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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2024

OR

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

Commission File Number 001-42179

Artiva Biotherapeutics, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**83-3614316**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5505 Morehouse Drive, Suite 100 San Diego CA	**92121**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (858) 267-4467

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Registrant did not have an aggregate market value for the common equity held by non-affiliates of the Registrant on the last business day of its most recently completed second fiscal quarter because there was no public market for the Registrant's common equity as of such date.

The number of shares of Registrant's Common Stock outstanding as of March 19, 2025 was 24,363,119.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement relating to its 2025 annual meeting of shareholders (the Proxy Statement) are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

Artiva Biotherapeutics, Inc.
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this Annual Report on Form 10-K, including statements regarding future events, our business strategy, and the plans and objectives of management for future operations, are forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections. In some cases, you can identify forward-looking statements because they contain words such as "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," or "would," or the negative of these words or other similar terms or expressions.

These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the success, cost, timing and potential indications of our product development activities and clinical trials, including the ongoing clinical trials of AlloNK;
- the timing of our planned Investigational New Drug application (IND) submissions to the United States Food and Drug Administration (FDA) for our product candidates, including AlloNK;
- the timing of the initiation, enrollment and completion of planned clinical trials;
- the ability to obtain regulatory approval for our manufacturing facility in San Diego, California and the cost and timing associated therewith;
- our ability to obtain and maintain regulatory approval of our product candidates, including AlloNK, in any of the indications for which we plan to develop them, and any related restrictions, limitations and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations, including funding necessary to complete the clinical trials of any of our product candidates, including AlloNK;
- our plans to research and develop our product candidates, including AlloNK;
- our ability to attract and retain collaborators with development, regulatory and commercialization expertise;
- the size of the markets for our product candidates, and our ability to serve those markets;
- our ability to successfully commercialize our product candidates, including AlloNK;
- the rate and degree of market acceptance of our product candidates, including AlloNK;
- our ability to develop and maintain sales and marketing capabilities, whether alone or with potential future collaborators;
- the performance of our third-party suppliers and manufacturers;
- the success of competing therapies that are or become available;
- existing regulations and regulatory developments in the United States and other jurisdictions;
- the implementation of our business model and strategic plans for our business and operations;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;

- our expectations regarding the impact of global health pandemics, geopolitical conflicts and economic uncertainty, including rising interest rates and inflation on our business and operations, including clinical trials, collaborators, contract research organizations (CROs) and employees;
- our expectations regarding the period during which we will qualify as an emerging growth company under the Jumpstart Our Business Startups Act (JOBS Act); and
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates and our ability to operate our business without infringing on the intellectual property rights of others.

These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this Annual Report on Form 10-K and are subject to risks and uncertainties. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report on Form 10-K, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. We discuss many of the risks associated with the forward-looking statements in greater detail under the heading "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we undertake no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

We may use our website as a means of disclosing material non-public information and for complying with our disclosure obligations under Regulation Fair Disclosure promulgated by the U.S. Securities and Exchange Commission (SEC). These disclosures will be included on our website under the "Investors" section.

Risk Factor Summary

Below is a summary of the principal risks and uncertainties that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks that we face, follows this summary, and should be carefully considered, together with other information in this Annual Report on Form 10-K and our other filings with the SEC before making investment decisions regarding our securities. This summary is qualified in its entirety by that more complete discussion of such risks and uncertainties.

The following is a summary of the principal risks and uncertainties described in more detail in this Annual Report:

- We have a limited operating history, have not completed any clinical trials and have no products approved for commercial sale, which may make it difficult for you to evaluate our current business and predict our future success and viability.
- We will need to obtain substantial additional funding to complete the development and any commercialization of our current and any future product candidates, which may cause dilution to our stockholders. If we are unable to raise this capital when needed, we may be forced to delay, reduce or eliminate our research and development programs or other operations.
- Our approach to the development of NK cell-based product candidates is unproven, and we do not know whether we will be able to develop any products of commercial value, or if competing technological approaches will limit the commercial value of our product candidates or render our platform obsolete.
- Our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of developing product candidates and obtaining regulatory approval for any product candidates that we develop.
- We are early in our development efforts and are substantially dependent on the success of our lead product candidate, AlloNK, which is in early clinical development. Although we have other product candidates in our pipeline being developed by our partners, all of our other internally developed product candidates are in the preclinical or discovery stage. If we are unable to advance our product candidates in clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.
- Current clinical data regarding the efficacy of NK cell therapies against autoimmune diseases are limited, raising uncertainties about the therapeutic benefits of treatments like AlloNK for conditions such as SLE, LN, RA, PV, GPA / MPA and other autoimmune diseases. Moreover, these therapies may not prove to be competitive compared to existing treatments for autoimmune diseases.
- Clinical trials are expensive, time-consuming, difficult to design and implement, and have an uncertain outcome. Further, we may encounter substantial delays in our clinical trials.
- Our product candidates may cause serious adverse events or undesirable side effects or have other properties that may delay or prevent regulatory approval, cause us to suspend or discontinue clinical trials, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.
- Enrollment and retention of patients in clinical trials is an expensive and time-consuming process subject to various external factors beyond our control that may cause delays or complications.
- Results of any patient who receives our product candidate in an investigator initiated trial should not be viewed as representative of how the product candidate will perform in our clinical trials and may not be able to be used to establish safety or efficacy for regulatory approval.
- The affected populations for our product candidates may be smaller than we or third parties currently project, which may affect the addressable markets for our product candidates.

- Our collaboration agreements with Affimed GmbH, a subsidiary of Affimed N.V. (Affimed), GC Cell Corporation (GC Cell) and any future collaborations with third parties to develop or commercialize our product candidates, mean that our prospects with respect to the product candidates involved will depend in significant part on the success of those collaborations.
- The manufacture of cell therapy products is novel, complex and subject to multiple risks. We could experience manufacturing problems, and/or we could be required to or choose to modify our manufacturing processes, which could result in delays in the development or commercialization of our product candidates or otherwise harm our business.
- We currently rely on GC Cell for the manufacturing of certain of our product candidates. While we have built our own clinical manufacturing facility and may decide to operate our manufacturing facility at commercial-scale, we may encounter delays, quality or other issues if and when we begin to use our manufacturing facility for supply, and will continue to rely on GC Cell at least partially for manufacturing of our product candidates in the near term.
- Our partial reliance on third parties for manufacturing increases the risk that supply of our product candidates may become limited or interrupted or may not be of satisfactory quality and quantity.
- We are dependent on third parties to acquire, ship and store our cord blood units, NK cell master cell banks and drug product lots, viral vectors, and master and working feeder cell banks, and any disruption, quality concerns, damage or loss would cause delays in replacement and our business could suffer.
- Our cell therapy products depend on the availability of reagents and specialized materials and equipment, including cord blood and viral vectors, which in each case are required to be acceptable to the FDA and comparable foreign regulatory authorities, and such reagents, materials, and equipment may not be available to us on acceptable terms or at all. We and our third-party manufacturers rely on third-party suppliers for various components, materials and equipment required for the manufacture of our product candidates, some of which are single-source products, and do not have supply arrangements for certain of these components.
- We face significant competition from other biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.
- We depend substantially on intellectual property rights granted under our agreements with GC Cell. If we lose our existing licenses or are unable to acquire or license additional proprietary rights from third parties, we may not be able to continue developing our product candidates.
- We will need to expand our organization, and we may experience significant challenges in managing this growth as we build our capabilities, which could disrupt our operations.
- Our future success depends on our ability to retain our key personnel and to attract, retain and motivate qualified personnel.

PART I

Item 1. Business.

Overview

We are a clinical-stage biotechnology company focused on developing natural killer (NK) cell-based therapies for patients suffering from devastating autoimmune diseases and cancers. Our product candidates are derived from donor cells (allogeneic) rather than a patient's own cells (autologous) and are pre-manufactured, and stored frozen and ready to ship to a patient's treatment location, making them what we believe to be "off-the-shelf." Our lead product candidate, AlloNK, is a non-genetically modified, cryopreserved NK cell therapy being evaluated in combination with B-cell targeted monoclonal antibodies (mAbs) in an ongoing Phase 1/1b trial in SLE with or without lupus nephritis (LN) and a basket investigator-initiated trial (IIT) in multiple autoimmune indications. Seminal peer-reviewed clinical studies using autologous CD19 chimeric antigen receptor (CAR) T-cell therapy (auto-CAR-T) for the treatment of autoimmune diseases have demonstrated that deep B-cell depletion in the periphery and in the lymphoid tissue can lead to drug free disease remission. We have already demonstrated that AlloNK in combination with rituximab was able to drive deep B-cell depletion in the periphery and observed complete responses (CRs) in heavily pre-treated patients naïve to auto-CAR-T in our ongoing Phase 1/2 clinical trial in patients with relapsed or refractory B-cell-non-Hodgkin lymphoma (B-NHL). We believe the preliminary results from our Phase 1/2 clinical trial evaluating AlloNK in combination with rituximab in patients with B-NHL provide a readthrough to autoimmune disease because efficacy in both diseases appears to be accomplished with a shared mechanism of action involving B-cell depletion in the periphery and in the lymphoid tissues, followed by an immunological reset and B-cell reconstitution. We expect to report initial data on autoimmune indications from at least one of our Phase 1/1b trial or the basket IIT in the first half of 2025.

To our knowledge, AlloNK was the first allogeneic, off-the-shelf NK cell therapy candidate to receive Investigational New Drug application (IND) clearance to be administered to a patient with an autoimmune disease in a U.S. clinical trial, and to receive United States Food and Drug Administration (FDA) Fast Track designation in an autoimmune disease. Additionally, to our knowledge, AlloNK is the first allogeneic NK cell therapy candidate in the United States to receive IND clearance for a basket trial in autoimmune diseases, and specifically the first to be evaluated in rheumatoid arthritis (RA), pemphigus vulgaris (PV), and the anti-neutrophil cytoplasmic antibody (ANCA) associated vasculitis (AAV) subtypes granulomatosis with polyangiitis (GPA) / microscopic polyangiitis (MPA), which we are exploring through a basket IIT. We believe as we continue to execute on our strategic plan that these critical first mover advantages will solidify our leadership in multiple autoimmune diseases with high unmet need. Receiving IND clearance and any special designations, such as Fast Track designation, does not guarantee an accelerated review of AlloNK or increase the likelihood of approval of AlloNK by the FDA. Given our early stage of development, it will take several years before we complete clinical development and receive regulatory approval of AlloNK or any of our product candidates, if at all.

B-Cell Driven Autoimmune Disease Background, Prevalence and Unmet Need

Many autoimmune diseases occur when autoreactive B-cells produce autoantibodies that target the body's own healthy cells and tissues, which can lead to significant morbidity and long-term steroid use. This presents an opportunity to develop treatments that deplete B-cells in a variety of autoimmune diseases such as RA, multiple sclerosis (MS), systemic lupus erythematosus (SLE), LN, AAV, systemic sclerosis (SSc), myasthenia gravis (MG), and myositis, which together account for approximately 6.8 million patients in the United States and Europe alone. Global sales for autoimmune disease, treatments for which in 2023 reached approximately $160 billion (including $65 billion for the top ten immunology and inflammation drugs focused on rheumatology) and represent the second-largest class of spending behind oncology, are expected to continue to grow.

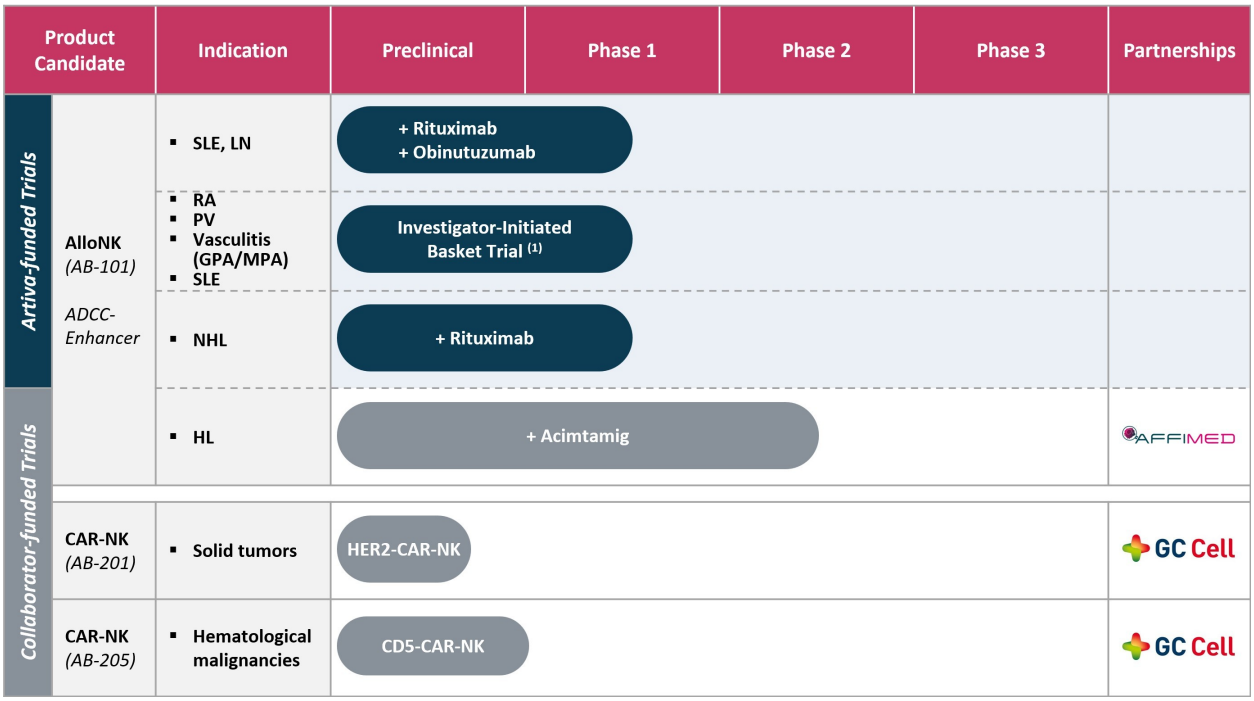
Approved treatments for autoimmune diseases encompass various classes of therapies, including steroids, mycophenolate mofetil (MMF), anti-tumor necrosis factor alpha (TNFα) agents and interleukin (IL) inhibitors. Even though these therapies largely provide general immunosuppression and manage symptoms of disease, many patients still suffer from disease progression, leading to worsening complications. Furthermore, chronic use of these therapies typically creates secondary complications for patients, including, but not limited to, increased risk of infections and cancer, cardiovascular disease, hypertension, Cushing's disease, diabetes and osteoporosis.

While auto-CAR-T cell therapies have demonstrated the transformative potential of cell therapy, adoption has been limited since their initial approvals due to several factors, including but not limited, to safety, patient access, and scalability. We believe AlloNK in combination with B-cell targeted mAbs represents the next-generation of B-cell depleting therapies because it aims to address important limitations of auto-CAR-T, including:

- *Scalability:* AlloNK can be manufactured at scale, cryopreserved, easily transported through cold-chain logistics, and we believe be made readily available for patients. In contrast, auto-CAR-T requires a complex, costly, and lengthy manufacturing process that is individualized for each patient. The need for hospitalization further compounds the challenges of scalability and access, adding financial burden to the healthcare system. For example, toxicity and extended hospitalization from treatment with auto-CAR-T could add an incremental financial burden of over $1 million per patient. The scalability of our process creates the potential to expand treatment access to the many autoimmune patients annually who currently live with the consequences of long-term steroid use.
- *Safety:* As a result of autologous and allogeneic CAR-T cell therapies' association with immune effector cell-associated neurotoxicity syndrome (ICANS), cytokine release syndrome (CRS) and other severe adverse events, treatment is generally only available at advanced clinical centers capable of supporting these patients. Conversely, in our clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL, as of April 8, 2024, more than two thirds of the patients were not hospitalized within 30 days of dosing AlloNK. We believe this demonstrates, the ability of AlloNK to be administered and managed in an outpatient setting, with limited risk of required hospitalization.
- *Cost:* Cost of goods sold (COGS) to manufacture auto-CAR-Ts is estimated at over $100,000 per treatment course, limiting flexibility in therapy pricing. Assuming a range of one billion to four billion AlloNK cells per dose and three doses for a treatment regimen of an aggregate of three billion to twelve billion AlloNK cells total per patient with autoimmune disease, AlloNK's COGS per patient would be below a range of $3,000 to $12,000, approximately an order of magnitude below the current COGS of auto-CAR-T. As auto-CAR-Ts move from their currently marketed indication of hematological malignancies towards chronic and more prevalent autoimmune diseases, AlloNK's extremely competitive commercial COGS could allow for advantageous pricing flexibility and payor coverage, if approved.

Our Pipeline

Our lead product candidate, AlloNK, is currently being evaluated in combination with B-cell targeted mAbs in patients with autoimmune diseases and cancers, such as SLE, LN, RA, PV, the ANCA-associated vasculitis subtypes GPA / MPA and B-NHL. In addition, we are also pursuing AlloNK and our CAR-NK product candidates in multiple indications through collaborator-funded trials. Our current pipeline is depicted below.



Note: Artiva holds ex-APAC rights to all programs.

(1) The IIT will initially enroll patients with RA, PV, GPA / MPA, and SLE.

AlloNK Overview

AlloNK is an allogeneic, off-the-shelf, cryopreserved NK cell therapy candidate designed to enhance the antibody-dependent cellular cytotoxicity (ADCC) effect of mAbs to drive B-cell depletion and to be administered in the community setting. Using our proprietary cell therapy manufacturing platform, we can generate thousands of doses of cryopreserved, infusion-ready AlloNK from a single cord blood unit.

Our lead product candidate, AlloNK, is being evaluated in combination with B-cell targeted mAbs in an ongoing Phase 1/1b trial in patients with SLE with or without LN, a type of kidney disease that manifests from SLE, and a basket IIT in multiple autoimmune indications. LN is reported to affect approximately half of all patients with SLE. There are an estimated 210,000 SLE patients with LN across the United States and Europe, and approximately 30% do not respond to currently available treatments and can develop end stage renal disease and require dialysis.

We have begun dosing and are continuing to enroll our Phase 1/1b open-label multi-center clinical trial in combination with rituximab or obinutuzumab in patients with SLE with or without LN who previously failed treatment. In addition, AlloNK in combination with rituximab or obinutuzumab has been granted Fast Track designation by the FDA to improve disease activity in patients with class III or class IV LN. We also received Fast Track designation for AlloNK for intravenous (IV) infusion in combination with rituximab for the treatment of relapsed or refractory B-NHL to improve cancer response rates. Fast Track designation does not guarantee an accelerated review of AlloNK or increase the likelihood that AlloNK will receive regulatory approval by the FDA.

In April 2024, the FDA cleared an IND submitted by Integral Rheumatology & Immunology Specialists (IRIS), a large community practice rheumatology clinic in Florida, to conduct a basket IIT to assess the safety, tolerability and clinical activity of AlloNK in combination with rituximab in patients with RA, PV, the ANCA-associated vasculitis subtypes GPA / MPA and SLE. We supply AlloNK and funding for the IIT, but unlike our sponsored clinical trials, IRIS is the regulatory sponsor of, and responsible for, the conduct of the IIT. Treatment of the first patient in the basket IIT was initiated in August 2024.

We intend to pursue additional autoimmune diseases with AlloNK in combination with B-cell targeted mAbs.

Because AlloNK can be used with mAbs that target different antigens based on the target cell's antigen expression, we believe we have the versatility to use AlloNK in combination with different mAbs to deplete distinct B-cell subpopulations. AlloNK has the potential to be used with a CD19 or CD20 targeting mAb to determine which drives a more robust response. Furthermore, emerging evidence with auto-CAR-T targeting B-cell maturation antigen (BCMA), a plasma cell antigen, either alone or dual-targeted with CD19, has shown distinct therapeutic activity in several indications when compared with CD19-only auto-CAR-T. We believe AlloNK in combination with approved anti-CD38 mAbs could target a similar plasma cell population. We believe this versatility will enable us to pursue a wider range of indications than cell therapies engineered against specific targets.

Our Collaborator-Funded Trials

We have a collaboration with Affimed, whereby we are investigating AlloNK in a Phase 2 trial in combination with acimtamig, a CD30-targeted NK cell engager, in CD30+ Hodgkin lymphoma (HL). In addition, we own exclusive worldwide rights (excluding Asia, Australia and New Zealand (ex-APAC)) for AB-201, a human epidermal growth factor receptor 2 (HER2) targeting CAR-NK cell product candidate, and for AB-205, a CD5 directed CAR-NK cell product candidate.

Manufacturing Capabilities

We have a manufacturing-first approach, referencing the fact that even before we were founded, our strategic partner, GC Cell, had already invested years pioneering the manufacturing process that we use today. Unlike most other companies in the NK field who started clinical development before establishing a scalable manufacturing process, we started clinical development with a mature and robust process in place. Our process is designed to allow us to produce off-the-shelf, allogeneic NK cell therapy candidates and to potentially meet the scale of commercial demand, with the mission to make these therapies broadly accessible for patients with devastating autoimmune diseases and cancers. We leveraged our deep expertise in NK cell biology to establish an end-to-end proprietary process in collaboration with GC Cell. In our San Diego headquarters, we have established a 9,000 square foot, purpose-built cell production center that is compliant with current Good Manufacturing Practices (cGMP) and capable of producing enough vials to treat over 250 to 1,000 autoimmunity patients annually, depending on the cells per dose used. Furthermore, assuming a range of one billion to four billion AlloNK cells per dose and three doses for a treatment regimen of an aggregate of three billion to twelve billion AlloNK cells total per patient with autoimmune disease, AlloNK COGS per patient would be below a range of $3,000 to $12,000, approximately an order of magnitude below the current COGS of auto-CAR-T.

