, as income, payroll tax credits in the period it incurs payroll taxes for which the credit is earned. Amounts recognized that have not been collected from the government are recorded as a receivable on the Company's balance sheets. The Company recognized income of $126,160 and $114,797 during the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022 and 2021, the Company has a receivable balance of $351,116 and $224,956, respectively.

Income Taxes

The Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. A valuation allowance is provided to reduce the deferred tax assets to the amount that will more-likely-than-not be realized.

The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more-likely-than-not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes. To date, the Company has not incurred interest and penalties related to uncertain tax positions.

Preferred Stock

The Company records all preferred stock at their respective fair values on the dates of issuance less issuance costs. The Company classifies its preferred stock outside of stockholders' deficit when the redemption of such shares is outside the Company's control. The Company does not adjust the carrying values of the preferred stock to the liquidation preferences of such stock until such time as a deemed liquidation event is probable of occurring.

Stock Issuance Costs

Stock issuance costs, consisting primarily of legal expenses, are capitalized until stock is issued, at which time the costs are recorded in stockholders' equity as a reduction of additional paid-in-capital generated as a result of the issuance.

Stock-Based Compensation

The Company accounts for all stock-based compensation granted to employees and non-employees using a fair value method. Stock-based compensation is measured at the grant date fair value and is recognized over the requisite service period of the awards, usually the vesting period, on a straight-line basis. The Company has elected to account for forfeitures as they occur. Stock-based compensation expense recognized in the financial statements is based on awards that ultimately vest.

The Company calculates the fair value of its common stock by considering independent valuations by a third-party valuation specialist and considers factors it believes are material to the valuation process, including but not limited to, the price at which recent equity was issued by the Company to independent third parties or transacted between third parties, actual and projected financial results, risks, prospects, economic and market conditions, and estimates of weighted average cost of capital. The Company believes the combination of these factors provides an appropriate estimate of the expected fair value of the Company and reflects the best estimate of the fair value of the Company's common stock at each grant date.

Leases

The Company accounts for its leases in accordance with ASC Topic 842, Leases (ASC 842), and determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. Leases with a term greater than one year are recognized on the balance sheet as right-of-use assets, lease liabilities and, if applicable, long-term lease liabilities. The Company elected not to recognize leases with an original term less than one year on its balance sheet. Operating lease right-of-use (ROU) assets and their corresponding lease

liabilities are recorded based on the present value of lease payments over the expected remaining lease term. The interest rate implicit in lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rates, which are the rates incurred to borrow, on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment.

In accordance with the guidance in ASC 842, the fixed and in-substance fixed contract consideration must be allocated to lease and non-lease components based on their relative fair values. Non-components of a contract (e.g., administrative tasks that do not transfer a good or service to the Company, reimbursement or payment of a lessor's cost, etc.) do not receive an allocation of the consideration in the contract. Although allocation of consideration of lease and non-lease components is required, the Company elected the practical expedient to not separate lease components (e.g. land, building, etc.) and non-lease components (e.g., common area maintenance, consumables, etc.). The lease component results in an operating right-of-use asset being recorded on the balance sheet and amortized on a straight-line basis as lease expense. Right-of-use assets and operating lease liabilities are remeasured upon certain modifications to leases using the present value of remaining lease payments and the estimated incremental borrowing rate upon lease modification.

Recent Accounting Pronouncements

Recently Adopted

In August 2020, the FASB issued ASU 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40)*. ASU 2020-06 simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. The Company has adopted ASU 2020-06 as of January 1, 2021 using the full retrospective method. The adoption of ASU 2020-06 had no impact on the Company's financial statements and disclosures.

Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. Subsequently, in November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts. ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses. This ASU is effective for smaller reporting companies for fiscal years beginning after December 15, 2022, with early adoption permitted. The adoption of ASU 2016-13 is not expected to have an impact on the Company's financial position or results of operations upon adoption.

3. Fair Value Measurements

The following tables present the Company's assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$1,004	$1,004	$—	$ —
Certificates of deposit (included in cash equivalents)	25	25	—	—
Total assets	$1,029	$1,029	$—	$ —
Liabilities:				
Contingent payment to NIH	$ 461	$ —	$—	$461
Total liabilities	$ 461	$ —	$—	$461

	December 31, 2021			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash equivalents)	$4,502	$4,502	$—	$ —
Certificates of deposits (included in cash equivalents)	25	25	—	—
Total assets	$4,527	$4,527	$—	$ —
Liabilities:				
Contingent payment to NIH	$ 345	$ —	$—	$345
Total liabilities	$ 345	$ —	$—	$345

The fair value of the payment to NIH that is contingent upon certain liquidity or financing events (See Note 13) was based on significant inputs not observable in the market, including estimates regarding the probability of certain future events and outcomes and estimates regarding timing of those events and outcomes, with an applied discount representative of time value, that represents a Level 3 measurement within the fair value hierarchy. The following table summarizes the change in the fair value of the Company's contingent payment to NIH, which is classified within the Level 3 fair value hierarchy (in thousands):

	Total
Balance at December 31, 2020	$266
Change in fair value of contingent payment to NIH	79
Balance at December 31, 2021	$ 345
Change in fair value of contingent payment to NIH	116
Balance at December 31, 2022	$461

There were no transfers within the fair value hierarchy during the years ended December 31, 2022 or 2021.

4. Property and Equipment

Property and equipment consist of the following (in thousands):

	December 31,	
	2022	2021
Laboratory equipment	$ 779	$ 779
Less accumulated depreciation	(582)	(470)
Property and equipment, net	$ 197	$ 309

Depreciation expense was approximately $112,000 and $123,000 for the years ended December 31, 2022 and 2021, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	December 31,	
	2022	2021
Accrued external research and development costs	$758	$600
Accrued professional and consulting services	60	72
Accrued payroll	98	115
Accrued equipment	—	151
Other current liabilities	33	40
Accrued expenses and other current liabilities	$949	$978

6. Leases

The Company entered into an office lease in May 2018 for 4,762 square feet of space in an office building in Gaithersburg, Maryland. In 2021, the Company amended its lease for an additional 3,147 square feet of space in

the same building and to extend the lease term for its current leased space. The lease ends for both leased spaces in December 2027. The lease does not contain any renewal rights. The Company paid the landlord a security deposit of $25,000 which is included in long term assets on the Company's balance sheets.

For the years ended December 31, 2022 and 2021, the components of lease costs were as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Operating lease cost	$299	$191
Variable lease cost	147	57
Total lease cost	$446	$248

The maturity of the Company's operating lease liabilities as of December 31, 2022 were as follows (in thousands):

	December 31, 2022
2023	$ 300
2024	309
2025	318
2026	328
2027	28
Thereafter	—
Total future minimum lease payments	1,283
Less imputed interest	(175)
Total operating lease liabilities	$1,108

The supplemental disclosure for the statement of cash flows related to operating leases were as follows (in thousands):

	December 31,	
	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:	$260	$172

Other than the initial recording of the right-of-use asset and lease liability, which were non-cash, the changes in the Company's right-of-use asset and lease liability for the years ended December 31, 2022 and 2021 are reflected in the non-cash lease expense and accrued expenses and other liabilities, respectively, in the statements of cash flows.

The following summarizes additional information related to operating leases:

	December 31,	
	2022	2021
Weighted-average remaining lease term	4.1 years	5.08 years
Weighted-average discount rate	7.3 %	7.3 %

7. Preferred Stock

On January 26, 2021, the Company amended its Restated Certificate of Incorporation, to increase its authorized shares to 407 shares of preferred stock, $0.01 par value per share. In 2021, the Company issued 65.017 shares of Series B-1 preferred stock, with a par value of $0.01, at a price of $64,961.92 per share for consideration totaling $4,223,778. Upon the issuance of the Series B-1 Preferred Stock in January 2021, the Company reclassified its Series A and Series B Preferred Stock to temporary equity because such stock is redeemable upon the occurrence of certain events that are not solely within the control of the issuer. The reclassification to temporary equity of Series A and Series B Preferred Stock was recorded at the fair value.

Contemporaneous with the Series B-1 Preferred Stock offering, one of the Company's investors converted 50 shares of common stock into 50 shares of Series A Preferred Stock. The Company recorded the Series A Preferred Stock at fair value. The difference between the fair value of the Series A Preferred Stock and the fair value of the common stock at the date of the exchange was recorded as a Series B-1 Preferred Stock issuance cost. The difference between the original issuance price and the fair value of the common stock at the date of the exchange was recorded as an adjustment to retained earnings.