Our Management Team, History and Investors

We were founded in 2019 as a spin out of GC Cell, formerly GC Lab Cell Corporation, a leading healthcare company in the Republic of Korea (Korea), pursuant to a strategic partnership granting us exclusive, worldwide, ex-APAC, rights to GC Cell's NK cell manufacturing technology and programs. GC Cell has an established track record in cell therapy, with over two decades of cell therapy research, process development and manufacturing experience, as well as a clinical and commercial track-record outside the United States with the first ever marketed T-cell product, Immuncell-LC, which received South Korean Ministry of Food and Drug Safety (MFDS) approval for hepatocellular carcinoma in 2017. An investigational version of the product candidate also received FDA Orphan Drug Designation for pancreatic cancer, liver cancer and glioblastoma in 2018. In addition, GC Cell spent over a decade optimizing the manufacturing process for NK cell therapeutics, including selection of cord blood as a starting material, expanding process scale and enabling cryopreservation. GC Cell utilizes a custom-built

300,000 square foot cell therapy research, process development and cGMP manufacturing facility from which we were able to produce drug product for our first clinical trials in the United States.

Our team is led by executives who have deep experience in their respective functions in cell therapy with multi-faceted experience across a company's life cycle. Our leadership team has extensive combined experience in therapeutics, medical devices and diagnostics companies. We have also assembled scientific advisors with deep experience in both cell therapy and autoimmune disease who are actively involved in our drug development process and programs.

Our Mission

Our mission is to develop effective, safe and accessible cell therapies for patients with devastating autoimmune diseases and cancers.

Our Strengths

We believe that our company and therapeutic candidates possess the following competitive strengths.

- **Autoimmune disease treatment approach supported through scientific publications and our ongoing clinical trial.** Our conviction in the transferability of our proposed mechanism of action from treatment of B-NHL to treatment of autoimmune diseases is driven by both the peer reviewed scientific publication of clinical trial results of auto-CAR-T in autoimmune diseases as well as preliminary data from our ongoing Phase 1/2 clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL. In all 29 patients in our trial with samples analyzed, as of March 26, 2024, following the first cycle of treatment, all patients achieved non-quantifiable peripheral B-cell levels by Day 8 (except for one patient who achieved such B-cell depletion by Day 15) following the start of therapy, regardless of B-cell levels at baseline. We believe this data provides support for a B-cell depleting mechanism of action of AlloNK in combination with B-cell targeted mAbs. AlloNK in combination with rituximab has also demonstrated CRs in B-NHL patients as measured by imaging of tumor lesions. Because of the common tissues of interest, principally the lymphoid tissues, in B-NHL and autoimmune diseases, we believe data in these B-NHL patients provides supporting evidence for our proposed mechanism of action in autoimmune disease. In the Phase 1 portion of this trial, as of April 30, 2024, in the fourteen patients who were naïve to CAR-T, the overall response rate (ORR), which is the proportion of patients who have a partial response (PR) or CR, was 71%, including eight CRs (57%), and two PRs (14%), as determined by the Lugano 2014 criteria. The Lugano 2014 criteria is a widely accepted and published methodology used in clinical trials as well as in clinical practice for response assessment in lymphoma. The criteria recommend a combination of disease morphology assessment using computed tomography (CT) and lesion metabolic activity assessment on positron emission tomography (PET), with PET metabolic assessments being the driver for overall response assessment. For further description of the 2014 Lugano criteria, please see pages 131-132. Thirteen of these patients had aggressive forms of B-NHL, and the CR rate in this subset, as determined by the Lugano 2014 criteria, was 62%. As of the April 30, 2024, data cutoff date, six of the eight patients with a CR had an ongoing response (meaning continuation of the CR at all follow-up points), with five of these patients remaining progression free at six months or later. The longest responder remained progression free for at least 18 months after the start of treatment. We believe these data support that AlloNK in combination with B-cell targeted mAbs has the potential to provide deep B-cell depletion in common target tissues between B-NHL and autoimmune diseases and offer therapeutic potential, a differentiated safety profile and patient accessibility in numerous autoimmune diseases.
- **Versatile mAb combination approach allows flexibility to tailor targeting approach to specific B-cell subpopulations.** We believe combining AlloNK with approved B-cell targeted mAbs may offer therapeutic benefits in a broad range of B-cell-driven diseases. AlloNK, as a non-genetically modified, non-targeted NK cell, is designed to utilize a mAb for targeting. Therefore, we believe different mAbs could be used to target distinct B-cell populations based on the target cell's antigen expression. Beyond rituximab and other anti-CD20 mAbs, we have already conducted numerous preclinical studies in which we have shown cytotoxic activity of AlloNK in combination with other approved B-cell targeted mAbs, such as anti-CD19 and anti-CD38 mAbs. Emerging evidence with auto-

CAR-T targeting the plasma cell antigen BCMA, either alone or dual-targeted against CD19, has shown distinct therapeutic activity in several indications when compared with CD19-only auto-CAR-T, and we believe AlloNK in combination with approved anti-CD38 mAbs could target a similar plasma cell population. We have the opportunity to develop AlloNK in combination with approved B-cell targeted mAbs using a variety of targets, including the potential for dual targeting by treating in combination with two mAbs. We believe this versatility will enable us to pursue a wider range of indications than cell therapies engineered against specific targets.

- **Proprietary manufacturing process allows for scalable and potentially cost effective AlloNK production.** Our robust chemistry, manufacturing and controls (CMC) experience, ample capacity and limited overhead enable us to produce allogeneic, off-the-shelf, NK cell therapy candidates at scale. Utilizing our proprietary process we and GC Cell have manufactured over 50 clinical batches of AlloNK, producing thousands of AlloNK vials at one billion cells per vial, and have demonstrated both batch-to-batch and donor-to-donor consistency. Our manufacturing platform and scale-up process is rooted in over a decade of NK cell expansion experience by our strategic partner, GC Cell, and has been further improved upon by our team. In our San Diego headquarters, we have established a 9,000 square foot, purpose-built cell production center that is cGMP-compliant, and capable of producing enough vials to treat over 250 to 1,000 autoimmunity patients annually, depending on the cells per dose used. We are developing a 200-liter, commercial-scale process that we believe has the potential to efficiently supply many thousands of patients with a COGS below $1,000 per one billion-cell vial. Furthermore, assuming a range of one billion to four billion AlloNK cells per dose and three doses for a treatment regimen of an aggregate of three billion to twelve billion AlloNK cells total per patient with autoimmune disease, AlloNK COGS per patient would be below a range of $3,000 to $12,000, approximately an order of magnitude below the current COGS of auto-CAR-T. With this COGS, we could have the flexibility to reduce the price relative to auto-CAR-T while still maintaining a high margin.
- **Non-genetically modified cell therapy has not shown integrating vector-induced secondary malignancies, which is a benefit in an autoimmunity setting.** As of December 31, 2023, the FDA had received reports of 22 cases of secondary T-cell malignancies (including CAR+ lymphoma) in patients who received treatment with BCMA- or CD19-directed genetically modified auto-CAR-T therapy. Transgene insertion of CAR was detected in the malignant clone in each of the three cases for which genetic sequencing was performed. As a result, in January 2024, the FDA determined that boxed warning language addressing these malignancies should be included on the label for all BCMA- and CD19-directed genetically modified auto-CAR-Ts to alert patients and clinicians of the potential risk of developing secondary T-cell malignancies following treatment. Unlike CAR-T and any genetically modified cell therapy, AlloNK is a non-genetically modified NK cell therapy candidate and has not shown any secondary malignancies in our clinical trials as of April 8, 2024. We believe this will make our therapeutic candidate a preferable and differentiated treatment option for physicians and patients.
- **AlloNK cell approach aims to broaden community access, drive improved patient experience, improve clinical recruitment timelines and expand commercial opportunity**. In our clinical trials to date, AlloNK in combination with a B-cell targeted mAb was mostly administered and managed outside of a hospital setting. This is in contrast to auto-CAR-T cell therapies, which have been limited by the need for hospitalization due to the risks of ICANS and CRS, among other severe adverse events. Our product candidate is designed to enable rheumatologists to administer AlloNK in combination with a B-cell targeted mAb within their own outpatient infusion centers, potentially allowing patients to avoid the typically required hospitalization associated with CAR-T cell therapies. These limitations are also present for T-cell engaging bispecific antibodies. Approved T-cell engaging bispecific antibodies such as glofitamab, epcoritamab, and mosunetuzumab require hospitalization upon dosing due to the risk of CRS. We believe the potential to administer an off-the-shelf therapy in an outpatient setting could meaningfully reduce the patient's treatment burden, translating to a potential competitive advantage in enrolling patients in our clinical trials and capturing market share, if approved.
- **Strategic execution led to first-mover advantage in autoimmune disease.** We have advanced AlloNK into clinical trials for autoimmune diseases, and we believe we have achieved multiple critical clinical and regulatory milestones ahead of other allogeneic, off-the-shelf NK cell therapy companies. Specifically, the FDA cleared our IND for AlloNK in combination with rituximab for our Phase 1/1b

clinical trial in patients with class III or IV LN in August 2023, and we dosed the first patient in this trial in April 2024. We also amended the ongoing trial to broaden the patient population to include patients with SLE without LN. To our knowledge, this made AlloNK the first allogeneic, off-the-shelf NK cell therapy candidate to be administered to a patient with an autoimmune disease in a U.S. clinical trial and the first allogeneic, off-the-shelf NK cell therapy to receive Fast Track designation in an autoimmune indication. Further, in April 2024, the FDA cleared an IND submitted by IRIS, a large community practice rheumatology clinic in Florida, to conduct a basket IIT in multiple autoimmune indications. Treatment of the first patient in this basket IIT was initiated in August 2024. Through this IIT, to our knowledge, AlloNK is the first allogeneic NK cell therapy candidate in the United States to receive allowance to proceed with a basket study under an IND, and specifically the first to be evaluated in RA, PV and AAV, which we believe solidifies our potential leadership in multiple large-market diseases. We believe our established manufacturing capabilities empower us to capitalize on our first-mover advantage to efficiently develop and, if approved, potentially commercialize a wide range of indications relative to auto-CAR-Ts, which we believe are constrained due to the limitations associated with manufacturing autologous cell therapies. We believe all of these potential advantages, along with our expected competitive advantage in enrollment timing, will allow us to efficiently progress AlloNK through the clinic and position us to capitalize on the broad market opportunity of B-cell driven autoimmune diseases. Receiving IND clearance and any special designations, such as Fast Track designation, does not guarantee an accelerated review of AlloNK or increase the likelihood of approval of AlloNK by the FDA. Given our early stage of development, it will take several years before we complete clinical development and receive regulatory approval of AlloNK or any of our product candidates, if at all.

- **Leading scientific advisors who guide our development strategy in autoimmune disease.** With our focus on developing AlloNK in autoimmune diseases, we have rapidly assembled key opinion leaders from leading academic and medical institutions including UC San Diego, UCLA, NYU and OSU to serve as advisors and guide our development.

Our Strategy

Our strategy is to develop safe and effective NK cell-based therapies that patients and physicians can utilize in a community setting. We believe the compelling cell killing properties of NK cells, when combined with mAbs for targeting specific antigens, creates an opportunity to generate potentially transformative therapies. Key elements of our strategy include:

- **Advance our lead product candidate, AlloNK, through clinical development and demonstrate the clinical potential of NK cell therapies in autoimmune diseases.** We are advancing AlloNK through clinical development to address the significant unmet need in autoimmunity as well as patient and physician desire for a safe, accessible therapy. We believe data from our Phase 1/2 clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL support the potential for AlloNK in combination with B-cell targeted mAbs to provide deep B-cell depletion in common target tissues between B-NHL and autoimmune diseases. The FDA cleared our IND for AlloNK in combination with rituximab for our Phase 1/1b clinical trial in patients with class III or class IV LN in August 2023, and we dosed the first patient in this trial in April 2024. We also amended the protocol for this trial to broaden the patient population to include patients with SLE without LN.
- **Demonstrate the clinical potential of NK cell therapies to address limitations of auto-CAR-Ts.** Auto-CAR-Ts have proven to be an effective therapeutic modality in cancer and have shown therapeutic clinical benefit in autoimmune disease. We believe this is the first step in an evolution where next generations of the technology will improve safety and expand access to the point where cell therapies truly are available to any patient in need. We have optimized an end-to-end NK cell manufacturing process to potentially deliver AlloNK on a large scale and at low cost, having leveraged more than a decade of NK cell manufacturing expertise and know-how. We believe AlloNK in combination with B-cell targeted mAbs represents the next-generation of B-cell depleting therapies because it aims to address important limitations of auto-CAR-T, including:
  - *Scalability:* AlloNK is an allogeneic, off-the-shelf product candidate that can be manufactured at scale, cryopreserved, easily transported through cold-chain logistics and we believe can be made

readily available for patients. In contrast, auto-CAR-T therapy requires a complex, costly, and lengthy manufacturing process that is individualized for each patient. The need for hospitalization further compounds the challenges of scalability and access, adding financial burden to the healthcare system. For example, toxicity and extended hospitalization from treatment with auto-CAR-T could add an incremental financial burden. According to a real-world study conducted in 2021 by Oregon Health & Science University and presented by Maziarz *et al*. the average cost of treatment, excluding the cost of auto-CAR-T itself, was $383,000 and could reach over $1 million per patient. The scalability of our process creates the potential to expand treatment access to the many autoimmune patients annually who currently live with the consequences of long-term steroid use.

- *Safety:* As a result of autologous and allogeneic CAR-Ts' association with CRS, ICANS, and other severe adverse events, treatment is generally only available at advanced clinical centers capable of supporting these patients. Conversely, in our clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL, as of April 8, 2024, more than two-thirds of the patients were not hospitalized at all within 30 days of dosing AlloNK. We believe this demonstrates the ability of AlloNK to be administered and managed in an outpatient setting, with limited risk of required hospitalization.
- *Cost:* Cost of goods to manufacture auto-CAR-Ts is estimated at over $100,000 per treatment course, limiting flexibility in therapy pricing. Assuming a range of one billion to four billion AlloNK cells per dose and three doses for a treatment regimen of an aggregate of three billion to twelve billion AlloNK cells total per patient with autoimmune disease, AlloNK COGS per patient would be below a range of $3,000 to $12,000, approximately an order of magnitude below the current COGS of auto-CAR-T. As auto-CAR-Ts move from their currently marketed indication of hematological malignancies towards chronic and more prevalent autoimmune diseases, AlloNK's extremely competitive commercial COGS could allow for advantageous pricing flexibility and payor coverage, if approved.

- **Expand AlloNK development across several autoimmune indications utilizing different mAbs.** We are further exploring the potential of AlloNK in other indications and other antibody combinations through IITs and company-sponsored clinical trials. In April 2024, the FDA cleared an IND submitted by IRIS, a large community practice rheumatology clinic in Florida, to conduct a basket IIT under an IND testing the combination of AlloNK with rituximab in a study of four autoimmune diseases: RA; PV; GPA / MPA; and SLE.
- **Continue to evaluate and pursue tailored strategies to advance our platform capabilities and maximize patient access to AlloNK.** We have a disciplined strategy to evaluate partnerships that are designed to further our NK cell development and manufacturing efforts with the goal of delivering our product candidates to as many patients as stand to benefit. Our two main manufacturing and oncology program development partnerships with GC Cell and Affimed, respectively, are products of this strategy. We also plan to commercialize our product candidates and will look to make further investments at the appropriate time to maximize access and the commercial potential of our product candidates.

Introduction to Autoimmune Disease

Background

Many autoimmune diseases occur when autoreactive B-cells produce autoantibodies that target the body's own healthy cells and tissues instead of foreign pathogens. In a healthy individual, these malfunctioning immune cells, such as B-cells and T-cells, are either eliminated before they fully develop or are kept in check by various regulatory mechanisms. However, in individuals with autoimmune diseases, these safety measures are compromised due to a mix of genetic factors and exposure to certain antigens from infections or environmental sources.

The prevalence of autoimmune diseases is both widespread and growing, with over 80 known autoimmune diseases. The persistent and severe nature of these diseases results in substantial medical expenses and a decline in quality of life, posing significant challenge for patients, their families and the healthcare system. Global sales for

autoimmune disease, treatments for which in 2023 reached approximately $160.0 billion (including $65 billion for the top ten immunology and inflammation drugs focused on rheumatology) and represent the second-largest class of spending behind oncology, are expected to continue to grow. There is a significant unmet medical need in autoimmune diseases despite the number of approved therapies, given these treatments are often not curative and many patients do not achieve optimal outcomes.

B-Cell Driven Autoimmune Diseases

Autoimmune diseases encompass a broad range of diseases and symptoms, with the presence of autoantibodies—produced by autoreactive B-cells that mistakenly target the body's healthy cells and tissues—being a common characteristic of many autoimmune diseases. While the specific autoantigen targeted and the primary affected tissue or organ may vary, the role of B-cells in producing these autoantibodies is generally consistent. Increasing evidence suggests that autoreactive B-cells also contribute to the pathology of many autoimmune diseases through their interaction with T-cells and cytokine production. This shared biological mechanism presents an opportunity to develop treatments targeting the production of autoantibodies by B-cells for a variety of autoimmune diseases.

The following table sets forth the estimated prevalence for select B-cell-driven autoimmune diseases in the United States and in Europe.

	United States	Europe	Combined
Rheumatoid Arthritis	**1.3M**	**2.3M**	**3.6M**
Multiple Sclerosis	**750K**	**1.2M$^{\delta}$**	**2.0M**
ANCA Vasculitis	**100K**	**205K**	**305K**
Systemic Sclerosis *(Scleroderma)*	**85K**	**130K**	**215K**
Systemic Lupus Erythematosus *(Non-Lupus Nephritis)*	**100K**	**115K$^{\delta}$**	**215K**
Lupus Nephritis	**100K**	**110K**	**210K**
Myasthenia Gravis	**60K**	**90K**	**150K**
Myositis	**45K**	**100K**	**145K**
Total			**~6.8M**

All figures for Europe are for geographic Europe, except δ: which is for the European Union.

Limitations of Current Therapies

Approved treatments for autoimmune diseases encompass various classes of therapies, including steroids, MMF, TNFα agents and IL inhibitors. These therapies largely provide general immunosuppression and manage symptoms of disease. For instance, steroids and MMF have broad anti-inflammatory and immune-suppressing effects, anti-TNFα therapies inhibit TNFα, a cytokine involved in systemic inflammation, and IL inhibitors target certain ILs that activate the immune system and cause inflammation, such as IL-1 and IL-6. Even though these therapies largely provide general immunosuppression and manage symptoms of disease, many patients suffer from disease progression, leading to worsening complications. Furthermore, chronic use of these therapies typically creates secondary complications for patients, including, but not limited to, increased risk of infections and cancer, cardiovascular disease, hypertension, Cushing's disease, diabetes and osteoporosis. Monoclonal antibodies that

target B-cell antigens have also received approval for treating various diseases involving pathological B-cells, including autoimmune diseases and blood cancers. Rituximab, a mAb targeting the B-cell antigen CD20, has demonstrated effectiveness in treating several autoimmune diseases, including RA, PV and AAV. However, rituximab alone does not typically induce complete B-cell depletion in all patients, which may account for incomplete and inconsistent clinical responses. For instance, a pivotal Phase 3 trial of rituximab for the treatment of LN failed to show statistical improvement in clinical outcomes with rituximab when added to the standard of care, MMF and steroids, as compared to MMF and steroids alone. However, in a post-hoc analysis of the same trial data, it was observed that achievement of complete peripheral B-cell depletion, as well as the rapidity and duration of complete peripheral depletion, were associated with complete renal responses. We believe these data support the notion that if a therapy induces deeper and more consistent B-cell depletion, it will achieve higher response rates.

Promise of Cell Therapy in Autoimmune Disease

The advancement of auto-CAR-T cell therapies in oncology has opened the door to applying B-cell targeting cellular therapies in B-cell driven autoimmune diseases. Auto-CAR-T cell therapy involves genetically modifying a patient's own T-cells to produce and express a CAR, enabling the engineered T-cell to recognize and attack cancer cells more effectively. This personalized approach involves collecting the patient's T-cells, genetically engineering them in a laboratory to target a specific cancer cell antigen, then re-infusing these enhanced cells back into the patient to seek out and destroy cancer cells. Since the first auto-CAR-T cell therapy, Kymriah, was approved by the FDA in 2017 for the treatment of B-cell acute lymphoblastic leukemia (B-ALL), additional auto-CAR-Ts have been approved and uses have expanded to treatment of other forms of cancer, including certain types of NHL and multiple myeloma.

Auto-CAR-T products targeting CD19 have been transformative in the treatment of B-cell driven hematological malignancies such as B-ALL and NHL. The first FDA-approved auto-CAR-T cell therapies were designed to target CD19, a B-cell specific antigen prevalent in B-cell malignancies. The use of auto-CAR-T cell therapy aims to deplete these malignant cells as well as other CD19-expressing cells, including healthy B-cells. The ultimate aim of CD19 auto-CAR-T is to deplete cancerous B-cells in the periphery and lymphatic tissue where cancerous lesions grow, and CRs, measured by PET imaging coupled with computed tomography (CT) imaging (PET/CT) provide evidence that auto-CAR-T can target and deeply deplete these cancerous B-cells. Given the significance of B-cells in multiple autoimmune diseases, we believe the depletion of these cells will have a therapeutic benefit in a wide range of B-cell driven autoimmune diseases.

Cell Therapy in Autoimmune Disease with Auto-CAR-T Cell Therapy

The success of auto-CAR-T cell therapies in treating B-cell hematologic malignancies has spurred interest in applying these mechanisms for the treatment of various autoimmune diseases. Given the role of autoantibodies produced by autoreactive B-cells, as well as evidence suggesting that autoreactive B-cells contribute to the pathology of many autoimmune diseases through their interaction with T-cells and cytokine production, the hypothesis is that deeply depleting B-cells with targeted cell therapy will lead to clinical responses in autoimmune diseases.

Third-party clinical studies have shown that treating autoimmune disease with B-cell targeted cell therapy in patients who were refractory to other therapies resulted in rapid responses and remissions as determined by the Definition of Remission in SLE criteria, with patients not receiving further immunosuppressive drugs or steroids (drug-free remission). In 2022, a study led by Dr. Georg Schett reported results from five SLE patients treated with a CD19 auto-CAR-T, published in 2022 by Mackensen *et al*. in *Nature Medicine*. We believe several important observations from this provided insight into the potential value of B-cell targeted cell therapy.

- **Immune system reset**. Auto-CAR-T cells were observed to expand in vivo following treatment, and B-cells were rapidly and deeply depleted upon initiation of treatment. However, auto-CAR-T cells were short-lived in circulation, and all five patients experienced B-cell reconstitution after an average time of 110 days with no relapse of SLE.
- **Resolution of proteinuria**. Rapid reduction in proteinuria in the four patients with underlying LN, from urine protein creatinine ratio (UPCR) levels of 2-8 g/g Cr to <0.5g/g by three months.

- **Elimination of autoantibodies**. Autoantibodies against common antigens in SLE, such as dsDNA, disappeared from the five patients, as well as autoantibodies against other antigens.
- **Preservation of vaccination responses**. No substantial decline in immune responses against common vaccines, including measles, rubella, mumps, varicella zoster, hepatitis B, tetanus, diphtheria and pneumococci, were detected compared to baseline.

In a follow-up study published in *The New England Journal of Medicine* by Muller *et al*. in 2024, reporting data from the five patients above and three additional SLE patients, long-term follow-up of up to 29 months showed that disease activity remained absent in all eight SLE patients. The therapy was also observed to be effective in idiopathic inflammatory myositis, where all three patients treated had an American College of Rheumatology–European League against Rheumatism major clinical response and normalization of creatine kinase levels after three months and maintained these responses for up to 12 months; and in systemic sclerosis, where all four patients treated showed reduced severity of skin and lung disease for up to three months (and for up to six months in three patients that continued follow-up).

Limitations of Autologous CAR-T Cell Therapy

While auto-CAR-T cell therapies have demonstrated the transformative potential of cell therapy, adoption has been limited since initial approvals due to several factors, including, but not limited, to safety, patient access and scalability, as summarized below.

Safety

- **Adverse Events:** Auto-CAR-T cell therapies have been associated with CRS and ICANS that could develop over a period of weeks. CRS in particular requires close observation, and any Grade 2 or higher case requires hospitalization and administration of tocilizumab. Auto-CAR-T products approved for use in NHL have shown that between 46% to over 90% of patients experience any grade CRS, with 4% to 13% experiencing serious Grade 3 or higher events. In practice, tocilizumab is often being utilized with Grade 1 CRS as well, possibly limiting the number of patients who escalate to Grade 2 and higher. For example, in a study by Schett of CD19 auto-CAR-T in autoimmune disease, 11 of 15 patients experienced CRS of any grade. Ten patients had Grade 1 CRS only, but tocilizumab was used in five of these patients. This early intervention and unpredictable time to onset requires that the patient remain within close proximity of a treatment facility that can manage CRS for a period of several weeks following the initial CAR-T infusion.
- **Secondary T-Cell Malignancies:** Cells that have been genetically modified could have the potential to become cancerous, resulting in secondary T-cell malignancies. As with all gene therapy products with integrating vectors (lentiviral or retroviral vectors), the potential risk of developing secondary malignancies is labeled as a class warning in the United States prescribing information for approved BCMA-directed and CD19-directed genetically modified auto-CAR-T cell therapies. In January 2024, the FDA recommended updated safety language be added across product labels for all CD19 and BCMA auto-CAR-T cell therapies to highlight the risk of secondary T-cell malignancy, including language in the box warning.

Patient Access

- **Limited Availability:** Treatment with auto-CAR-T cell therapies is generally only available at advanced clinical centers that can adequately support the complex logistics involved in the providing auto-CAR-T cell therapies and the patients that require extensive safety monitoring and potential need for hospitalization.
- **High Cost Burden:** COGS to manufacture auto-CAR-T cell therapies is estimated at over $100,000 per treatment course. This may limit pricing flexibility and could constrain the number of patients able to afford treatment.

Manufacturing

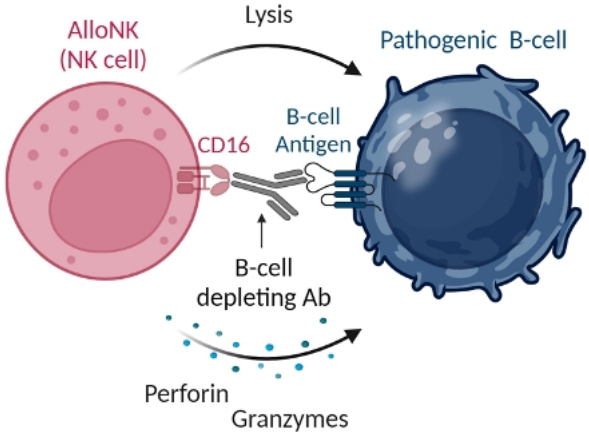
- **Complex Manufacturing:** Because auto-CAR-T cell therapies are derived from a patient's own cells, they are subject to numerous potential inefficiencies inherent to a patient-specific manufacturing process. Manufacturing auto-CAR-T cell therapies is an intricate process that begins with leukapheresis to obtain T-cells from the patient's peripheral blood. These isolated T-cells are then shipped to a manufacturing site where CAR vectors are transduced and cells are expanded before being packaged as a drug product and returned to the clinical site for treatment. As many as 10% to 20% of patients may ultimately not receive product for treatment because of issues with either leukapheresis or the manufacturing process.
- **Lengthy Lead Time:** Because of such complexities, manufacturing processes for currently approved CAR-T cell therapies can take approximately three to five weeks following apheresis to be treated with their personalized auto-CAR-T cells.

Our Solution – AlloNK

AlloNK is an allogeneic, off-the-shelf, cryopreserved NK cell therapy candidate designed to enhance the ADCC effect of mAbs to drive B-cell depletion. In preliminary results from 29 B-NHL patients, as of March 26, 2024, AlloNK in combination with a B-cell targeted mAb has demonstrated deep depletion of peripheral B-cells and CRs in certain patients in clinical trials. Because in both B-NHL and autoimmune disease the potential therapeutic activity may be driven by B-cell depletion in the periphery and lymphoid tissues, we believe these preliminary data in B-NHL patients provide supporting evidence for our proposed mechanism of action in autoimmune disease. Using our cell therapy manufacturing platform, we have manufactured thousands of doses of cryopreserved, infusion-ready AlloNK cells from a single cord blood unit. We believe the design of AlloNK creates the potential for administration in the community setting and the scalability for broad commercialization, if approved.

NK Cell Background

NK cells are part of the innate immune system, which is the body's first line of immune surveillance and defense. NK cells modulate their activity through a balance of activating and inhibiting receptors on their surface that engage with their environment including with target cells. This balance enables NK cells to recognize and kill abnormal cells while suppressing cytotoxic responses to normal tissue, thereby providing a population of immune effector cells that defend against cancer and virus-infected cells. NK cells naturally work in concert with antibodies. The antibody first binds to a target on a diseased cell, then to the NK cell via the cell-surface receptor CD16, also known as FcγRIII, which engages the antibody to mount an ADCC response. NK cells may have an advantage over other immune cells, such as the T-cells used in CAR-T cell therapy and other cell therapies, because they can be used as allogeneic therapies, meaning that NK cells from one donor can be administered to one or many patients without the requirement for gene editing or other genetic manipulations.



Schematic of NK Cell Receptor Interaction with Target Cells. NK Cell Activation via ADCC Leads to NK-mediated Cytotoxic Activity

To produce AlloNK, we select cord blood units that have a variant of CD16 known as 158 V/V, which has been shown in preclinical studies to lead to increased ADCC activity. The CD16 158V/V point mutation variant encodes for a FcγRIII receptor that has been shown in preclinical studies to have higher affinity for immunoglobulin G mAbs. In a third-party clinical trial of rituximab, a significantly higher response rate was seen in follicular lymphoma patients with the CD16 genotype encoding the 158 V/V compared to those with other CD16 genotypes. As such, we believe NK cells sourced from donors with the CD16 158 V/V allele will have naturally higher affinity for therapeutic mAbs without the need for genetic engineering of the cell therapy product candidate.

AlloNK, as a non-genetically modified, non-targeted NK cell, is designed to utilize a mAb for targeting. Therefore, we believe different mAbs could be used to target distinct B-cell populations based on the target cell's antigen expression. For instance, CD19 and CD20 are expressed on memory B-cells, whereas CD38 and BCMA are expressed on plasma cells. Therefore, we believe AlloNK could be combined with different mAbs to kill distinct B-cell populations.

B-NHL Readthrough to Autoimmune Disease

We believe the success of cell therapies such as auto-CAR-T in oncology has paved the way for the application of cellular therapies in autoimmune diseases. Auto-CAR-T's clinical therapeutic benefit in autoimmune disease appears to be driven by a rapid and deep depletion of B-cells in the periphery and in the lymphoid tissues, followed by an immunological reset and B-cell reconstitution.

In the B-NHL setting, activity is also driven by deep depletion of B-cells, including cancerous B-cells in the periphery, and in the tissues where lesions are located, principally the lymphoid tissue. Peripheral B-cell levels can be measured in B-NHL patients, providing evidence of depletion of targeted cells in the periphery. CRs in B-NHL are assessed using the Lugano 2014 criteria which utilizes 18-fluorodeoxyglucose (FDG) PET/CT. CRs in B-NHL patients indicate disappearance of cancerous B-cells from lymphatic tissues, and therefore provide evidence that a therapy is targeting and eliminating cells of B-cell origin within tissues. An array of autoimmune diseases are driven by pathologic B-cells, and therefore, we believe observations of the pharmacodynamic response of a therapy or product candidate against cancerous B-cells in the periphery and in tissue in NHL patients can provide supporting evidence for the mechanism in autoimmune disease.

AlloNK Data in B-NHL

As of April 30, 2024, we had dosed 29 patients with AlloNK in combination with rituximab in our ongoing Phase 1/2 multicenter clinical trial in patients with relapsed or refractory B-NHL. The median age of the 29 patients dosed with AlloNK in combination with rituximab was 71 (range: 46 to 86), and patients had received a median of three prior lines of systemic treatment.

As part of this trial, we have assessed peripheral B-cell levels in patients before and after treatment with the combination of AlloNK and rituximab. In all 29 patients with samples analyzed, as of March 26, 2024, following the first cycle of treatment, all patients achieved non-quantifiable peripheral B-cell levels by Day 8 (except for one patient who achieved such B-cell depletion by Day 15) following the start of therapy, regardless of B-cell levels at baseline. Preliminary data, as of March 26, 2024, as described in further detail below, show peripheral B-cell depletion over the first cycle of treatment in all patients with detectable B-cells at baseline. We believe these preliminary data provide support for our proposed B-cell depleting mechanism of action.

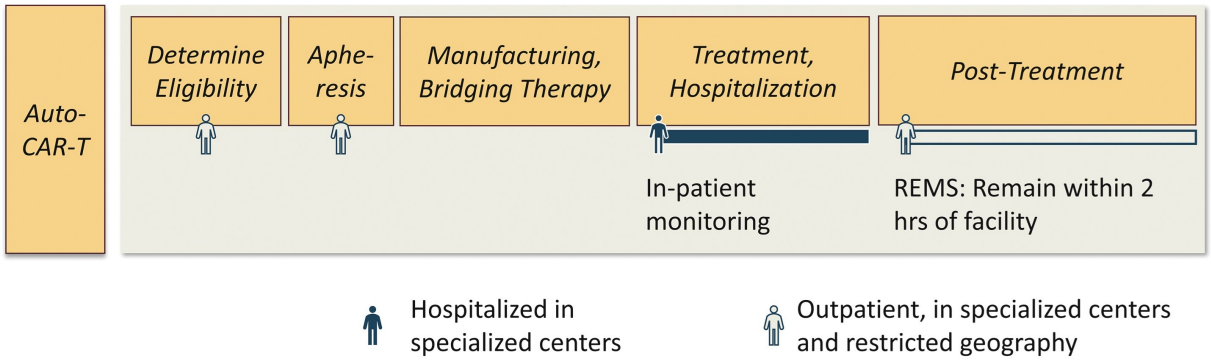
AlloNK has also shown CRs in B-NHL patients, as measured using the Lugano 2014 criteria by imaging of tumor lesions, in our ongoing clinical trial. Because of the common tissues of interest, principally the lymphoid tissues, in B-NHL and autoimmune diseases, we believe data in these B-NHL patients may provide supporting evidence for our proposed mechanism of action in autoimmune disease.

As described further below, in the Phase 1 portion of this trial, as of April 30, 2024, in the fourteen patients who were naïve to CAR-T, the ORR was 71%, including eight CRs (57%) and two PRs (14%), as determined by the Lugano 2014 criteria. Thirteen of these patients had aggressive forms of B-NHL, and the CR rate in this subset, as determined by the Lugano 2014 Criteria, was 62%. As of the April 30, 2024 data cutoff date, six of the eight patients

with a CR had an ongoing response (meaning continuation of the CR at all follow-up points), with five of these patients remaining progression free at six months or later. The longest responder remained progression free for at least 18 months after the start of treatment.

AlloNK Patient Journey

We believe AlloNK will improve the patient and physician experience when compared to the administrative complexity and management of potential toxicities associated with auto-CAR-T. This is in contrast to auto-CAR-T, which involves multiple steps that may materially delay time to treatment including a pre-treatment eligibility determination, apheresis within a specialized center, a wait period for auto-CAR-T manufacturing, infusion scheduling and finally receipt of cryopreserved auto-CAR-T in preparation for treatment. In addition, current Risk Evaluation and Mitigation Strategy programs for commercial auto-CAR-T requires patients to remain within two hours of the treatment center for four weeks following treatment (if healthcare providers require in-patient monitoring).



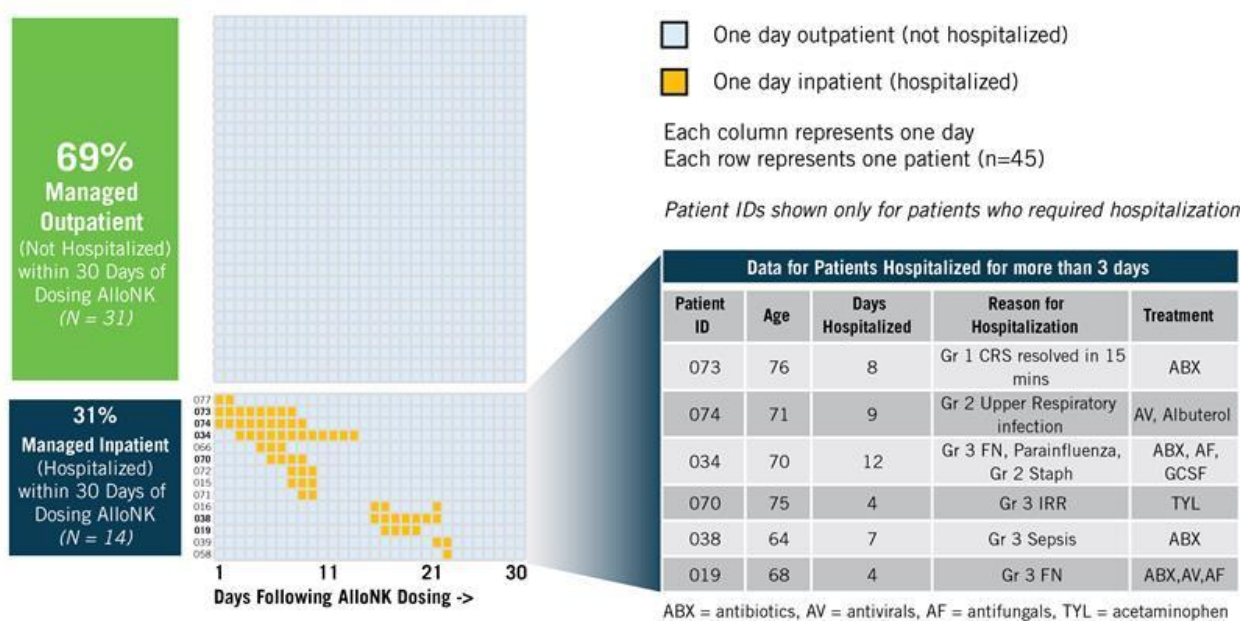
Illustrative Patient Journey on Auto-CAR-T Treatment

In contrast, AlloNK is an off-the-shelf cell therapy candidate that is cryopreserved with established end-to-end cold-chain logistics in place to enable a patient to start treatment without any prior steps. Further, AlloNK is logistically simple to administer and is in a format compatible with existing infusion center infrastructure. It is thawed at the bedside and administered in a 5-to-10 minute IV push without the need for any product formulation or processing.

In addition, AlloNK is designed to lend itself to an improved experience for the patient following treatment and we believe this will broaden access to the community setting. This is in contrast to auto-CAR-T, where mandatory hospitalization is often required in order to observe for side-effects such as CRS and ICANS. We believe AlloNK has the potential to enable rheumatologists to treat patients in their own infusion centers as opposed to having to refer patients to tertiary care centers. In preliminary data as of April 8, 2024, from our ongoing Phase 1/2 B-NHL trial, CRS was observed in four patients (9%) and of these patients, three patients experienced a Grade 1 CRS, one patient had a Grade 2 CRS, and no ICANS was observed.

The figure below shows the number of drug-related hospitalization days for the 30 days following dosing of AlloNK for all 45 B-NHL patients who received AlloNK in combination with rituximab in our Phase 1/2 clinical trial as of April 8, 2024. As shown in the figure below, 31 patients (69%) were treated entirely in the outpatient setting and were not hospitalized for adverse events during the first 30 days following administration of AlloNK in combination with rituximab dosing. Out of the 14 patients who were hospitalized, the median length of hospitalization was three days and the reasons for hospitalizations were related to fevers and infections. Further, these were heavily pre-treated elderly patients with a median age of 68 years and median four prior lines of therapy. Because of the advanced aged and frailty of this patient population, several hospital stays were extended to accommodate the next dose of AlloNK in combination with rituximab or in an abundance of caution. We believe these preliminary data support that AlloNK in combination with B-cell targeted mAbs has the potential to be

administered and managed in the community setting, which, if approved for such use, has the potential to expand access to more patients and alleviate economic and logistical burden on the healthcare system.



Data for Patients Hospitalized for more than 3 days

Patient ID	Age	Days Hospitalized	Reason for Hospitalization	Treatment
073	76	8	Gr 1 CRS resolved in 15 mins	ABX
074	71	9	Gr 2 Upper Respiratory infection	AV, Albuterol
034	70	12	Gr 3 FN, Parainfluenza, Gr 2 Staph	ABX, AF, GCSF
070	75	4	Gr 3 IRR	TYL
038	64	7	Gr 3 Sepsis	ABX
019	68	4	Gr 3 FN	ABX,AV,AF

ABX = antibiotics, AV = antivirals, AF = antifungals, TYL = acetaminophen

Number of Hospitalization Days Due to Drug-related Adverse Events in 45 Patients Treated with AlloNK in Our Phase 1/2 B-NHL Trial

AlloNK Lends Itself to a Breadth of Targeting Approaches and Indications

AlloNK, as a non-genetically modified, non-targeted NK cell, utilizes a mAb for targeting. Therefore, different mAbs could be used to target distinct B-cell populations based on the target cell's antigen expression. Beyond rituximab and other anti-CD20 mAbs, we have already conducted numerous preclinical studies in which we have shown cytotoxic activity of AlloNK in combination with other approved B-cell targeted mAb therapies, such as anti-CD19 and anti-CD38 mAbs. Emerging evidence with auto-CAR-T targeting the plasma cell antigen BCMA has shown therapeutic activity in several indications, and we believe AlloNK in combination with approved anti-CD38 mAbs could target a similar plasma cell population. We have the opportunity to develop AlloNK in combination with approved B-cell targeted mAbs using a variety of targets, including the potential for dual targeting by treating in combination with two mAbs. We believe this versatility will enable us to pursue a wider range of indications than cell therapies engineered against specific targets.

AlloNK Development in Autoimmune Diseases

AlloNK is an allogeneic, off-the-shelf, cryopreserved NK cell therapy candidate designed to enhance the ADCC effect of mAbs to drive B-cell depletion. AlloNK is designed to be administered in the community setting. Using our proprietary cell therapy manufacturing platform, we can generate thousands of doses of cryopreserved, infusion-ready AlloNK from a single cord blood unit.