On December 12, 2022, the Company amended its Restated Certificate of Incorporation to increase its authorized shares to 602 shares of Preferred Stock. In December 2022, the Company issued 193.644 shares of Series B-2 preferred stock, with a par value of $0.01, at a price of $62,833.19 per share for consideration totaling $12,167,170. Cash consideration received in December 2022 was $10,834,164. The remaining $1,333,006 is included in stock subscription receivable on the accompanying December 31, 2022 balance sheet. The stock subscription receivable was collected in January 2023.

The Company’s preferred stock has the following characteristics:

Conversion Features

Preferred stockholders may voluntarily convert any or all of their preferred shares into common shares at any time at a price determined by dividing the original issue price by the conversion price for each series of preferred stock. There are provisions which require adjustment to this conversion price in the event of certain dilution events. However, In the event of a liquidation, dissolution or winding up of the Company or a deemed liquidation event, the conversion rights shall terminate.

Upon either (a) the closing of the sale of shares of common stock to the public at a price of at least $62,833.19 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $50,000,000 of gross proceeds (net of underwriting discount and commissions) to the Company or (b) the date and time, or the occurrence of an event, specified by vote or written consent of at least seventy- five percent (51%) of the outstanding preferred stock, voting as a single class, then (i) all outstanding shares of preferred stock shall automatically be converted into shares of common stock, at the then effective conversion rate and (ii) such shares may not be reissued by the Company.

Voting Rights

On any matter presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of preferred stock shall be entitled to cast the number of votes equal to the number of whole shares of common stock into which the shares of preferred stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter.

The holders of record of the shares of preferred stock, exclusively and as a separate class, are entitled to elect one (1) director of the Company and the holders of record of common stock, exclusively and as a separate class, are entitled to elect one (1) director of the Company. The holders of record of common stock and preferred stock, exclusively and voting together as a single class, are entitled to elect the balance of the total number of directors of the Company.

Dividends

Dividends may be paid at the Board of Directors' discretion. However, the preferred stockholders are entitled to receive dividends prior to payment of dividends to common stockholders.

Liquidation Preference

Upon liquidation of the Company (whether voluntary or not), each preferred stockholder shall be entitled to be paid prior to common stockholders.

Redemption

The preferred stock is not redeemable at the option of the holder or the Company, except in accordance with a deemed liquidation event.

8. Common Stock

On January 26, 2021, the Company amended its Restated Certificate of Incorporation, to increase its authorized shares to 3,200 shares of Common Stock, par value $0.01 per share.

The voting, dividend and liquidation rights of the common stockholders are subject to and qualified by the rights, powers and preferences of the preferred stock. The common stock has the following characteristics:

Voting

The common stockholders are entitled to one vote for each share of common stock held with respect to all matters voted on by the stockholders of the Company.

Dividends

The common stockholders are entitled to receive dividends, if and when declared by the Board of Directors. Through December 31, 2022, no dividends have been declared or paid on common stock.

Liquidation

Upon liquidation of the Company, the common stockholders are entitled to receive all assets of the Company available for distribution to such stockholders.

9. Stock-Based Compensation Expense

The Company has a 2016 Stock Incentive Plan (the 2016 Plan) that permits granting of options or restricted stock to employees, officers, directors, consultants and advisors to the Company. The grantees, and grant dates, are determined and approved by the Board or a committee designated by the Board. The plan allows for the issuance of up to 200 shares of common stock. The awards typically include graded vesting over four years (i.e., 25% vest at the end of each year) with a ten year contractual term. Additionally, under the individual award agreements, only full shares can be exercised.

In April 2021, the Company repriced and reissued all its prior stock option awards with an exercise price above $23,005 per share to an exercise price of $23,005 per share (the 2021 Repricing). The Company accounted for the 2021 repricing as a modification for accounting purposes. For options vested at the modification date, the Company immediately recognized the difference between the fair value of the modification award and its original grant date value. For unvested awards at the modification date, the Company recognized the sum of the unrecognized compensation cost of the shares plus the incremental fair value of the modified award over the remaining service period. Additionally, in October 2022, the Company modified a stock option held by an option holder upon termination of their employment by the Company. The stock option was modified to accelerate vesting. The aggregate amount of expense recognized in connection with these modifications was approximately $8,000 and $305,000 for the years ended December 31, 2022 and 2021, respectively.