We are currently evaluating AlloNK in combination with rituximab or obinutuzumab in a Phase 1/1b open-label multi-center clinical trial in patients with SLE with or without LN who previously failed treatment, for which the FDA has granted Fast Track designation to improve disease activity in patients with class III or class IV LN. In addition, in April 2024, the FDA cleared an IND submitted by IRIS, a large community practice rheumatology clinic in Florida, to conduct a basket IIT to assess the safety, tolerability and clinical activity of AlloNK in combination with rituximab in patients with RA, PV, GPA / MPA and SLE. Treatment of the first patient in the basket IIT was initiated in August 2024. We intend to pursue additional autoimmune diseases with AlloNK in combination with B-cell targeted mAbs.

SLE and LN Background

SLE is an autoimmune disease characterized by autoantibody production and deposition of immune complexes with complement activation, resulting in inflammation and damage within the affected tissue, which contributes significantly to the disease's morbidity and mortality rates. LN, a type of kidney disease, is a manifestation of SLE reported to affect approximately half of all patients with SLE. LN occurs when autoantibodies affect parts of the kidneys that filter out waste, which can result in swelling, weight gain from fluid retention, elevated blood pressure and urine that appears foamy from excessive protein loss. Diagnosis often reveals proteinuria, or the presence of excessive protein in the urine, blood in the urine, and lowered serum albumin levels.

The primary aim of managing LN involves preventing irreversible kidney damage, typically through anti-inflammatory and immunosuppressive therapies like steroids, MMF and cyclophosphamide to alleviate inflammation and blood pressure medications that protect the kidneys. Despite the availability of potent therapies, up to 10% of LN patients still progress to end-stage renal disease, requiring dialysis and eventually, a kidney transplant. There are an estimated 210,000 SLE patients with LN across the United States and Europe, and approximately 30% do not respond to currently available treatments. Furthermore, chronic use of these therapies typically creates secondary complications for patients, including, but not limited to, increased risk of infections and cancer, cardiovascular disease, hypertension, Cushing's disease, diabetes and osteoporosis.

Rationale for AlloNK in SLE and LN

We are focusing on SLE and LN as the first target of our clinical development program in light of the clearly identifiable patient group, significant unmet need and presence of measurable clinical endpoints to facilitate regulatory approval submissions.

LN offers an objective clinical marker for tracking disease activity and renal impairment: proteinuria. This marker enables the use of the UPCR to assess renal function, making it a reliable and objective endpoint. The reduction of proteinuria, as determined by UPCR, is an important component of CRR, which has been historically used as a critical measure to evaluate a patient's response to treatment for LN in clinical trials.

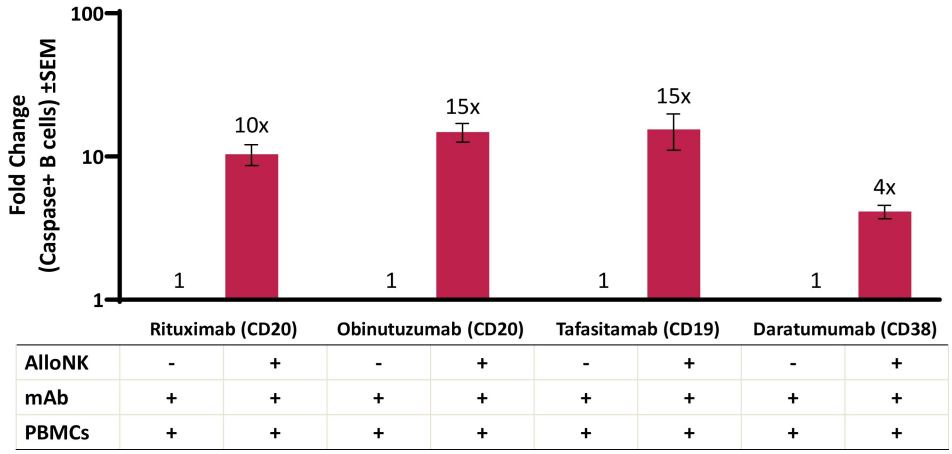
B-cells are recognized as key mediators of SLE pathogenesis and B-cell targeted mAbs direct B-cell killing via ADCC and induction of apoptosis. However, studies have shown that B-cell depletion is incomplete in the tissues of certain patients following rituximab treatment, leading to pathogenic B-cell escape and hindering effective reset of the immune system. NK cells from SLE patients have been shown to be reduced in number in peripheral blood, with reports of SLE patients having less than half as many CD16+ NK cells as healthy subjects. Further, the phenotype of NK cells in SLE patients can result in reduced cytotoxicity as well as defective ADCC, which could lead to incomplete B-cell depletion by rituximab. In several preclinical studies, AlloNK potentiated anti-CD20-mediated ADCC against CD20-expressing malignant B-lymphocytes in vitro and in vivo and was not negatively affected by steroids. Further, AlloNK induced B-cell apoptosis in combination with rituximab and obinutuzumab in peripheral blood mononuclear cells (PBMCs) isolated from SLE patients.

AlloNK Preclinical Results in SLE and LN

In vitro preclinical studies, we evaluated the cytotoxic activity of AlloNK in combination with rituximab or obinutuzumab mAbs against PBMCs isolated from SLE patients. PBMCs combined with thawed AlloNK were incubated with or without antibodies (0.0.01, 0.1.1 ug/mL) at different effector (AlloNK cell) to target (PBMCs) ratios (E:T ratios) for four hours. The E:T ratios tested were 0.2:1, 1:1, and 2:1 AlloNK to PBMCs. Apoptotic (caspase positive) B-cells in SLE PBMCs were quantified by flow cytometry.

ADCC against SLE B-cells was observed when AlloNK was combined with rituximab or obinutuzumab in an antibody concentration-dependent and an E:T ratio-dependent manner. Shown below is data from an E:T ratio of 1:1 at a single antibody concentration. The specificity of cell killing in the SLE PBMC sample was evaluated by examining the effects of the combination on SLE T-cells. Importantly, little to no off-target apoptosis was observed in this cell population in the presence of AlloNK and either of the antibodies tested. In addition to anti-CD20 mAbs, we have conducted in vitro preclinical studies of AlloNK in combination with tafasitamab, an anti-CD19 antibody, or daratumumab, an anti-CD38 antibody, which demonstrated specific killing of B-cells from SLE PBMCs.

Data below shows fold change in B-cell killing when mAb (0.1µg/mL) was combined with AlloNK in a 1:1 ratio with SLE PBMCs (n=3–6 SLE PBMC donors). Increased B-cell apoptosis was observed when AlloNK was combined with B-cell targeting mAbs, which we believe demonstrates enhanced ADCC with the mAb combinations.



	Rituximab (CD20)		Obinutuzumab (CD20)		Tafasitamab (CD19)		Daratumumab (CD38)	
AlloNK	-	+	-	+	-	+	-	+
mAb	+	+	+	+	+	+	+	+
PBMCs	+	+	+	+	+	+	+	+

Fold Change in B-cell Killing when AlloNK was Added to mAb in SLE PBMCs. AlloNK was Added in a 1:1 ratio to PBMCs, with mAb at 0.1µg/mL (n=3–6 SLE PBMC donors)

AlloNK Clinical Development in SLE and LN

In April 2024, we began dosing patients in our Phase 1/1b open-label, multi-center clinical trial of AlloNK in combination with rituximab or obinutuzumab in patients with class III or class IV LN who previously failed treatment. We also amended the protocol for this trial to broaden the patient population to include patients with SLE without LN. The trial is designed as a two-stage trial. We plan to enroll up to six patients per cohort in dose escalation (stage 1) with a 3+3 design, and up to a total of 12 patients per cohort in the cohort expansion (stage 2), inclusive of those patients from the corresponding cohort in stage 1.

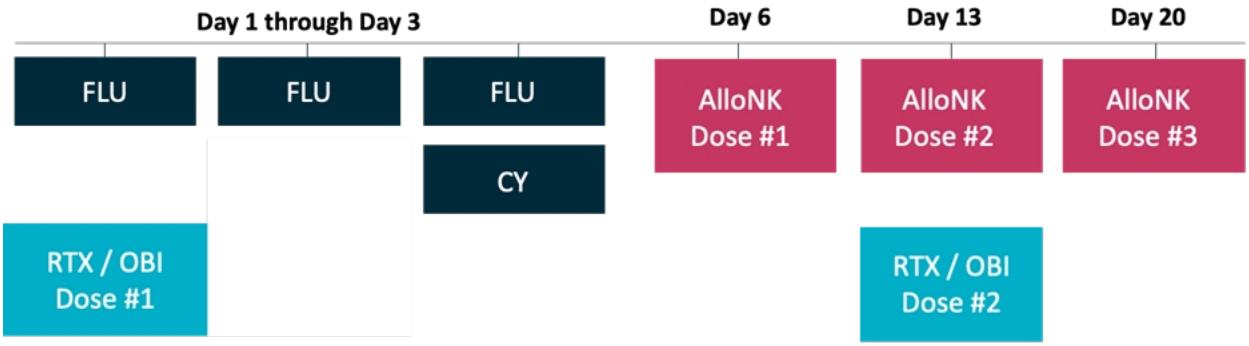
AlloNK dosing will start at one billion total cells per dose, and the rituximab cohort can enroll in parallel with the obinutuzumab cohort. The protocol allows dose escalation to four billion total cells per dose, with rituximab and obinutuzumab combination cohorts enrolling in parallel. Other than the first patient in each cohort, who will be hospitalized overnight following the first dose of AlloNK only, no other patients have any mandatory hospitalization requirement per the trial protocol.

The primary objective of the clinical trial is to assess the safety, tolerability and preliminary activity of AlloNK in combination with rituximab or obinutuzumab. The primary efficacy endpoint is the overall renal response rate (ORRR) defined as the proportion of subjects having either a complete renal response (CRR) or partial renal response (PRR) at 52 weeks. A CRR is defined as achieving a UPCR of less than 0.5 and normal renal function as determined by serum creatinine levels at or below the upper limit of normal without worsening of baseline serum creatinine by more than 15%. A PRR is defined as a 50% or more reduction in UPCR from baseline, to an absolute value of less than one, or to less than three if baseline UPCR was above three, and serum creatinine not increased by more than 15% from baseline. We will also collect global disease activity measurements using the SLEDAI-2K assessment, and translational biomarkers, including levels of autoantibodies, serum complement, serum immunoglobulins, and peripheral B-cell subsets.

In auto-CAR-T studies, an initial lymphodepletion regimen has been utilized consisting of cyclophosphamide and fludarabine, which depletes B-cells among other lymphocytes. Our clinical development approach in SLE and LN is to investigate our product candidate utilizing a similar initial lymphodepletion regimen followed by treatment with AlloNK in combination with a B-cell targeted mAb. We may explore ways to optimize and possibly remove the lymphodepletion regimen in future development.

We utilize combination with rituximab to target CD20, an antigen present on B-cells in many of the same lineages that express CD19. In a clinical study of rituximab in SLE published by Vital *et al.* in 2011, when complete depletion of CD20-expressing B-cells was achieved, depletion of CD19-expressing, CD20-negative plasmablasts was also observed, suggesting that CD20 targeting can potentially deplete a broad range of B-cells, including plasmablasts. Further, in our B-NHL trial, AlloNK in combination with rituximab was observed to drive deep B-cell depletion in the periphery, as measured by CD19 expression, which we believe indicates that this regimen can potentially deplete CD19-expressing B-cell lineages. We believe this has the potential to mirror the approach of auto-CAR-T cell therapy in achieving an initial, generalized lymphodepletion before attacking the pathogenic B-cells, with the goal of achieving deep B-cell depletion. In the NOBILITY Phase 2 clinical study of obinutuzumab in LN, published by Furie *et al.* in 2022, obinutuzumab was superior to placebo for the achievement of CRR and ORR in patients with proliferative LN when added to mycophenolate (median 2g/day) and corticosteroids, indicating that obinutuzumab may be an attractive mAb to combine with AlloNK in order to achieve deep B-cell depletion. In a post-hoc analysis of the NOBILITY clinical study, presented by Vital *et al.* in 2024, the subset of patients with sustained B-cell depletion at weeks 24 and 52 achieved a 50% CRR at week 76, making these patients 72% more likely to achieve a CRR at week 76 than the subset of patients who had unsustained B-cell depletion.

The treatment schedule is outlined below. The lymphodepletion treatment regimen consists of three daily doses of 30 mg/m^2 fludarabine and a single dose of 1000 mg/m^2 cyclophosphamide, a very similar regimen as utilized in studies led by Schett. Rituximab or obinutuzumab is given in two doses of 1000 mg each, the same regimen used in autoimmune indications such as RA. AlloNK is given in three weekly doses at either one billion or four billion total cells per dose. All patients will receive at least one treatment cycle followed by scheduled assessments of overall health and response status. Patients who have not achieved a CRR are eligible for a second cycle, as described above, at six months. We dosed our first patient in this trial in April 2024, and the DLT assessment period has been cleared.



FLU: fludarabine 30mg/m^2; CY: cyclophosphamide 1g/m^2;
RTX: rituximab 1000mg; OBI: obinutuzumab 1000mg

Treatment Regimen for AlloNK in Combination with B-cell Targeted mAbs in a Phase 1/1b Trial in SLE and LN

AlloNK Development in Additional Autoimmune Indications

We believe that AlloNK has the potential to impact multiple additional B-cell mediated autoimmune indications beyond SLE and LN. We are exploring the potential of AlloNK in these indications and other antibody combinations through company-sponsored clinical trials and by supporting IITs.

We believe supporting IITs, where we provide patient access to AlloNK by supplying AlloNK for use in IITs, allows us to prioritize patient needs while providing us insight that has the potential to support expansion of our development programs into additional indications where we believe AlloNK in combination with B-cell targeted mAbs has the potential to benefit patients who are refractory to existing therapies.

B-cell depletion has a therapeutic activity in multiple additional autoimmune indications as evidenced by indications where mABs targeted against CD20 such as rituximab and ocrelizumab are approved, as well as data from the study led by Schett. These indications include RA, PV and GPA, formerly known as Wegener's granulomatosis, MPA, IIM, SSc, MG and MS.

Rituximab is approved for certain RA, PV, and GPA / MPA indications. RA is a chronic inflammatory disorder that primarily affects joints, but can also have systemic effects, impacting various organs and tissues in the body. PV is a rare, chronic autoimmune disorder characterized by antibodies against desmogleins and the formation of blisters and erosions on the skin and mucous membranes, most commonly affecting the mouth, throat, nose, eyes, genitals and lungs. AAV is a group of rare autoimmune diseases of unknown cause characterized by anti-neutrophil cytoplasmic antibodies, and encompassing the subtypes GPA, which affects various organs, including the kidneys, lungs and upper respiratory tract, and MPA, which often involves the kidneys and lungs but can affect any organ system.

The Schett group developed clinical data, which we believe support the potential of B-cell depleting cell therapy in treating IIM and SSc. IIM is a group of autoimmune conditions characterized by inflammation of muscle (myositis) and other organ systems, resulting in widespread organ dysfunction. For patients with severe disease, symptoms can be debilitating, and can lead to mortality, especially when lungs are involved. SSc is a persistent, systemic autoimmune disease characterized by autoantibodies against transcriptional and translational components, including topoisomerase, centromeres and RNA polymerase, resulting in vascular damage and fibrosis. A significant portion of SSc patients develop interstitial lung disease (ILD), and for those who develop pulmonary hypertension, the three-year mortality rate exceeds 60%.

B-cell depletion has also shown therapeutic effects in neuroinflammatory diseases like MS and MG. MS is a long-term condition affecting the central nervous system, leading to neurodegeneration caused by inflammation. Ocrelizumab, a B-cell targeting anti-CD20 mAB, was approved in 2017 for treatment of relapsing MS and primary progressive MS, underscoring the role of B-cells in influencing relapse frequency and disease advancement in MS. MG is a chronic autoimmune disorder in which antibodies destroy the communication between nerves and muscle, resulting in weakness of the skeletal muscles, and case reports have shown an impact of B-cell-targeted auto-CAR-T.

In these other autoimmune and neuroinflammatory diseases, some patients with severe disease or who are refractory to prior therapies require continuous treatment with immunosuppressive regimens, including steroids, leading to long-term health consequences. We believe a therapy that could allow for a period of drug-free remission could therefore fill a significant unmet need for patients.

Investigator-Initiated Basket Trial

In April 2024, the FDA cleared an IND submitted by IRIS, a large community practice rheumatology clinic in Florida, to conduct a basket ITT to assess the safety, tolerability, and clinical activity of AlloNK in combination with rituximab. The IIT will initially enroll patients with RA, PV, GPA / MPA and SLE.

The IIT is a basket trial, which is a clinical trial that evaluates how well a therapy works in patients with different diseases that share a common characteristic, such as different autoimmune indications. The basket design utilizes an initial safety run-in stage of nine all-comers patients with any of the four included indications, followed by expansion cohorts to enroll a total of six patients per cohort for PV and GPA /MPA, and nine patients per cohort for RA and SLE. All patients will receive a single cycle of treatment, consisting of cyclophosphamide and fludarabine lymphodepletion, rituximab, and AlloNK. The dosing regimen leverages the standard of care dose and schedule of rituximab for each indication, with AlloNK given in three weekly doses of one billion total cells per dose. Other than the first patient in each cohort, who will be hospitalized overnight following the first dose of AlloNK only, no other patients have any mandatory hospitalization requirement per the trial protocol. The primary objective of the clinical trial is to assess the safety, tolerability and preliminary activity of AlloNK in combination with rituximab. Primary efficacy endpoints specific to each indication (RA, PV, GPA / MPA and SLE) will be used. We also anticipate assessing translational biomarkers, including levels of autoantibodies relevant in each indication, serum complement levels, serum immunoglobulin isotypes, peripheral B-cell subsets, and peripheral levels of AlloNK for pharmacokinetic analysis. Treatment of the first patient in the basket IIT was initiated in August 2024.

Pursuant to an institution-initiated and sponsored clinical trial agreement with IRIS, we are providing support and supply AlloNK and funding for study-related expenses for the IIT, but unlike our sponsored clinical trials, IRIS is the regulatory sponsor of, and responsible for the conduct of the IIT. This IIT is not part of our clinical trials for AlloNK and data from this trial is reported by the relevant investigator. While we do not expect to be able to use the results from this IIT in our applications for marketing approval to the FDA or other comparable foreign regulatory agencies, we believe that this strategy may provide some competitive advantage as we will be able to acquire additional clinical insights beyond highly focused clinical trials in specific geographies and additional indications.

AlloNK Development in Non-Hodgkin Lymphoma

Non-Hodgkin Lymphoma Background

NHL is a neoplasm of the lymphoid tissues originating from B-cell precursors, mature B-cells, T-cell precursors and mature T-cells. Approximately 85% are B-cell malignancies. Currently available NHL treatments like auto-CAR-T products targeting CD19 have shown promise in aggressive lymphomas but we believe they are associated with life-threatening safety risks, have limited access and are slowly administered due to manufacturing inefficiencies.

AlloNK Clinical Development in B-NHL

We have tested AlloNK in combination with rituximab in 29 patients with relapsed or refractory B-NHL in our ongoing Phase 1/2 clinical trial with data, as of an April 30, 2024 cutoff date. The clinical trial also enrolled 16 patients in monotherapy cohorts, consisting of lymphodepletion and AlloNK without rituximab. The Phase 1 portion of the study is evaluating two AlloNK dose levels, four-weekly doses of either 1 billion cells or 4 billion cells per dose, as monotherapy or in combination with rituximab using the 3+3 dose escalation method. The primary objective of the clinical trial is to assess the safety and anti-tumor activity of AlloNK in combination with rituximab.

In our trials, clinical activity is primarily determined by responses as measured by the Lugano 2014 criteria using both modalities as described in the table below. The criteria classify clinical activity or treatment response as CR, PR, stable disease or progressive disease. The Lugano classification recommends the Deauville five-point scale for reporting response by FDG PET-CT. The Deauville five-point scale scores responses as follows (where 1 is best and 5 is the worst): (1) no uptake or no residual uptake (when used interim), (2) slight uptake, but equal to or below blood pool (mediastinum), (3) uptake above mediastinal, but below or equal to uptake in the liver, (4) uptake slightly to moderately higher than liver or (5) markedly increased uptake or any new lesion (on response evaluation). A summary of the Lugano 2014 criteria is described below.

	CT-Based Response	**FDG PET-CT-Based Response**
Complete Response	Lymph nodes ≤ 1.5 cm in LDi Complete disappearance of radiologic evidence of disease	Scores 1, 2, 3 (Deauville scale) in nodal or extranodal site with or without a residual mass Complete metabolic response
Partial Response	Single lesion: 50% or greater decrease in SPD of up to six lymph nodes or extranodal sites	Scores 4 or 5 (Deauville scale) with decreased uptake compared with baseline and residual mass(es) of any size
Stable Disease	Less than 50% decrease in SPD of up to six lymph nodes or extranodal sites (no criteria for progressive disease are met)	Scores 4 or 5 (Deauville scale) with no significant change in FDG uptake
Progressive Disease	1) New lymphadenopathy or increased; single node must be abnormal with: a) LDi > 1.5 cm and b) PPD ≥ 50% and c) LDi or SDi increased 0.5 cm if ≤ 2.0 cm and increased 1.0 cm if > 2.0 cm 2) Increased splenic volume:	Scores 4 or 5 (Deauville scale) In any lesion with increased uptake from baseline and/or new FDG-avid focus consistent with malignant lymphomai

	CT-Based Response	FDG PET-CT-Based Response
	a) with prior splenomegaly: greater than 50% increase of its prior increase beyond baseline b) without prior splenomegaly: greater than 2.0 cm increase c) New or recurrent splenomegaly 3) New or clear progression of preexisting nonmeasured lesions 4) Regrowth of previously resolved lesions 5) New extranodal lesion > 1.0 cm in any axis (new lesions < 1.0 cm in any axis are included if presence is unequivocal and attributable to lymphoma) 6) A new node > 1.5 cm in any axis 7) Assessable disease of any size if unequivocally attributable to lymphoma	
LDi = longest transverse diameter; **SDi** = shortest transverse diameter; **PPD** = product of perpendicular diameters; **SPD** = sum of the product of the perpendicular diameters of multiple lesions; **FDG** = fluorodeoxyglucose		

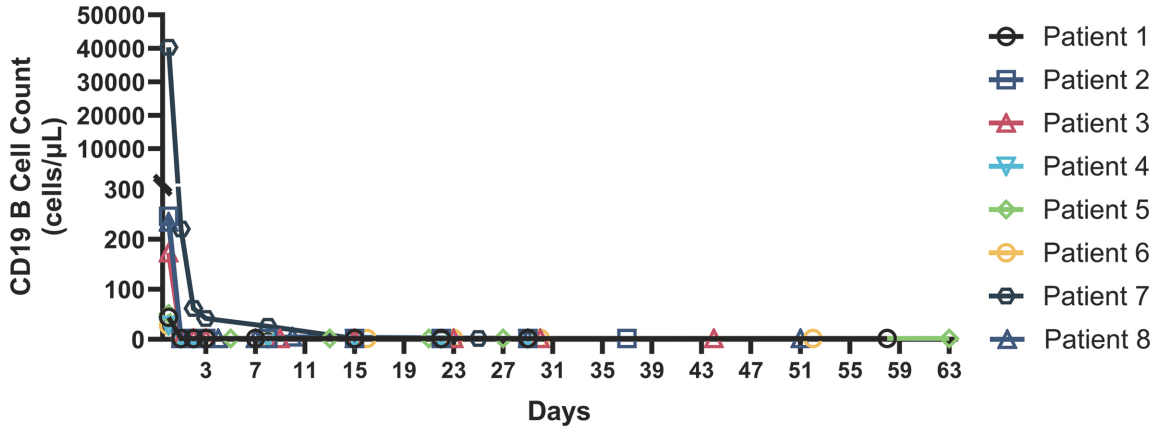
Lugano 2014 Criteria Table For Lymph Nodes and Extralymphatic Sites

All patients receive lymphodepleting chemotherapy for three days prior to treatment of AlloNK and low-dose subcutaneous IL-2 after each dose of AlloNK. Patients in the combination cohorts received up to two cycles of treatment with lymphodepletion, with the third and fourth cycle, if eligible, given without lymphodepletion. A third cohort was added to test a bi-weekly dosing schedule of AlloNK in combination with rituximab but without the administration of IL-2. Patients in this cohort received up to three cycles of treatment with lymphodepletion. Any patient experiencing clinical benefit (stable disease (SD), PR or CR, per the Lugano 2014 criteria) after one cycle of treatment with AlloNK and rituximab is eligible for additional cycles of AlloNK plus rituximab. The median age of the 29 patients dosed with AlloNK in combination with rituximab was 71 (range: 46 to 86), and patients had received a median of three prior lines of systemic treatment.

B-cell Depletion in B-NHL Patients

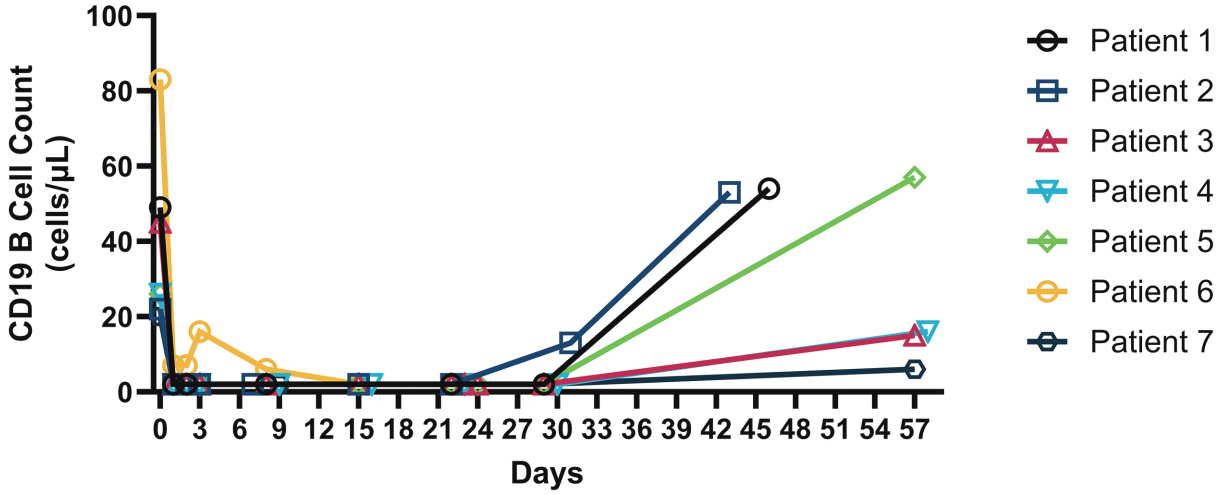
Blood samples were drawn at specified timepoints during the course of the trial. B-cell depletion was assessed in whole blood samples using the TBNK cells assay (BD Mulitest 6-color TBNK Reagent). In 29 patients treated with the combination of AlloNK and rituximab with samples analyzed, as of a March 26, 2024 cutoff date, we observed that all patients achieved non-quantifiable peripheral B-cell levels by Day 8 (except for one patient who achieved such B-cell depletion by Day 15) following the start of a single cycle of therapy, regardless of B-cell levels

at baseline. Preliminary data below, as of March 26, 2024, demonstrates peripheral B-cell depletion over the first cycle of treatment in all patients with detectable B-cells at baseline.



Peripheral Depletion of CD19+ B-cells in NHL Patients Treated with AlloNK and Rituximab

Further, we assessed peripheral B-cell levels in patients treated in the monotherapy cohorts. Data, as of May 15, 2024, showed initial non-quantifiable peripheral B-cell depletion in seven monotherapy patients with detectable B-cells at baseline. This B-cell depletion was maintained in the majority of patients through approximately four weeks after the initial AlloNK dose. In contrast to the combination therapy cohorts, B-cell levels in the monotherapy patients began to increase approximately four to eight weeks after the initiation of treatment.

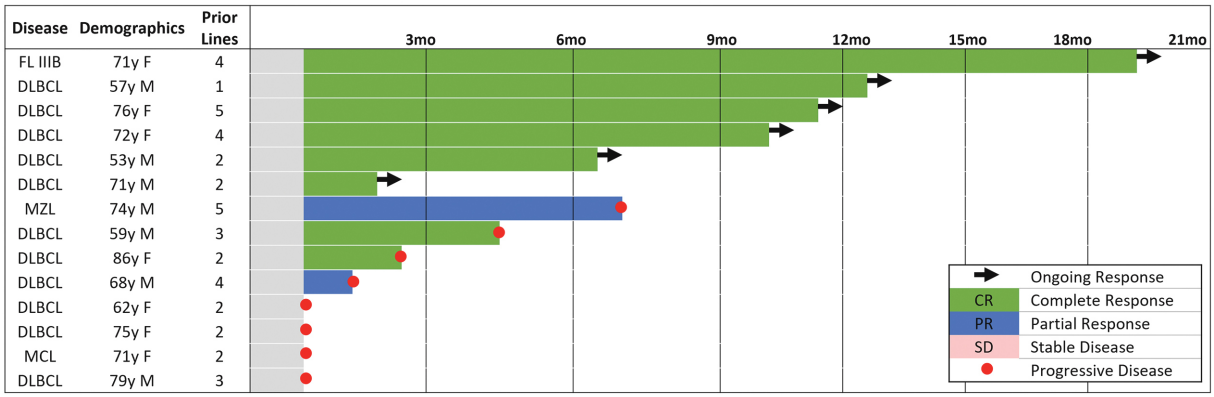


Peripheral Depletion of CD19+ B-cells in NHL Patients Treated in Monotherapy Cohorts (Lymphodepletion and AlloNK without Rituximab)

Clinical Responses in B-NHL Patients

Of the 29 patients treated with AlloNK in combination with rituximab, as of April 30, 2024, 14 patients (48%) were not exposed to prior CAR-T. In these patients, the ORR was 71%, including eight CRs (57%) and two PRs (14%). Thirteen of these 14 patients had aggressive forms of NHL, with one patient having indolent marginal zone lymphoma but having previously failed five prior lines of therapy. As of the April 30, 2024 data cutoff date, six of the eight patients with a CR had an ongoing response (meaning continuation of the CR at all follow-up points), with

five of these patients remaining progression free at six months or later. The longest responder remained progression free for at least 18 months after the start of treatment.



Clinical Responses of AlloNK in Combination with Rituximab in All Patients Naïve to Prior CAR-T in Phase 1/2 B-NHL Trial

Fifteen patients (52%) treated with AlloNK in combination with rituximab received prior CAR-T, of which 13 (45%) received commercial auto-CAR-T-therapies. The ORR in the 15 patients exposed to prior cell therapies was observed to be 40% including four CRs and two PRs.

Preliminary Safety Data

As of April 8, 2024, a total of 45 patients were evaluated for safety across all cohorts in our Phase 1/2 B-NHL trial (16 monotherapy and 29 in combination with rituximab). The median age at enrollment was 68 years and patients had a median of four prior lines of systemic therapy. All, except for one monotherapy patient, received prior anti-CD20 mAb.

Only one dose-limiting toxicity (DLT) of an infusion-related reaction was observed across all combination cohorts. The maximum tolerated dose was not reached, and AlloNK at four billion cells per dose was deemed to be the maximum administered dose. CRS was observed in four of 45 patients (9%), with no Grade 3 or higher CRS reported. Three patients experienced a Grade 1 CRS and one patient had a Grade 2 CRS. Cytokine analysis of samples from 40 patients treated with AlloNK showed IL-6 concentrations below 100 pg/mL at all time points analyzed, including samples from the 4 patients where CRS was reported. These IL-6 levels were below the lower limit of the range typically associated with CAR-T-related CRS. No other cell therapy associated treatment emergent adverse effects were observed, including ICANS or graft-versus-host disease. Serious treatment emergent adverse events (TEAEs) occurred in almost half of the 45 patients treated across all cohorts, and the most common (experienced by two or more patients) were febrile neutropenia (11%), sepsis (9%), infusion-related reactions and malignant progression (7% each), and pneumonia and pyrexia (4% each). Serious TEAEs related to AlloNK were observed in seven out of 45 patients (16%) treated across all cohorts, and consisted of infusion-related reactions (7%), febrile neutropenia (4%), and CRS and pyrexia (2% each).

Among the 29 subjects treated with AlloNK in combination with rituximab, the most common severe (Grade ≥3) TEAEs reported were associated with hematological disorders, which we consider to be consistent with the usage of lymphodepletion in this patient population, and included leukopenia (86%), neutropenia (83%), lymphopenia (76%), anaemia (45%) and thrombocytopenia (28%). The only other TEAEs observed in ≥10% of the

patients treated with AlloNK in combination with rituximab were febrile neutropenia (10%), sepsis (10%) and infusion-related reactions (10%).

System Organ Class (SOC)/ Preferred Term, n (%)	Rituximab Combination (n=29)	Overall (n=45)
Leukopenia	25 (86)	36 (80)
Neutropenia	24 (83)	36 (80)
Lymphopenia	22 (76)	30 (67)
Anaemia	13 (45)	14 (31)
Thrombocytopenia	8 (28)	9 (20)
Febrile neutropenia	3 (10)	6 (13)
Sepsis	3 (10)	4 (9)
Infusion-related reaction	3 (10)	3 (7)

Grade 3 or higher treatment emergent adverse events (TEAEs) observed in ≥10% of the patients treated with AlloNK in our Phase 1/2 clinical trial in B-NHL

Partnered Programs

AlloNK in HL

Our ongoing collaboration with Affimed involves investigating AlloNK in combination with acimtamig, a CD30-targeted NK cell engager, in HL and potentially other CD30+ cancers. Classical HL is a type of cancer that originates from lymphocytes, leading to the growth of abnormal cells in the lymphatic system. The disease is characterized by the presence of Reed-Sternberg cells which highly express the CD30 antigen, making CD30 a crucial target for certain therapies and a marker for diagnosing and monitoring the disease's progression. Preclinical data showed *in vitro* cytotoxicity and in vivo anti-tumor activity with AlloNK, in combination with acimtamig, against a CD30+ T-cell lymphoma cell line.

In November 2022, we announced a strategic partnership to jointly develop, manufacture, and, if approved, commercialize a combination therapy comprising of acimtamig with AlloNK. Affimed chose us as a partner to commercialize the combination based on the preclinical and clinical evidence of activity of AlloNK observed in NHL to date and our manufacturing expertise to provide cryopreserved NK cells for a muti-center trial and the potential to produce a cryopreserved, off-the-shelf, commercially-viable product.

Under the agreement, Affimed will lead regulatory activities through clinical development and, if approved via the accelerated approval pathway, any confirmatory studies. Affimed will be responsible for funding clinical study costs, while we will be responsible for the costs of supplying AlloNK and IL-2 for such studies. If accelerated approval is obtained, we may continue in the collaboration and share confirmatory study costs on a 50/50 basis, and in return revenues from the combination will be shared in a proportion of 67%/33% (Affimed/Artiva). Affimed will be responsible for promotional activities and expenses of the combination therapy, if approved. We retain commercialization and distribution rights and books sales for AlloNK.

The Phase 2 LuminICE-203 trial is currently enrolling patients with relapsed or refractory HL, and Affimed presented initial data from the first 22 patients in December 2024. The initial run-in phase is evaluating four cohorts with two doses of acimtamig and two doses of AlloNK. In each cohort, patients are given an initial lymphodepletion regimen of cyclophosphamide and fludarabine, followed by six weekly treatments. The first three weekly treatments consist of acimtamig infusion, followed by infusion of AlloNK and IL-2. The last three weekly treatments consist of

acimtamig infusion alone. Following the run-in portion, the trial will follow a Simon two-stage design, with up to two dose cohorts tested in Stage 1 and one-to-two cohorts in Stage 2. The trial will also include an exploratory cohort in peripheral T-Cell lymphoma (PTCL).

CAR-NK Programs

Our manufacturing platform also allows for the generation of CAR-targeted NK cells utilizing cord blood starting material with the same pre-selected characteristics and scale-up process as AlloNK. We own ex-APAC rights for AB-201, a HER2 targeting CAR-NK cell, and for AB-205, a CD5 directed CAR-NK.

Platform to Create Gene-Modified NK Cells

As an alternative to targeting NK cells to tumors by combining with mAb therapy or NK-engager bispecific technology, NK cells may be targeted directly through the addition of a CAR against a defined target antigen. This is accomplished through genetic modification of the NK cell and can also include the addition of cytokine transgenes to further enhance the activity and persistence of these CAR-NK cells. We believe these modifications can turn NK cells into the kind of flexible, potent and allogeneic therapy that CAR-T cells were intended to become. In particular, we believe that the potential therapeutic applications of NK cells can be expanded by two types of gene modifications:

1. **Addition of CAR constructs to direct NK cells to specific antigens:** We introduce CAR constructs to our cord-blood derived NK cells via a lentiviral vector. This virus vector is manufactured under cGMP conditions in the United States prior to being transferred to the GC Cell manufacturing facility in Korea where it is combined with NK cells during the first expansion phase of our manufacturing process. Our CAR constructs have been designed to enhance the activity of our NK cell product candidates based on extensive empirical evaluation of costimulatory domains alone and in combination. In our preclinical studies, CAR-NK cells that contain the costimulatory domain OX40L used in our CAR construct exhibited greater cytotoxic potential than structures used in other T-cell and NK cell programs.
2. **Enhancement of viability and potency through overexpression of cytokines:** IL-15 promotes NK cell viability, proliferation and function. Transduction of NK cells with gene constructs that lead to expression of IL-15 increased their cytotoxic potential in preclinical studies. Further, IL-15 expression has been associated with increased cell persistence in third-party human clinical studies. Expression of IL-15 in our CAR-NK cells has resulted in high viability in culture and our AB-201 product candidate expresses the IL-15 transgene. Our preclinical studies showed that the IL-15 co-expressed from the CAR lentivirus resulted in persistence of AB-201 cells in the circulation of mouse models beyond Day 30 and peak detection in lung and spleen tissues at Day 15. This was substantially longer than the persistence seen for cord blood-derived NK cells not expressing IL-15.

AB-201

AB-201 is an allogeneic anti-HER2 CAR-NK cell product candidate, containing a CAR with a proprietary HER2 antigen recognition domain and expressing soluble IL-15. HER2, also known as Human Epidermal Growth Factor Receptor 2 or ErbB2, is a receptor tyrosine kinase that is overexpressed on many solid tumors, such as breast, gastric and esophageal, and bladder cancers. AB-201 has shown specific cytotoxic activity against HER2+ tumor cells in vitro and anti-tumor activity and tumor infiltration in vivo. AB-201 is designed to bind to a region distinct from other HER2-targeting drugs, such as trastuzumab and pertuzumab. We have received orphan drug designation for AB-201 in the United States.

It is estimated that there are over 50,000 patients diagnosed annually in the United States with tumors having high expression of HER2, with overexpression found in approximately 10% to 15% of breast cancer cases and in over 10% of bladder and esophageal cancers. Many breast cancer patients with HER2+ localized disease experience pathologic complete responses when treated with HER2-directed therapies. However, for patients who relapse and for those who present initially with metastatic disease, current treatments can provide clinical responses but are not curative, and prognosis generally worsens with each subsequent line of therapy. HER2 is expressed in a subset of gastric, gastro-esophageal junction and esophageal cancers. Each year, over 5,000 patients in the United States begin various lines of treatment for HER2+ disease. Trastuzumab and fam-trastuzumab deruxtecan are approved for use in

HER2+ gastric cancer, but a significant unmet medical need remains with only about half of patients responding to these therapies in first-line treatment and fewer than 30% of patients responding in third and later lines. HER2 is also expressed in a subset of bladder cancers. Each year, over 5,000 bladder cancer patients in the United States receive treatment for cancer that expresses HER2, but there are no approved HER2-directed therapies in bladder cancer.

AB-205

AB-205 is an allogeneic anti-CD5 CAR-NK cell product candidate, containing a CAR with a CD5 antigen recognition domain and expressing soluble IL-15. CD5 is a T-cell activation marker and negative regulator of TCR signaling expressed on tumor cells in the majority of cases of T-cell lymphoma and leukemia. Our partner, GC Cell, has observed specific cytotoxic activity against CD5+ T-cell leukemia cell lines, CCRF-CEM and RPMI-8402, with AB-205 in vitro and meaningful anti-tumor activity in vivo.

CD5 is expressed in a large number of cases of T-cell lymphoma (TCL) and T-cell Acute Lymphoblastic Leukemia (T-ALL). TCL accounts for 10-15% of all NHL cases and is categorized as cutaneous (CTCL) or more aggressive PTCL forms. PTCL, which accounts for approximately half of TCL cases, can be further subdivided into subtypes, with an estimated 80% of all cases expressing CD5. The CD30-targeted antibody drug conjugate Adcetris (brentuximab vedotin, BV) is used in PTCL, with the highest efficacy in the anaplastic large cell lymphoma (ALCL) subtype which uniformly expresses CD30. However, approximately 15% of ALCL patients are refractory or quickly progress following BV, while another 50% of ALCL patients initially respond, but ultimately progress after BV. Further, efficacy of BV and expression of CD30 in other PTCL subtypes is varied. There remains an unmet need for effective and safe therapies in these populations.

CAR-NKs may be an especially advantageous construct for targeting cancers of T-cell origin because of two limitations of CAR-T cells. First, autologous CAR-T products must be generated from T-cells isolated by leukapheresis, and using cells from a patient as starting material may risk generating CAR-T product from cancerous T-cells which could result in secondary malignancy. Second, since CD5 is expressed on normal, activated T-cells, CAR-T products, whether autologous or allogeneic, may need to be engineered to avoid fratricide of CAR-T cells against other CAR-T cells.

Manufacturing Capabilities and Industrialization of NK Cell Therapy

We have a manufacturing-first approach, referencing the fact that even before we were founded, our strategic partner GC Cell had already invested years pioneering the manufacturing process that we use today. Unlike most other companies in the NK field who started clinical development before establishing a scalable manufacturing process, we started clinical development with a mature and robust process in place. Our process is designed to allow us to produce off-the-shelf, allogeneic NK cell therapy candidates at scale, with the mission to make these therapies broadly accessible for patients with devastating autoimmune diseases and cancers. We leveraged our deep expertise in NK cell biology to establish an end-to-end proprietary process in collaboration with our strategic partner, GC Cell.

We believe the following features of our platform provide multiple key advantages:

Cord Blood as the Donor Source of our NK Cell Product Candidates

Cord blood is a recognized source of healthy donor cells for hematopoietic stem cell transplants and is readily available from multiple public banks in the United States and Europe. NK cells make up 5% to 15% of peripheral blood lymphocytes. Traditionally, peripheral blood has been used as the source for NK cells for therapeutic use. However, studies conducted by GC Cell have shown that NK cells derived from cord blood have a nearly ten-fold greater potential for expansion in our proprietary culture systems than those derived from peripheral blood, without premature exhaustion. The expression of receptors of interest on the surface of NK cells, such as those involved in the activation of NK cells on engagement of tumor cells, was seen to be more consistent donor-to-donor for cord blood NKs than peripheral-blood NK cells. Our manufacturing process activates the NK cells in cord blood in a donor-independent manner, resulting in a highly scaled, active and consistent NK cell product.