Stock-based compensation expense by classification included within the statements of operations and comprehensive income (loss) was as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Research and development	$719	$790
General and administrative	—	—
Total stock-based compensation expense	$719	$790

The estimated grant date fair values of employee stock option awards granted under the 2016 Plan were calculated using the Black-Scholes option pricing model, based on the following range of assumptions:

	Year Ended December 31,	
	2022	2021
Risk-free interest rate	1.13% - 1.96%	0.85% - 1.45%
Dividend yield	—	—
Expected term	1.0 - 7.0	5.0 - 7.0
Expected volatility	95 %	95 %
Fair value of common stock	$23,005	$23,005 - 64,962

The expected term of the Company's stock options granted to employees has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. Under the simplified method, the expected term is presumed to be the midpoint between the vesting date and the end of the contractual term. The Company utilizes this method due to lack of historical exercise data and the plain nature of its stock-based awards.

The weighted average grant date fair value of stock options granted to employees during the years ended December 31, 2022 and 2021 was $16,862 and $27,881, respectively.

As of December 31, 2022, total unrecognized compensation expense related to unvested employee stock options was approximately $969,000, which is expected to be recognized over a weighted average period of 2.13 years.

The following table summarizes the stock option activity under the 2016 Plan and includes the effect to the 2021 Repricing:

	Number of options	Weighted-average exercise price ($)	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2021	153	$18,755	7.88	$650
Granted	9	$23,005		
Exercised	(3)	$23,005		
Forfeited	(7)	$23,005		
Outstanding at December 31, 2022	152	$18,727	6.90	$425
Vested at December 31, 2022	110	$17,094	6.25	$425
Vested and expected to vest at December 31, 2022	152	$18,727	6.90	$425

10. Income Taxes

The Company provides for income taxes under ASC 740. Under ASC 740, the Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax bases of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse.

The income tax provision shown on the statements of income for the years ended December 31, 2022 and 2021 consists of the following (in thousands):

	Year Ended December 31,	
	2022	2021
Current: Federal	$ —	$—
State	—	—
Deferred: Federal	—	—
State	—	—
Total	$—	$—

The following table provides a summary of difference between income tax benefit for the year ended December 31, 2022 and 2021, computed by applying the statutory federal income tax rate to earnings before taxes:

	Year Ended December 31,	
	2022	2021
Loss before Income Tax	$ (6,455)	$ (3,640)
Tax provision (benefit) at federal statutory rate	(1,356)	(764)
State tax (net of federal benefit)	(421)	(237)
Stock Based Compensation	197	216
Non-deductible items and other permanent differences	—	(60)
Deferred Adjustments	—	—
Valuation Allowance	2,096	845
Research and development credit	(516)	—
Total Income Tax Provision	$ —	$ —

The Company's effective tax rate for the years ended December 31, 2022 and 2021 was 0.0%, primarily due to the full valuation allowance.

The tax effects of temporary differences that give rise to the Company's net deferred tax assets are as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Deferred Tax Assets		
Net operating loss carryforwards	$ 4,711	$ 5,012
Intangibles	7	7
Operating lease right-of-use liabilities	305	352
Stock based compensation	45	44
Research and development expenses	1,293	—
Charitable contribution carryforward	10	41
Accrual to cash	63	—-
Research and development credit carryforward	784	268
Gross deferred tax assets	$ 7,218	$ 5,724
Deferred Tax Liabilities		
Fixed Assets	$ (54)	$ (85)
Accrual to cash	—	(513)
Operating lease right-of-use assets	(271)	(329)
Gross deferred tax liabilities	(325)	(927)
Net deferred tax assets before valuation allowance	6,894	4,798
Valuation allowance	(6,894)	(4,798)
Net deferred tax assets	$ —	$ —

The Company has provided a full valuation allowance against its net deferred tax assets, as the Company believes that it is more likely than not that the deferred tax assets will not be realized. As of December 31, 2022, the Company has a net operating loss carryforward totaling $17.2 million (gross) that may be offset against future taxable income, of which $17.0 million can be carried forward indefinitely but will be subject to an 80% limitation. The Company has $0.5 million and $0.0 million, respectively, of federal and state research and

development tax credit carryforwards, which will expire at various times through 2038. Utilization of the NOL carryforwards and research credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended (the Code), and similar state law due to ownership changes that could occur in the future.