Selection of Optimal Genetic Characteristics in the Donor Cord Blood Units

We pre-screen banked cord blood units for both the KIR-B haplotype and high-affinity variant of the CD16 receptor which are drivers of NK cell activity:

- **KIR-B haplotype selection:** We base our product candidates on cord blood units encoding KIR-B alleles of the KIR receptor family. It has been reported that KIR-B haplotype NK cells have more activating receptors than KIR-A. It has also been reported that acute myeloid leukemia patients receiving allogeneic transplants from homozygous KIR-B donors have significantly decreased relapse rates and increased disease-free survival than those receiving transplants from KIR-A donors.
- **High-Affinity CD16 158V/V selection:** We select cord blood units that have a variant of CD16 known as 158 V/V, which has been shown to lead to increased ADCC activity. In a clinical trial of rituximab, an anti-CD20 mAb, follicular lymphoma patients with the CD16 genotype encoding the 158 V/V allele had a significantly higher response rate compared to those with other CD16 genotypes.

Approximately 15% of cord blood units have the characteristics above. Following pre-selection, we ship the cord blood units to our manufacturing facility where they are held in cryostorage. We believe that the availability, quality, ability to prescreen and ease of logistics of cord blood make it the optimal donor cell source for our proprietary manufacturing process.

Established and Highly Scaled Proprietary Manufacturing Process

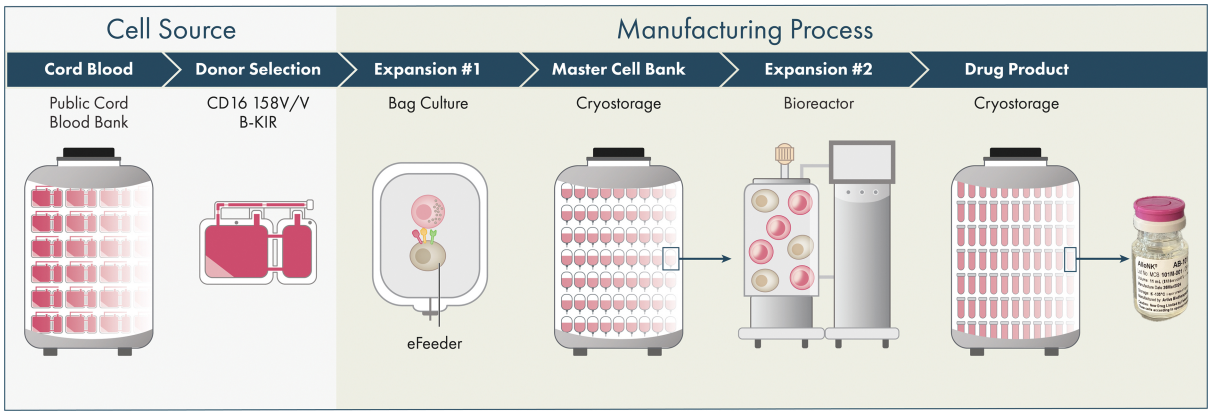
We are leveraging a manufacturing process designed to be cGMP-compliant and potentially optimized for highly scaled expansion of the NK cells from a cord blood unit using a proprietary culture system. The NK cells from selected cord blood units are expanded using a proprietary engineered feeder (eFeeder) cell culturing process. The eFeeder cells are engineered to express a combination of factors on their surface, which enhance the activation and expansion of NK cells from the cord blood unit. The eFeeder cells are manufactured in-house, irradiated and do not persist in the final product. This process has been developed to produce large numbers of mature and highly active NK and CAR-NK cells while avoiding overstimulation, which has been shown to lead to cellular senescence.

The NK cell expansion process consists of the following steps:

- **MCB production:** The cord blood unit is thawed and depleted of T-cells before culturing with the eFeeder cells, resulting in a significant expansion and enrichment of NK cells. For CAR-NK product candidates, a lentivirus vector encoding the specific CAR construct and IL-15 can be introduced at this stage. This results in the generation of cryopreserved MCB which is then stored in vials. MCB samples are assessed for quality against qualified release specifications before use in the second expansion stage. For AlloNK, we routinely produce 50-80 vials of MCB from each cord blood unit. We have produced multiple MCBs from different donor cord blood units for each product candidate.
- **Drug product production:** A single vial of MCB is used to seed a second expansion step. This takes place in a 50-liter, single-use bioreactor and results in highly activate, pure NK cells. The NK cells are harvested, vialed and cryopreserved. For AlloNK, we routinely produce >80 vials of one billion NK cells per vial for clinical use from each drug product batch. We have multiple bioreactors installed at both our San Diego facility and GC Cell and have capacity to produce up to 100 batches per year across both sites. Samples of drug product from each batch are tested using qualified assays prior to release for clinical use.
- **Product characterization:** Our highly scaled and reproducible process for generating cord blood-derived NK and CAR-NK cells has yielded drug product that has consistently been observed to meet release specifications across manufacturing runs. For AlloNK, we and GC Cell have produced over 50 batches of drug product which passed all of our release criteria including criteria for purity, identity and functional activity.
- **Effective cryopreservation:** The effective long-term storage of cells while retaining product viability and potency is an essential step in providing off-the-shelf NK and CAR-NK cell therapies. The final step in the manufacturing process is cryopreservation. We believe that the ability to effectively cryopreserve our NK and CAR-NK cell therapy product candidates is a key differentiator for our

platform and is essential to providing off-the-shelf products that can be shipped around the world and be available on demand for single or repeat patient dosing. Historically, NK cells have been reported to be highly sensitive to the stresses of a freeze-thaw cycle, and cryopreservation of NK cells has therefore been more challenging than T-cells. Our proprietary cryopreservation process uses methods that have consistently demonstrated >90% viability of our NK cells upon thawing, with no significant differences in NK cell activity or expression of cytokines, such as interferon-γ and TNFα.

For AlloNK, at the current scale, each cord blood unit is expanded to yield 50 to 80 cryopreserved MCB units. In turn, each MCB unit is further expanded to yield 80 to 100+ one billion-cell drug product vials. The demonstrated expansion from a single cord blood unit is therefore over 4,000 one billion-cell vials which are enough to treat over 250 to 1,000 autoimmune patients assuming one billion to four billion AlloNK cells per dose and three doses for a treatment regimen of an aggregate of three billion to twelve billion AlloNK cells total per patient with autoimmune disease. To date, we and GC Cell have produced over 50 clinical batches of AlloNK, producing thousands of AlloNK vials at one billion cells per vial, and have performed release testing on drug product derived from eight different donors. We have demonstrated both batch-to-batch and donor-to-donor consistency.



Our Manufacturing Process Can Generate Thousands of Doses of AlloNK from a Single Cord Blood Unit

We are conducting an ongoing product stability study to assess the shelf-life of our NK cell product candidates. We have tested each batch of AlloNK for cell viability, identity, purity, sterility and potency. To date, we have demonstrated stable results at 48 months. Our cryopreservation process was designed using an infusion-ready media not only to ensure that the thawed cells retain high and consistent activity, but also to enable a simple thawing process in which the drug product does not require any further processing before administration.

Our Facility

In addition to the research and manufacturing capabilities at GC Cell's headquarters in Korea, we have established full development and manufacturing facilities in San Diego, California. We have built a new 52,000-square-foot corporate headquarters, which includes research and process development laboratories, and have recruited a team of cell therapy experts driving discovery research, preclinical development, translational science, process and analytical development, and cell therapy manufacturing Our headquarters also includes a 9,000 square-foot purpose-built cGMP manufacturing center to support NK and CAR-NK cell production for our pipeline development and clinical trial supply. This new facility capacity is in addition to on-going manufacturing in Korea.

Our scaled manufacturing process established at GC Cell over more than ten years has enabled us to design an efficient layout for our San Diego manufacturing center that is cGMP compliant. Our facility comprises multiple production suites, a MCB / virus suite and a suite devoted to product fill-finish and cryopreservation. Each of the three 50L bioreactor suites dedicated to drug product production have the capacity to run 20 batches per year. Given drug product batches can yield more than 80-100 AlloNK vials with one billion NK cells each, our facility has the capacity to generate over 5,000 one billion NK cell vials per year.

Released finished product is stored off site at a third-party logistics vendor, as is currently the case for drug products manufactured for us by GC Cell. We intend to use our facility to enable new pipeline program research, development and manufacturing, to further optimize the AlloNK manufacturing process and produce AlloNK for current and future clinical trials and to supply any potential commercial launch.

Competition

The biopharmaceutical industry in general, and the cell therapy field in particular, is characterized by rapidly advancing and changing technologies, intense competition and a strong emphasis on intellectual property. We face substantial and increasing competition from large and specialty biopharmaceutical companies, as well as public and private medical research institutions and governmental agencies. Competitors may compete with us in hiring scientific and management personnel, establishing clinical study sites, recruiting patients to participate in clinical trials and acquiring technologies complementary to, or necessary for, our programs.

Our known biopharmaceutical competitors that are developing allogeneic CAR-NK or CAR-T cell therapies or T-cell engaging bispecific antibodies include, but may not be limited to, the following: Adicet Bio, Inc., Allogene Therapeutics, Inc., Amgen Inc., Autolus Therapeutics plc, Bristol-Myers Squibb Co, Cabaletta Bio, Inc., Candid Therapeutics, Inc., Caribou Biosciences, Inc., Cartesian Therapeutics, Inc., Century Therapeutics, Inc., Cullinan Therapeutics Inc., Fate Therapeutics, Inc., Galapagos NV, Gilead Sciences, Inc., Gracell Biopharmaceuticals, Inc. (acquired by AstraZeneca), GSK plc, iCell Gene Therapeutics Inc., ImmPACT Bio USA, Inc. (acquired by Lyell Immunopharma, Inc.), ITabMed Co., Ltd., Johnson & Johnson, Kyverna Therapeutics, Inc., Luminary Therapeutics, Inc., Merck & Co., Inc., Nkarta, Inc., Novartis AG, Regeneron Pharmaceuticals, Inc., Roche, Sana Biotechnology, Inc., Sanofi, Shoreline Biosciences Inc., Synthekine Inc., Takeda Pharmaceuticals Company Limited, Wugen, Inc. and Xencor, Inc.

Many of our current or potential competitors have significantly greater financial, technical and human resources, as well as more expertise in research and development, manufacturing, preclinical testing, conducting clinical studies and trials and commercializing and marketing approved products, than us. Mergers and acquisitions in the biopharmaceutical industry may result in even greater resource concentration among a smaller number of competitors. Smaller or early-stage companies may also prove to be significant competitors, either alone or through collaborative arrangements with large and established companies.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other comparable foreign regulatory authority approval for their products more rapidly than us, which could result in our competitors establishing a strong market position before we are able to enter the market. Key competitive factors affecting the success of all of our programs are likely to be their efficacy, safety, convenience, price and degree of reimbursement.

Intellectual Property

Intellectual property is of vital importance in our field and in biotechnology generally. Our commercial success depends in part on our ability to obtain intellectual property that protects our product candidates and combinations of our product candidates with other therapeutics. We seek to protect and enhance proprietary technology, inventions and improvements that are commercially important to the development of our business by seeking, maintaining and defending U.S. and foreign patent rights, whether developed internally or licensed from third parties.

We are actively building our intellectual property portfolio around our product candidates and our discovery programs, based on our own intellectual property and licensed intellectual property. One important step in building our current portfolio was executing the Core Agreement, described below, with GC Cell. The Core Agreement grants us an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers, to certain intellectual property and technology owned or controlled by GC Cell relating to non-genetically modified and genetically modified NK cells, and culturing, engineering, and manufacturing thereof, to research, develop, manufacture, and commercialize NK cell pharmaceutical products anywhere in the world except for Asia, Australia

and New Zealand (the Artiva Territory). Applications to date have been filed in the United States, Europe, Canada and Israel. Further, we intend to file patent applications relating to new technologies we develop, either ourselves or with our strategic partners. We also intend to continue to identify and license patents that provide protection and serve as an optimal platform to enhance our intellectual property and technology base.

Our current intellectual property estate is designed to provide multiple layers of protection, including (1) patent rights directed to innovative manufacturing processes and methods for generating therapeutic NK cells; (2) patent rights covering constructs for use in our CAR-NK candidates; and (3) patent rights covering methods of treatment for therapeutic indications using NK cells.

Our current patent portfolio as of March 1, 2025, includes seven patent families licensed from GC Cell that primarily relate to innovative manufacturing processes and methods for generating therapeutic NK cells. These families disclose compositions and methods used in NK cell manufacturing processes, as well as resulting products and therapeutic compositions, along with methods of treating cancer using these products and therapeutic compositions.

Our current patent estate as of March 1, 2025, includes three patent families licensed from GC Cell, three patent families we co-own with GC Cell, and one patent family that we own covering constructs for use in our CAR-NK programs. Two of the families we license from GC Cell relate to particular CAR components. The first of these includes pending applications in the United States, Europe, and Canada, and any patents that issue from these pending applications are expected to expire in 2037, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees; the second of these includes a pending application in the United States, and any patents that issue from this pending application are expected to expire in 2042, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The third family we license from GC Cell relates to a novel anti-HER2 antibody or antigen-binding fragment and includes three issued U.S. patents and pending applications in the United States, Europe, Canada, and Israel. The issued U.S. patents are expected to expire in 2038, and any patents that issue from the pending patent applications in these licensed families are expected to expire between 2038 and 2041, without accounting for potentially available patent term adjustments or extensions and assuming payment of appropriate maintenance, renewal, annuity or other fees. Two of the families we co-own with GC Cell relate to cells and constructs encoding IL-15 and a CAR utilizing the novel anti-HER2 antigen binding fragment we license from GC Cell and methods of treatment using these cells and constructs. The first of these families includes pending applications in the United States, Europe, Israel, and Canada, and any patents that issue from these pending applications are expected to expire in 2042, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees; the second of these families includes pending applications in the United States, Thailand, Singapore, Israel, Indonesia, Europe, China, Canada, and Australia, and any patents that issue from these pending applications are expected to expire in 2043, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The third family we co-own with GC Cell relates to our anti-CD19 CAR-NK cell products and includes pending applications in the United States and Europe; any patents that issue from these pending applications are expected to expire in 2042, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The patent family that we own relates to a novel antibody or antigen binding fragment and includes a pending PCT application. Although no patents have yet issued from this owned patent family, we expect the term of any patents that may issue from the pending patent applications in this family to extend to at least 2043, without accounting for potentially available patent term adjustments or extensions and assuming payment of appropriate maintenance, renewal, annuity or other governmental fees.

Our current patent estate as of March 1, 2025, includes twelve patent families related to NK cells and to methods of treatment using NK cells in addition to a therapeutic antibody. The first family, which is co-owned by GC Cell and Incyte Corporation, relates to pharmaceutical combinations for treating tumors comprised of anti-CD19 antibody and NK cells. This family includes pending applications in Canada, Europe, Israel, the United States, Eurasia, Mexico, Ukraine, and South Africa; any patents that issue from these pending applications are expected to expire in 2039, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The second family, which we co-own with GC Cell, relates to the treatment of cancer with NK cells and a CD20 targeted antibody. This family includes pending applications in the United States and Europe; any patents that issue from these pending applications are expected to expire in 2041, without accounting for potentially available patent term adjustment or extensions, and assuming

payment of appropriate maintenance, renewal, annuity, or other fees. The third and fourth families, which we own, relate to the treatment of autoimmune indications with NK cells and therapeutic antibodies and includes a pending PCT application and a pending U.S. provisional application; any patents that issue from these pending applications are expected to expire in 2044 and 2045, respectively, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The fifth and sixth families, which we own, relate to methods of treatment using NK cells in combination with other therapeutics. The fourth family includes a pending U.S. provisional application; any patents that issue from applications that claim priority to this provisional application are expected to expire in 2044, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The fifth family includes a pending PCT application; any patents that issue from this pending application are expected to expire in 2044, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The seventh family, which we own, relates to engineered NK cells and methods of treatment and includes a pending U.S. provisional application; any patents that issue from applications that claim priority to this provisional application expected to expire in 2045, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The other five patent families, which we co-own with GC Cell, relate to NK cells and to additional combinations of NK cells and therapeutic antibodies directed to various targets. Of these, the first family includes pending applications in the United States, Europe, Canada, and Israel; any patents that issue from these pending applications are expected to expire in 2041, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees. The remaining families each include pending applications in the United States, Europe, Australia, China, Japan, and Korea; any patents that issue from these pending applications are expected to expire in 2042, without accounting for potentially available patent term adjustment or extensions, and assuming payment of appropriate maintenance, renewal, annuity, or other fees.

Our current patent estate as of March,1 2025, also includes a patent family co-owned by us, Affimed GmbH and GC Cell related to therapeutic compositions and methods of treating cancer using NK cells in combination with one of Affimed's innate cell engagers. This family includes pending applications in the United States, Australia, Canada, China, Europe, Israel, India, Japan, and Korea. We expect the term of any patents that issue from the pending patent applications in this family to extend until at least 2042, without accounting for potentially available patent term adjustment or extension and assuming payment of appropriate maintenance, renewal, annuity or other governmental fees.

With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our commercial products and methods of manufacturing the same.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the date of filing of the first non-provisional application to which priority is claimed. In the United States, patent term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office (USPTO) in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. In the United States, the term of a patent that covers an FDA-approved drug may also be eligible for a patent term extension of up to five years under the Drug Price Competition and Patent Term Restoration Act of 1984 (the Hatch-Waxman Act), which is designed to compensate for the patent term lost during the FDA regulatory review process. The length of the patent term extension is calculated based on the length of time it takes for regulatory review. A patent term extension under the Hatch-Waxman Act cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Moreover, a patent can only be extended once, and thus, if a single patent is applicable to multiple products, it can only be extended based on one product. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug. When possible, depending upon the length of clinical trials and other factors involved in the filing of a biologics license application (BLA), we expect to apply for patent term extensions for patents covering our product candidates and their methods of use.

In addition to patent protection, we also seek to rely on regulatory protection and exclusivities. For instance, we intend to rely on the 12-year period for marketing exclusivity in the United States, and similar marketing exclusivities in other countries, to prevent competitors from obtaining regulatory approval for our products.

We also rely on trademarks, trade secrets, know-how, continuing technological innovation, confidentiality agreements, and invention assignment agreements to develop and maintain our proprietary position. The confidentiality agreements are designed to protect our proprietary information and the invention assignment agreements are designed to grant us ownership of technologies that are developed for us by our employees, consultants, or other third parties. We seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in our agreements and security measures, either may be breached, and we may not have adequate remedies. In addition, our trade secrets may otherwise become known or independently discovered by competitors.

Our commercial success also depends in part on our ability to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights.

Collaboration and License Agreements

GC Cell and Related Agreements

We have entered into several agreements with GC Cell and related entities concerning our platform NK cell technology and manufacturing of our core products, as described below.

Option and License Agreement with GC Cell

In September 2019, we entered into an option and license agreement with GC Cell, as amended in June 2020 and February 2022 (Core Agreement). Under the Core Agreement, GC Cell granted us an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell relating to non-genetically modified and genetically modified NK cells, and culturing, engineering, manufacturing thereof, to research, develop, manufacture and commercialize NK cell pharmaceutical products in the Artiva Territory. GC Cell retained rights under the license to allow it and its affiliates to perform obligations under the Core Agreement and other agreements between us and them.

Under the Core Agreement, GC Cell agreed to conduct a discovery, research, preclinical development and manufacturing program under a plan approved by a Joint Research Steering Committee (JSC), to generate and identify product candidates for nomination as option candidates. GC Cell will bear all costs for its work under the R&D Plan, except that we will bear all costs for completing IND-enabling activities performed by GC Cell on behalf of us, other than certain efficacy studies.

For each product candidate determined by the JSC to be an option candidate, we have an exclusive option under the Core Agreement to obtain an exclusive, sublicensable license to research, develop, manufacture and commercialize such candidate in the Artiva Territory for any therapeutic, prophylactic or diagnostic uses in humans, on economic terms to be determined in good faith by the parties. GC Cell retains exclusive rights to the licensed technology in Asia, Australia and New Zealand, though we have the right to request, and GC Cell has agreed to consider in good faith, inclusion of Australia, New Zealand and/or specific countries in Asia in the Artiva Territory on a product-by-product basis. If we elect not to exercise the option with respect to a particular option candidate, GC Cell retains the right to continue development of such candidate. To-date, we have exercised our rights to license four option candidates, including AlloNK (AB-101), AB-201 and AB-205.

We have control over and will bear the costs of the development, regulatory, manufacturing and commercialization activities relating to the option candidates for which we have exercised our option, each a licensed product. Accordingly, we have certain diligence obligations and must use commercially reasonable efforts to develop and seek regulatory approval for each licensed product in at least one indication in the United States and the EU, and following regulatory approval in a country, to commercialize such licensed product in at least one indication in such country. The Core Agreement provides that we have the right to engage GC Cell or its appropriate

affiliate to provide research and manufacturing services for the licensed products being developed by us in the Artiva Territory under separately executed service agreements.

Under the Core Agreement, we are obligated to pay a low single-digit percentage royalty on net sales of any licensed products, the manufacture, use or sale of which is claimed by or uses any Core IP. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed product and continuing until the later of (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We also have the exclusive option to extend our license to the Core IP to be worldwide with respect to products originated from us in exchange for a specified increase in the applicable royalty. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property.