The Company applies ASC 740, *Income Taxes* to uncertain tax positions. As of the adoption date and through December 31, 2022, the Company had no unrecognized tax benefits or related interest and penalties accrued. The Company files income tax returns in the U.S. federal and Maryland jurisdictions. The Company is no longer subject to U.S. federal and Maryland income tax examinations by tax authorities for years before 2019. There are currently no federal, state or foreign audits in progress.

11. Commitments and Contingencies

As of December 31, 2022, the Company was not a party to any litigation that could have a material effect on the Company's business, financial position, results of operations or cash flows. The Company is a party in various other contractual disputes and potential claims arising from the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

12. Defined Contribution Plan

The Company maintains a defined contribution plan, or the 401(k) Plan, under Section 401(k) of the Internal Revenue Code. 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 pretax basis. The 401(k) Plan provides for matching contributions on a portion of participant contributions pursuant to the 401(k) Plan's matching formula. The Company did not make any matching contributions during each of the years ended December 31, 2022 and 2021, respectively.

13. License Agreements

National Institutes of Health – multiple myeloma

In September 2015, the Company entered into an exclusive license agreement, which was subsequently amended in December 2022, with the National Institutes of Health (NIH) for rights relating to anti-BCMA CARs and CAR T-cells for treatment of multiple myeloma, wherein the CAR is expressed by certain non-viral methods. The license granted is worldwide and sublicensable. The Company agreed to pay, with certain exceptions, minimum five-figure annual license fees, which shall increase to $150,000 beginning in 2025. Additionally, the Company will incur a low single-digit royalty on Net Sales, plus a low double-digit sublicensing royalty, if any, on any sublicense consideration.

Additionally, the Company agreed to a non-refundable license royalty of either i) three-quarters of one percent (0.75%) of the Company's fair market value at the time of its first Liquidity Event; or ii) $579,000 upon reaching forty million dollars ($40,000,000) in cumulative investor financing. The Company concluded the contingent payment met the definition of a derivative liability under ASC 815. As such, the Company recorded a liability on its balance sheet of $460,758 and $345,322 as of December 31, 2022 and 2021, respectively. The associated expense was recorded as research and development expense in the respective periods. The Company estimated the liability at each balance sheet date as the present value of the probability weighted contingent payment amounts. In November 2023, the Company entered into a merger agreement with Selecta (see Subsequent Events note below), whereby the Company elected to pay $579,000 to the NIH in full satisfaction of the royalty provision. Payment was made in December 2023.

National Institutes of Health – autoimmune diseases

In July 2019, the Company entered into a nonexclusive license agreement with the National Institutes of Health for rights relating to certain anti-BCMA CARs and CAR T-cells for treatment of certain autoimmune diseases, wherein the CAR is expressed by certain mRNA methods. The license granted is worldwide and sublicensable.

In connection with this license agreement, the Company agreed to an upfront $100,000 license fee. The Company agreed to pay, with certain exceptions, minimum low five-figure annual license fees. Additionally, the Company will incur low single-digit royalties on Net Sales. The Company also agreed to pay up to $0.8 million upon the achievement of designated milestones.

14. Subsequent Events

In September 2023, the Company entered into a non-exclusive license agreement with Biogen MA, Inc. (Biogen) for rights related to certain anti-BCMA proteins. The license granted is worldwide and sublicensable. In connection with this license agreement, the Company agreed to an upfront payment of $500,000 license fee that was paid in October 2023. Additionally, the Company agreed to pay a mid-five-figure annual fee to Biogen. There are no other fees or royalties associated with the license. Biogen remains responsible for maintenance of the licensed patents and costs thereof.

On November 13, 2023, the Company entered into an Agreement and Plan of Merger with Selecta Biosciences, Inc. under which the existing shareholders of the Company received 6,723,639 shares of Selecta common stock and 384,930.724 shares of Selecta Series A Non-Voting Convertible Preferred Stock in exchange for all of the Company's assets. Upon the merger, the Company became a wholly owned subsidiary of Selecta, which on the merger date, changed its name to Cartesian Therapeutics, Inc.

6,501,150 Shares

Cartesian Therapeutics, Inc.

Common Stock

Offered by the Selling Stockholders

PROSPECTUS

October 1, 2024