The Core Agreement will remain in effect until the expiration of the last-to-expire royalty payment obligations. The last to expire patents (or any patents that issue from pending applications) underlying the royalty payment obligations under the Core Agreement are currently expected to expire by 2042, without accounting for potentially available patent term extensions or adjustments. We have the right to terminate the Core Agreement for any reason upon 90 days' written notice. Either party may terminate the Core Agreement upon the other party's uncured material breach, bankruptcy or insolvency. Upon termination of the Core Agreement for any reason other than uncured material breach by GC Cell, we must (i) assign and transfer all regulatory materials and approvals relating to any licensed product to GC Cell, and (ii) grant GC Cell a right of reference and use to all pre-clinical and clinical data relating to any licensed product, except that both (i) and (ii) only apply to licensed products that were developed at least in part by GC Cell, or were developed by a third party, and are claimed by or use licensed GC Cell technology. If the Core Agreement is terminated by GC Cell due to an uncured material breach, bankruptcy or insolvency, sublicensees may receive a direct license from GC Cell.

AB-101 Selected Product License Agreement

In November 2019, we entered into a license agreement with GC Cell for our AB-101 product candidate, as amended in February 2022 (the AB-101 Agreement). AB-101 is the first product for which we exercised our option under the Core Agreement. Under the AB-101 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture and commercialize AB-101.

Under the AB-101 Agreement, we are obligated to pay tiered royalties in the low-mid to high single-digit percentage range on annual net sales of any licensed AB-101 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-101 product and continuing until the later of (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We are also obligated to make milestone payments to GC Cell of (i) up to $22.0 million upon the first achievement of certain development milestones, and (ii) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-101 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property.

The AB-101 Agreement will remain in effect until the expiration of the last-to-expire royalty payment obligations. The last to expire patents (or any patents that issue from pending applications) underlying the royalty payment obligations under the AB-101 Agreement for AB-101 are currently expected to expire by 2042, without accounting for potentially available patent term extensions or adjustments. We have the right to terminate the AB-101 Agreement for any reason upon 90 days' written notice. Either party may terminate the AB-101 Agreement upon the other party's uncured material breach, bankruptcy or insolvency. Upon termination of the AB-101 Agreement for any reason other than uncured material breach by GC Cell, we must (i) assign and transfer all

regulatory materials and approvals relating to AB-101 to GC Cell, and (ii) grant GC Cell a right of reference and use to all pre-clinical and clinical data relating to AB-101.

AB-201 Selected Product License Agreement

In October 2020, we entered into a license agreement with GC Cell for our AB-201 product candidate, as amended in February 2022 and September 2023 (the AB-201 Agreement). AB-201 is the second product for which we exercised our option under the Core Agreement. Under the AB-201 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture and commercialize AB-201.

Under the AB-201 Agreement, we paid a one-time, upfront fee of $0.3 million as reimbursement of certain costs previously incurred by GC Cell relating to AB-201. We are obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-201 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-201 product and continuing until the later of (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We are also obligated to make milestone payments to GC Cell of (i) up to $25.0 million upon the first achievement of certain development milestones, and (ii) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-201 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. Further, in consideration of a grant-back license and right of reference to certain intellectual property rights and regulatory filings owned or controlled by us in the Artiva Territory for the exploitation of the AB-201 product outside the Artiva Territory, GC Cell is further obligated to pay us a low single-digit royalty on net sales outside the Artiva Territory of any licensed AB-201 product, as well as up to $1.8 million upon the first achievement of certain development milestones.

The AB-201 Agreement will remain in effect until the expiration of the last-to-expire royalty payment obligations. The last to expire patents (or any patents that issue from pending applications) underlying the payment obligations under the AB-201 Agreement are currently expected to expire by 2043, without accounting for potentially available patent term extensions or adjustments. We have the right to terminate the AB-201 Agreement for any reason upon 90 days' written notice. Either party may terminate the AB-201 Agreement upon the other party's uncured material breach, bankruptcy or insolvency. On termination of the AB-201 Agreement for any reason other than uncured material breach by GC Cell, we must (i) assign and transfer all regulatory materials and approvals relating to AB-201 to GC Cell, and (ii) grant GC Cell a right of reference and use to all pre-clinical and clinical data relating to AB-201.

AB-205 Selected Product License Agreement

In December 2022, we entered into a license agreement with GC Cell for our AB-205 product candidate (the AB-205 Agreement). AB-205 is the fourth product for which we exercised our option under the Core Agreement. Under the AB-205 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture and commercialize AB-205.

Under the AB-205 Agreement, we paid to GC Cell a one-time, upfront payment of $1.0 million, and we are obligated to make a payment of $2.5 million to GC Cell after we notify GC Cell that we opt to proceed to clinical development with an AB-205 product. We are also obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-205 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-205 product and continuing until the later of (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for such licensed product in such country; and (iii) the tenth anniversary of the first commercial sale of

such licensed product in such country. We are also obligated to make milestone payments to GC Cell of (i) up to $29.5 million upon the first achievement of certain development milestones, plus cost sharing of certain development costs incurred by GC Cell, and (ii) up to $28.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-205 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property.

The AB-205 Agreement will remain in effect until the expiration of the last-to-expire royalty payment obligations. The last to expire patents (or any patents that issue from pending applications) underlying the royalty payment obligations under the AB-205 Agreement are currently expected to expire by 2043, without accounting for potentially available patent term extensions or adjustments. We have the right to terminate the AB-205 Agreement for any reason upon 90 days' written notice. Either party may terminate the AB-205 Agreement upon the other party's uncured material breach, bankruptcy or insolvency. Further, GC Cell may terminate the AB-205 Agreement if we do not elect to proceed with clinical development of the AB-205 Product after receipt of certain clinical data provided by GC Cell. Upon termination of the AB-205 Agreement for any reason other than uncured material breach by GC Cell, we must (i) assign and transfer all regulatory materials and approvals relating to AB-205 to GC Cell, and (ii) grant GC Cell a right of reference and use to all pre-clinical and clinical data relating to AB-205.

Research Services Agreement with GC Cell

As contemplated by the Core Agreement, in August 2020 we entered into the GC Cell Research Services Agreement, as amended in February 2022, under which GC Cell agreed to provide research services in support of the research and development of one or more of the products we have licensed from GC Cell. The GC Cell Research Services Agreement provides that the parties will agree to specific projects as work orders under the GC Cell Research Services Agreement. Each work order shall set forth, upon terms mutually agreeable to GC Cell and us, the specific services to be performed by GC Cell, the timeline and schedule for the performance of the services and the compensation to be paid by us to GC Cell for the provision of such services, as well as any other relevant terms and conditions. Unless otherwise agreed by the parties in a work order, GC Cell will own all intellectual property generated in the course of its provision of services under the Agreement, and all such intellectual property, to the extent related to or arising from the licensed technology under the Core Agreement and selected product license agreements, including the AB-101 Agreement and the AB-201 Agreement, will be included in the licenses granted to us thereunder.

The GC Cell Research Services Agreement terminates on the five-year anniversary of its execution, except that GC Cell is obligated to complete any work orders that remain open at the time the agreement terminates. Both parties have the right to terminate the GC Cell Research Services Agreement for any reason upon 90 days' written notice, though if GC Cell terminates the GC Cell Research Services Agreement without cause, then at our option the termination shall not be effective until the later of (a) the end of the 90-day notice period, or (b) the date on which the services provided under the open work order have been completed. Either party may terminate the GC Cell Research Services Agreement or any work order upon thirty (30) days' written notice in the event of an uncured material breach. Either party may also terminate the GC Cell Research Services Agreement immediately in writing if the other party or its affiliates breaches the requirement that no individuals debarred or disqualified under the U.S. Federal Food, Drug and Cosmetic Act, or comparable applicable laws, may perform the services or use the data and intellectual property hereunder.

Master Manufacturing Agreement with GC Cell

In March 2020, we entered into a Master Agreement for Manufacturing Services (the Manufacturing Agreement) with GC Cell, formerly GC Lab Cell Corporation, under which GC Cell agreed to manufacture specified products under individual work orders for use in our Phase 1 and Phase 2 clinical trials. Each work order will contain an estimated budget of service fees and out-of-pocket costs to be incurred in the performance of services under the agreement and the work order, as well as additional terms and conditions relating to the estimated budget. We will own all results and data generated by GC Cell under the Manufacturing Agreement. GC Cell may not subcontract its performance, even to affiliates, without our written consent.

Under the Manufacturing Agreement, we granted GC Cell a limited non-exclusive, non-transferable, non-sublicensable, revocable, royalty-free license to our pre-existing intellectual property that is necessary and useful to manufacture products for us. Any intellectual property generated in the course of the manufacturing will be owned by us. GC Cell granted us a limited worldwide, royalty-free, fully paid, non-exclusive license, including the right to sublicense through multiple tiers, to GC Cell background technology and improvements thereof used to manufacture products under the agreement. These licenses survive termination of the Manufacturing Agreement.

The Manufacturing Agreement expires on the five-year anniversary of its execution, unless terminated earlier or extended by the parties in writing. Under the terms of the Manufacturing Agreement, as amended in July 2020, we have the right to terminate the Manufacturing Agreement at any time and for any reason upon six (6) months written notice. We also have the right to terminate any open work order at any time and for any reason upon sixty (60) days' written notice. Either party may terminate the Manufacturing Agreement or any work order upon thirty (30) days' written notice in the event of an uncured material breach. GC Cell may terminate any work order on sixty (60) days' prior written notice if GC Cell reasonably concludes that it is not technically or scientifically feasible to deliver the services contemplated by such work order despite applying its commercially reasonable efforts, but only if (i) such non-feasibility is not caused by GC Cell and is outside of GC Cell's reasonable control and (ii) the parties are unable to resolve such scientific or technical issues within a sixty (60) day period.

Affimed Collaboration Agreement

In November 2022, we entered into a collaboration agreement (the Affimed Collaboration Agreement) with Affimed, as amended in November 2022 and June 2023. The collaboration is focused on the clinical development and commercialization of a combination therapy comprising (i) Affimed's product acimtamig and (ii) our product AlloNK in the United States and certain other countries that we and Affimed may agree to include, excluding specified Asia Pacific region countries (the Territory) for any and all uses in humans and animals, with an initial focus on the treatment of CD30+ Hodgkin Lymphoma and Peripheral T-Cell Lymphoma and other indications that may be included in a development plan.

Under the Affimed Collaboration Agreement, we granted Affimed, under certain intellectual property and technology owned or controlled by us relating to AlloNK, (a) an exclusive, non-transferable (except to affiliates and successors in interest), royalty-free and non-sublicensable (except to affiliates and subcontractors) license to use AlloNK to clinically develop the combination therapy in the Territory in accordance with a development plan, and (b) a non-exclusive, non-transferable (except to affiliates and successors in interest), royalty-free and non-sublicensable (with certain exceptions) license to promote the combination therapy in the Territory. Affimed granted us a non-exclusive, royalty-free, non-transferable (except to affiliates and successors in interest) and non-sublicensable (except to affiliates and subcontractors) license under certain intellectual property and technology owned or controlled by Affimed relating to acimtamig to use acimtamig to clinically develop the combination therapy in the Territory in accordance with a development plan. Affimed will be primarily responsible for the development of the combination therapy, the conduct of the relevant clinical trials and the preparation and filing of regulatory materials during the clinical development. We will support Affimed in the development, in particular through the supply of AlloNK and our IL-2 product to be used in the clinical trials. Affimed will have the sole right and responsibility to promote the combination therapy according to a jointly aligned promotion plan.

During the term of the Affimed Collaboration Agreement, and subject to certain exceptions, neither party nor its affiliates is permitted to clinically develop or commercialize any other product or therapy comprising its product (i.e., acimtamig for Affimed and AlloNK for us) in the Territory, whether as a monotherapy or part of a combination therapy, for any indication which is included in the then applicable development plan and for which we and Affimed have agreed to file an IND. In addition, during the term of Affimed Collaboration Agreement, Affimed may not clinically develop or commercialize any product or therapy comprising its acimtamig with other NK cells (except for indications which Affimed has proposed and we have rejected to include in the development plan or rejected to file an IND), and we may not clinically develop or commercialize any product that directly and specifically binds to CD30 without any known off-target binding that is pre-clinically or clinically relevant in the Territory (except for indications which we have proposed and Affimed has rejected to include in the development plan or rejected to file an IND).

Affimed is responsible for all costs associated with the development of the combination therapy (including all clinical trial costs), except that we and Affimed shall each bear 50% of the costs and expenses incurred in connection with the performance of any confirmatory clinical trial required by the FDA for the combination therapy. We are solely responsible for all costs incurred by us for the supply of AlloNK and our IL-2 product used in the combination therapy clinical trials and for the conduct of certain development activities assigned to us under the development plan. In addition, we and Affimed have agreed to make payments to each other to achieve a proportion of 67%/33% (Affimed/us) of revenues generated by both parties from commercial sales of each party's product as part of the combination therapy, with such payment obligations commencing on the first commercial sale of a combination product by us or Affimed and expiring on a country-by-country basis upon the earlier of (1) biosimilar market entry in such country and (2) the later of (x) the expiration of all collaboration patents in such country and (y) the expiration of regulatory data exclusivity of acimtamig or AlloNK in such country.

Unless earlier terminated, the Affimed Collaboration Agreement will expire when there are no remaining payment obligations by either party in the Territory. Either party may terminate the Affimed Collaboration Agreement in its entirety for any uncured material breach by the other party or upon the other party's insolvency, subject to certain notice and cure periods. In addition, Affimed may terminate the Affimed Collaboration Agreement if our ongoing clinical trial of AlloNK fails to meet certain specified success criteria set forth in the clinical trial protocol, subject to a certain notice and cure period.

We or Affimed may (during certain specified time windows during the clinical development phase) opt out of the further development and promotion of the combination therapy. If a party opts out, the other party may either terminate the Affimed Collaboration Agreement or elect to continue the development and promotion of the combination therapy, in which case the opting-out party is required to provide certain continued support activities (e.g., supply of its product), and the revenue ratio applicable to each party will be adjusted accordingly. In addition, if Affimed opts out and we elect to continue, we are required to pay Affimed a portion of its costs incurred before its opt-out, unless Affimed opts out after a change of control of Affimed.

Sales and Marketing

Given our stage of development, we have not yet established a commercial organization or distribution capabilities. We intend to build a commercial infrastructure to support sales of any of our approved products. We expect to manage sales, marketing and distribution through internal resources and third-party relationships. While we may commit significant financial and management resources to commercial activities, we will also consider collaborating with one or more pharmaceutical companies to enhance our commercial capabilities.

Government Regulation and Product Approval

As a biopharmaceutical company that operates in the United States, we are subject to extensive regulation. Our cell products will be regulated as biologics. With this classification, commercial production of our products will need to occur in registered facilities in compliance with cGMP for biologics. The FDA categorizes human cell- or tissue-based products as either minimally manipulated or more than minimally manipulated and has determined that more than minimally manipulated products require clinical trials to demonstrate product safety and efficacy and the submission of a BLA for marketing authorization. Our products are considered more than minimally manipulated and will require evaluation in clinical trials and the submission and approval of a BLA before we can market them.

Government authorities in the United States, at the federal, state and local levels, and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of biopharmaceutical products such as those we are developing. Our product candidates must be approved by the FDA before they may be legally marketed in the United States and by the appropriate foreign regulatory authorities before they may be legally marketed in foreign countries. Generally, our activities in other countries will be subject to regulation that is similar in nature and scope as that imposed in the United States, although there can be important differences. Additionally, some significant aspects of regulation in the European Union (EU) are addressed in a centralized way, but country-specific regulation remains essential in many respects. The process for obtaining regulatory marketing approvals and the subsequent

compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. Product Development Process

In the United States, the FDA regulates pharmaceutical and biological products under the Federal Food, Drug and Cosmetic Act (FDCA), the Public Health Service Act (PHSA) and their implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. FDA sanctions could include, among other actions, refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls or withdrawals from the market, product seizures, total or partial suspension of production or distribution injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us. The process required by the FDA before a biological product may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to good laboratory practices (GLPs) and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an independent Institutional Review Board (IRB) or ethics committee at each clinical site before the trial is commenced;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices (GCPs), and any additional requirements for the protection of human research patients and their health information, to establish the safety and efficacy of the proposed biological product for its intended use;
- submission to the FDA of a BLA for marketing approval that includes substantial evidence of safety, purity and potency from results of nonclinical testing and clinical trials;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with cGMP, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity and, if applicable, the FDA's current good tissue practices (GTPs), for the use of human cellular and tissue products;
- potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval, or licensure, of the BLA.

Before testing any biological product candidate, including our product candidates, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs. The clinical trial sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions regarding the proposed clinical trials and places the trial 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 trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, trials

may not recommence without FDA authorization and then only under terms authorized by the FDA. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trials.

Clinical trials involve the administration of the biological product candidate to patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol and 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 comprising the GCP requirements, including the requirement that all research patients provide informed consent. Further, each clinical trial must be reviewed and approved by an independent IRB at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. Certain clinical trials involving human gene transfer research also must be overseen by an Institutional Biosafety Committee, a standing committee established specifically to provide peer review of the safety of research plans, procedures, personnel training and environmental risks of work involving recombinant DNA molecules. IBCs are typically assigned certain review responsibilities relating to the use of recombinant DNA molecules, including reviewing potential environmental risks, assessing containment levels, and evaluating the adequacy of facilities, personnel training and compliance with the NIH Guidelines. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy.

There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries.

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

- Phase 1. The biological product is initially introduced into healthy human subjects and tested for safety. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2. The biological product is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk to benefit ratio of the product and provide an adequate basis for product labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. During all phases of clinical development, regulatory authorities require extensive monitoring and auditing of all clinical activities, clinical data and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA, and the investigators for serious and unexpected adverse events, any findings from other studies, tests in laboratory animals or in vitro testing that suggest a significant risk for human patients, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor

also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor or its data safety monitoring board may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research patients are being exposed to an unacceptable health risk, including risks inferred from other unrelated immunotherapy trials. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product has been associated with unexpected serious harm to patients.

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

Concurrently with clinical trials, companies usually complete additional studies and must also develop additional information about the physical characteristics of the biological product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHSA emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

After the completion of clinical trials of a biological product, FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA submission must include results of product development, laboratory and animal studies, human trials, information on the manufacture and composition of the product, proposed labeling and other relevant information. The testing and approval processes require substantial time and effort and there can be no assurance that the FDA will accept the BLA for filing and, even if filed, that any approval will be granted on a timely basis, if at all.

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

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, potent, and/or effective for its intended use, and has an acceptable purity profile, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, safety, strength, quality, potency and purity. 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 recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy (REMS), is necessary to assure the safe use of the biological product. A REMS is a safety strategy to manage a known or potential serious risk associated with a medicine and to enable patients to have continued access to such medicines

by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS. The FDA will not approve a BLA without a REMS, if required. Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. For immunotherapy products, the FDA also will not approve the product if the manufacturer is not in compliance with the GTPs, to the extent applicable. These are FDA regulations and guidance documents that govern the methods used in, and the facilities and controls used for, the manufacture of human cells, tissue and cellular and tissue based products (HCT/Ps), which are human cells or tissue intended for implantation, transplant, infusion, or transfer into a human recipient. The primary intent of the GTP requirements is to ensure that cell and tissue-based products are manufactured in a manner designed to prevent the introduction, transmission and spread of communicable disease. FDA regulations also require tissue establishments to register and list their HCT/Ps with the FDA and, when applicable, to evaluate donors through screening and testing. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted In compliance with IND trial requirements and GCP requirements. To assure cGMP, GTP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production and quality control.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a risk management plan, or otherwise limit the scope of any approval. In addition, the FDA may require post marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

In addition, under the Pediatric Research Equity Act (PREA), as amended, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDCA requires that a sponsor of a biological product or drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit a pediatric study plan to the FDA not later than 60 days after the end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. The FDA may grant deferrals for submission of data or full or partial waivers. Generally, PREA does not apply to any product for an indication for which orphan designation has been granted. However, if only one indication for a product has orphan designation, a pediatric assessment may still be required for any applications to market that same product for the non-orphan indication(s).

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States. and for which there is no reasonable expectation that the cost of developing and making available in the United States. a drug or biologic for this type of disease or condition will be recovered from sales in the United States. for that drug or biologic. Orphan drug

designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Expedited Development and Review Programs

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new 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. Unique to a fast track product, the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

Any product, submitted to the FDA for approval, including a product with a fast track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new product designated for priority review in an effort to facilitate the review.

Additionally, depending on the design of the applicable clinical studies, a product may be eligible for accelerated approval. In particular, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon 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 drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical studies and may require such confirmatory studies to be underway prior to granting any accelerated approval. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

In addition, breakthrough therapy designation is intended to expedite the development and review of products that treat serious or life-threatening conditions. The designation by FDA requires preliminary clinical evidence that a product candidate, alone or in combination with other drugs and biologics, demonstrates substantial improvement over currently available therapy on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. If the FDA designates a breakthrough therapy, it may take actions appropriate to expedite the development and review of the application, which may include holding meetings with the sponsor and the review team throughout the development of the therapy; providing timely advice to, and interactive

communication with, the sponsor regarding the development of the drug to ensure that the development program to gather the nonclinical and clinical data necessary for approval is as efficient as practicable; involving senior managers and experienced review staff, as appropriate, in a collaborative, cross-disciplinary review; assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison between the review team and the sponsor; and considering alternative clinical trial designs when scientifically appropriate, which may result in smaller trials or more efficient trials that require less time to complete and may minimize the number of patients exposed to a potentially less efficacious treatment. Breakthrough therapy designation comes with all of the benefits of fast track designation, which means that the sponsor may submit sections of the BLA for review on a rolling basis if certain conditions are satisfied, including an agreement with FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review. The breakthrough therapy designation is a distinct status from both accelerated approval and priority review, which can also be granted to the same product if relevant criteria are met. If a product is designated as breakthrough therapy, FDA will expedite the development and review of such product. Fast Track designation, priority review and breakthrough therapy designation do not change the standards for approval but may expedite the development or approval process.

Post-Approval Requirements

Any products for which we receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, and complying with FDA promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in patient populations that are not described in the product's approved uses (known as "off-label use"), limitations on industry-sponsored scientific and educational activities, and requirements for promotional activities involving the internet. Although a physician may prescribe a legally available product for an off-label use, if the physicians deems such product to be appropriate in his/her professional medical judgment, a manufacturer may not market or promote off-label uses. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. A company that is found to have promoted off-label use of its product may be subject to significant liability, including administrative, civil and criminal sanctions.

In addition, quality control and manufacturing procedures must continue to conform to applicable manufacturing requirements after approval to ensure the long-term stability of the product. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA including, among other things, recall or withdrawal of the product from the market. In addition, changes to the manufacturing process are strictly regulated, and depending on the significance of the change, may require prior FDA approval before being implemented. Other types of changes to the approved product, such as adding new indications and claims, are also subject to further FDA review and approval.

The FDA also may require post-marketing testing, known as Phase 4 testing, and surveillance to monitor the effects of an approved product. Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

U.S. Marketing Exclusivity

The Biologics Price Competition and Innovation Act (BPCIA), amended the PHSA to authorize the FDA to approve similar versions of innovative biologics, commonly known as biosimilars. A competitor seeking approval of a biosimilar must file an application to establish its molecule as highly similar to an approved innovator biologic, among other requirements. The BPCIA, however, bars the FDA from approving biosimilar applications for 12 years after an innovator biological product receives initial marketing approval. This 12-year period of data exclusivity may be extended by six months, for a total of 12.5 years, if the FDA requests that the innovator company conduct pediatric clinical investigations of the product.

Depending upon the timing, duration and specifics of the FDA approval of the use of our product candidates, some of our U.S. patents, if granted, may be eligible for limited patent term extension under 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. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application. Only one patent applicable to an approved product is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The U.S. Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may intend to apply for restoration of patent term for one of our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "Written Request" for such a trial.

Other U.S. Healthcare Laws and Compliance Requirements

In the United States, our activities are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including but not limited to, the Centers for Medicare & Medicaid Services (CMS), other divisions of the U.S. Department of Health and Human Services (HHS), for example, the Office of Inspector General, the U.S. Department of Justice (DOJ) and individual U.S. Attorney offices within the DOJ, and state and local governments. For example, our business practices, including our research and any future sales, marketing and scientific/educational grant programs may be required to comply with federal anti-kickback and fraud and abuse laws, the false claims laws, the data privacy and security provisions of the Health Insurance Portability and Accountability Act (HIPAA), federal transparency requirements and similar state laws, each as amended.

The federal Anti-Kickback Statute prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, including any kickback, bribe or rebate, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for, either the referral of an individual for, or the purchasing, leasing, ordering or arranging for 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 interpreted broadly to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers and formulary managers on the other. Additionally, 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. Rather, if "one purpose" of the remuneration is to induce referrals, the federal Anti-Kickback Statute is violated. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and require strict compliance in order to offer protection. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the federal Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a

cumulative review of all of its facts and circumstances. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor.

The federal civil monetary penalties statute imposes penalties against any person or entity who, among other things, is determined to have knowingly presented or caused to be presented a false or fraudulent claim to, among others, a federal healthcare program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The federal civil False Claims Act (FCA) prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false 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 in order to avoid, decrease or conceal an obligation to pay money to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the federal government. Pharmaceutical and other healthcare companies are being investigated or, in the past, have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. In addition, pharmaceutical and other healthcare companies also have been prosecuted for causing false claims to be submitted because of the companies' marketing of the product for unapproved, and thus non-reimbursable, uses. Moreover, a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA.

HIPAA created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme or artifice to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, 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. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

We may be subject to data privacy and security regulations by both the federal government and the states in which we conduct our business. For example, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), and their implementing regulations, imposes requirements on certain types of individuals and entities, including covered entities, for example, certain healthcare providers, health plans and healthcare clearinghouses, and their respective business associates that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity and their subcontractors that use, disclose, access, or otherwise process individually identifiable protected health information, relating to the privacy, security and transmission of individually identifiable health information. In addition, state laws govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Additionally, the federal Physician Payments Sunshine Act and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with certain exceptions, annually report information to CMS related to certain payments or other transfers of value made or distributed to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician practitioners (physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, anesthesiologist assistants, and certified nurse midwives) and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members.

Also, many states have similar fraud and abuse statutes or regulations similar to the aforementioned federal laws that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. In order to distribute products commercially, we must comply with state laws that require the registration of manufacturers and wholesale distributors of drug and biological products in a state, including, in certain states, manufacturers and distributors who ship products into the state even if such

manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several states and local jurisdictions have enacted legislation requiring pharmaceutical and biotechnology companies to establish marketing compliance programs and comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, file periodic reports with the state, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities and/or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing certain physician prescribing data to pharmaceutical and biotechnology companies for use in sales and marketing, and to prohibit certain other sales and marketing practices. All of our activities are potentially subject to federal and state consumer protection and unfair competition laws.

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

Data Privacy and Security Laws

We are and may in the future become subject to numerous state, federal and foreign laws, regulations and standards that govern the collection, use, access to, confidentiality and security of health-related and other personal information. In the United States, such obligations may include, without limitation various federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and consumer protection laws and regulations that govern the collection, use, disclosure, and protection of health-related and other personal information.

Numerous U.S. states have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data. As applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt-out of certain data processing activities, such as targeted advertising, profiling, and automated decision-making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, the California Consumer Privacy Act of 2018 (the CCPA) applies to personal data of consumers, business representatives, and employees who are California residents, and requires businesses to provide specific disclosures in privacy notices and honor requests of such individuals to exercise certain privacy rights. The CCPA provides for fines and allows private litigants affected by certain data breaches to recover significant statutory damages.

Outside the United States, under foreign laws, such as the General Data Protection Regulation, companies may face temporary or definitive bans on data processing and other corrective actions; fines of up to 20 million Euros under the European Union's General Data Protection Regulation 2016/679 (EU GDPR), 17.5 million pounds sterling under the EU GDPR as it forms part of United Kingdom law by virtue of section 3 of the European Union (Withdrawal) Act 2018, or, in each case, 4% of annual global revenue, whichever is greater; or private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests. See the section titled "Risk Factors – Risks Related to Government Regulation" for additional information about the laws and regulations to which we may become subject and about the risks to our business associated with such laws and regulations.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In the United States and certain markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent to which third-party payors provide coverage, and establish adequate reimbursement levels for such products. No uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. As a result, the coverage determination process is often time-consuming and costly.

In the United States, third-party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or from establishing the reimbursement rate that such a payor will pay for the product. 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. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and efficacy. We may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Further, coverage policies and third-party payor reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained more products for which we receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future. 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. Additionally, any companion diagnostic test that we develop will be required to obtain coverage and reimbursement separate and apart from the coverage and reimbursement we seek for our product candidates, if approved.

Different pricing and reimbursement schemes exist in other countries. In the EU, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for medicines, but monitor and control company profits. The downward pressure on health care costs has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits.

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

Healthcare Reform

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect the ability to profitably sell product candidates for which marketing approval is obtained. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of

containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, the Affordable Care Act has substantially changed healthcare financing and delivery by both governmental and private insurers. The Affordable Care Act and its implementing regulations, among other things, revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs and certain biologics, including our product candidates, under the Medicaid drug rebate program are calculated, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid drug rebate program, extended the Medicaid drug rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, and provided incentives to programs that increase the federal government's comparative effectiveness research. Additionally, the Affordable Care Act allowed states to implement expanded eligibility criteria for Medicaid programs, imposed a new Medicare Part D coverage gap discount program, expanded the entities eligible for discounts under the Public Health Service pharmaceutical pricing program and implemented a new Patient-Centered Outcomes Research Institute. Since its enactment, there have been executive, judicial and political challenges and amendments to certain aspects of the Affordable Care Act.

Other legislative changes have been proposed and adopted since the Affordable Care Act was enacted, including aggregate reductions to Medicare payments to providers, which went into effect beginning on April 1, 2013 and, due to subsequent legislative amendments to the statute will stay in effect through 2032, unless additional Congressional action is taken. Additionally, on March 11, 2021, the American Rescue Plan Act of 2021 was signed into law, which eliminated the statutory Medicaid drug rebate cap, which was previously capped at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, which began on January 1, 2024.

Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payors. It is possible that other healthcare reform measures may be adopted in the future, particularly in light of the recent U.S. Presidential and Congressional elections. 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. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. For example, on August 16, 2022, the Inflation Reduction Act of 2022 (IRA) was signed into law which, among other things, (i) directs HHS to negotiate the price of certain high-expenditure, single-source biologics that have been on the market for at least 11 years covered under Medicare, and subject drug manufacturers to civil monetary penalties and a potential excise tax by offering a price that is not equal to or less than the negotiated "maximum fair price" for such drugs and biologics under the law (the "Medicare Drug Price Negotiation Program"), and (ii) imposes rebates with respect to certain drugs and biologics covered under Medicare Part B or Medicare Part D to penalize price increases that outpace inflation. The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. These provisions began to take effect progressively in fiscal year 2023. On August 15, 2024, HHS announced the agreed-upon price of the first ten drugs that were subject to price negotiations, although the Medicare Drug Price Negotiation Program is currently subject to legal challenges. On January 17, 2025, HHS selected fifteen additional products covered under Part D for price negotiation in 2025. Each year thereafter more Part B and Part D products will become subject to the Medicare Drug Price Negotiation Program.

Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act (FCPA), prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Additional Regulation

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

Europe / Rest of World Government Regulation

In addition to regulations in the United States, we will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our products. Whether or not we obtain FDA approval of a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application much like the IND prior to the commencement of human clinical trials.

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

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

Clinical Trials in the EU

Similarly to the United States, the various phases of non-clinical and clinical research in the European Union, or EU are subject to significant regulatory controls. In the EU, clinical trials are governed by the Clinical Trials Regulation (EU) No 536/2014 (CTR), which entered into application on January 31, 2022 repealing and replacing the former Clinical Trials Directive 2001/20 (CTD).

The CTR is intended to harmonize and streamline clinical trial authorizations, simplify adverse-event reporting procedures, improve the supervision of clinical trials and increase transparency. Specifically, the Regulation, which is directly applicable in all EU Member States, introduces a streamlined application procedure through a single-entry point, the “EU portal”, the Clinical Trials Information System (CTIS); a single set of documents to be prepared and submitted for the application; as well as simplified reporting procedures for clinical trial sponsors. A harmonized procedure for the assessment of applications for clinical trials has been introduced and is divided into two parts. Part I assessment is led by the competent authorities of a reference EU Member State selected by the trial sponsor and relates to clinical trial aspects that are considered to be scientifically harmonized across EU Member States. This assessment is then submitted to the competent authorities of all concerned EU Member States in which the trial is to be conducted for their review. Part II is assessed separately by the competent

authorities and Ethics Committees in each concerned EU Member State. Individual EU Member States retain the power to authorize the conduct of clinical trials on their territory.

The CTR foresaw a three-year transition period that ended on January 31, 2025. Since this date, all new or ongoing trials are subject to the provisions of the CTR.

In all cases, clinical trials must be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki. Medicines used in clinical trials, including ATMPs, must be manufactured in accordance with the guidelines on cGMP and in a GMP licensed facility, which can be subject to GMP inspections.

EU Review and approval process of medicinal products

In the EU, medicinal products can only be commercialized after a related marketing authorization (MA) has been granted. To obtain an MA for a product in the EU, an applicant must submit a Marketing Authorization Application (MAA) either under a centralized procedure administered by the European Medicines Agency (EMA), or one of the procedures administered by the competent authorities of EU Member States (decentralized procedure, national procedure or mutual recognition procedure). An MA may be granted only to an applicant established in the EU.

The centralized procedure provides for the grant of a single MA by the European Commission that is valid throughout the EEA (which is comprised of the 27 EU Member States plus Norway, Iceland and Liechtenstein). Pursuant to Regulation (EC) No 726/2004, the centralized procedure is compulsory for specific products, including for (i) medicinal products derived from biotechnological processes, (ii) products designated as orphan medicinal products, (iii) advanced therapy medicinal products, or ATMPs, and (iv) products with a new active substance indicated for the treatment of HIV/AIDS, cancer, neurodegenerative diseases, diabetes, auto-immune and other immune dysfunctions and viral diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, authorization through the centralized procedure is optional on related approval.

Under the centralized procedure, the EMA's Committee for Medicinal Products for Human Use (CHMP) conducts the initial assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing MA. The maximum timeframe for the evaluation of an MAA under the centralized procedure is 210 days, excluding clock stops when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Accelerated assessment may be granted by the CHMP in exceptional cases, when a medicinal product targeting an unmet medical need is expected to be of major interest from the point of view of public health and, in particular, from the viewpoint of therapeutic innovation. If the CHMP accepts a request for accelerated assessment, the time limit of 210 days will be reduced to 150 days (excluding clock stops). The CHMP can, however, revert to the standard time limit for the centralized procedure if it considers that it is no longer appropriate to conduct an accelerated assessment.

Unlike the centralized authorization procedure, the decentralized MA procedure requires a separate application to, and leads to separate approval by, the competent authorities of each EU Member State in which the product is to be marketed. This application is identical to the application that would be submitted to the EMA for authorization through the centralized procedure. The reference EU Member State prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. The resulting assessment report is submitted to the concerned EU Member States who, within 90 days of receipt, must decide whether to approve the assessment report and related materials. If a concerned EU Member State cannot approve the assessment report and related materials due to concerns relating to a potential serious risk to public health, disputed elements may be referred to the Heads of Medicines Agencies' Coordination Group for Mutual Recognition and Decentralised Procedures—Human (CMDh) for review. The subsequent decision of the European Commission is binding on all EU Member States.

The mutual recognition procedure allows companies that have a medicinal product already authorized in one EU Member State to apply for this authorization to be recognized by the competent authorities in other EU Member States. Like the decentralized procedure, the mutual recognition procedure is based on the acceptance by the competent authorities of the EU Member States of the MA of a medicinal product by the competent authorities of other EU Member States. The holder of a national MA may submit an application to the competent authority of an EU Member State requesting that this authority recognize the MA delivered by the competent authority of another EU Member State.

An MA has, in principle, an initial validity of five years. The MA may be renewed after five years on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the EU Member State in which the original MA was granted. To support the application, the MA holder must provide the EMA or the competent authority with a consolidated version of the Common Technical Document providing up-to-date data concerning the quality, safety and efficacy of the product, including all variations introduced since the MA was granted, at least nine months before the MA ceases to be valid. The European Commission or the competent authorities of the EU Member States may decide on justified grounds relating to pharmacovigilance, to proceed with one further five year renewal period for the MA. Once subsequently definitively renewed, the MA shall be valid for an unlimited period. Any authorization which is not followed by the actual placing of the medicinal product on the EU market (for a centralized MA) or on the market of the authorizing EU Member State within three years after authorization ceases to be valid (the so-called sunset clause).

Innovative products that target an unmet medical need and are expected to be of major public health interest may be eligible for a number of expedited development and review programs, such as the Priority Medicines (PRIME) scheme, which provides incentives similar to the breakthrough therapy designation in the U.S. PRIME is a voluntary scheme aimed at enhancing the EMA's support for the development of medicinal products that target unmet medical needs. Eligible products must target conditions for which there is an unmet medical need (there is no satisfactory method of diagnosis, prevention or treatment in the EU or, if there is, the new medicinal product will bring a major therapeutic advantage) and they must demonstrate the potential to address the unmet medical need by introducing new methods of therapy or improving existing ones. Benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and potentially accelerated MAA assessment once a dossier has been submitted.

In the EU, a "conditional" MA may be granted in cases where all the required safety and efficacy data are not yet available. The European Commission may grant a conditional MA for a medicinal product if it is demonstrated that all of the following criteria are met: (i) the benefit-risk balance of the medicinal product is positive; (ii) it is likely that the applicant will be able to provide comprehensive data post-authorization; (iii) the medicinal product fulfils an unmet medical need; and (iv) the benefit of the immediate availability to patients of the medicinal product is greater than the risk inherent in the fact that additional data are still required. The conditional MA is subject to conditions to be fulfilled for generating the missing data or ensuring increased safety measures. It is valid for one year and must be renewed annually until all related conditions have been fulfilled. Once any pending studies are provided, the conditional MA can be converted into a traditional MA. However, if the conditions are not fulfilled within the timeframe set by the EMA and approved by the European Commission, the MA will cease to be renewed.

An MA may also be granted "under exceptional circumstances" where the applicant can show that it is unable to provide comprehensive data on efficacy and safety under normal conditions of use even after the product has been authorized and subject to specific procedures being introduced. These circumstances may arise in particular when the intended indications are very rare and, in the state of scientific knowledge at that time, it is not possible to provide comprehensive information, or when generating data may be contrary to generally accepted ethical principles. Like a conditional MA, an MA granted in exceptional circumstances is reserved to medicinal products intended to be authorized for treatment of rare diseases or unmet medical needs for which the applicant does not hold a complete data set that is required for the grant of a standard MA. However, unlike the conditional MA, an applicant for authorization in exceptional circumstances is not subsequently required to provide the missing data. Although the MA "under exceptional circumstances" is granted definitively, the risk-benefit balance of the medicinal product is reviewed annually, and the MA will be withdrawn if the risk-benefit ratio is no longer favorable.

Advanced Therapy Medicinal Products in the EU

ATMPs include gene therapy products as well as somatic cell therapy products and tissue engineered products. The grant of marketing authorization in the EU for products containing viable human tissues or cells such as gene therapy medicinal products is governed by Regulation (EC) No. 1394/2007 on ATMPs, read in combination with Directive (EC) No. 2001/83 of the European Parliament and of the Council, commonly known as the Community code on medicinal products. Regulation (EC) No. 1394/2007 establishes specific rules concerning the authorization, supervision and pharmacovigilance of gene therapy medicinal products, somatic cell therapy medicinal products and tissue engineered products. Manufacturers of advanced therapy medicinal products must demonstrate the quality, safety and efficacy of their products to the EMA which is required to provide an opinion regarding the application for marketing authorization. The European Commission grants or refuses marketing authorization in light of the opinion delivered by the EMA.

Products made from substances of human origin must also comply with Regulation (EU) 2024/1938 on standards of quality and safety for substances of human origin intended for human application. This Regulation describes the conditions and quality requirements which must be applied when sourcing the substances of human origin intended for manufacturing of such medicinal products and removed divergences between EU Member States that were present under the (now repealed) Directive (EC) No. 2004/23.

Pediatric Development in the EU

In the EU, Regulation (EC) No 1901/2006 provides that all MAAs for new medicinal products have to include the results of trials conducted in the pediatric population, in compliance with a pediatric investigation plan, or PIP, agreed with the EMA's Pediatric Committee (PDCO). The PIP sets out the timing and measures proposed to generate data to support a pediatric indication of the medicinal product for which MA is being sought. The PDCO can grant a deferral of the obligation to implement some or all of the measures provided in the PIP until there are sufficient data to demonstrate the efficacy and safety of the product in adults. Further, the obligation to provide pediatric clinical trial data can be waived by the PDCO when these data are not needed or appropriate because the product is likely to be ineffective or unsafe in children, the disease or condition for which the product is intended occurs only in adult populations, or when the product does not represent a significant therapeutic benefit over existing treatments for pediatric patients. Once the MA is obtained in all EU Member States and study results are included in the product information, even when negative, the product is eligible for a six-month extension to the Supplementary Protection Certificate (SPC), if any is in effect at the time of authorization or, in the case of orphan medicinal products, a two-year extension of orphan market exclusivity.

Manufacturing Regulation in the EU

In addition to an MA, various other requirements apply to the manufacturing and placing on the EU market of medicinal products. The manufacturing of medicinal products in the EU requires a manufacturing authorization and import of medicinal products into the EU requires a manufacturing authorization allowing for import. The manufacturing authorization holder must comply with various requirements set out in the applicable EU laws, regulations and guidance, including EU cGMP standards. Similarly, the distribution of medicinal products within the EU is subject to compliance with the applicable EU laws, regulations and guidelines, including the requirement to hold appropriate authorizations for distribution granted by the competent authorities of EU Member States. Marketing authorization holders and/or manufacturing and import authorization, or MA holders and/or distribution authorization holders may be subject to civil, criminal or administrative sanctions, including suspension of manufacturing authorization, in case of non-compliance with the EU or EU Member States' requirements applicable to the manufacturing of medicinal products.

Data and Market Exclusivity in the EU

The EU provides opportunities for data and market exclusivity related to MAs. Upon receiving an MA, innovative medicinal products are generally entitled to receive eight years of data exclusivity and ten years of market exclusivity. Data exclusivity, if granted, prevents regulatory authorities in the EU from referencing the innovator's data to assess a generic application or biosimilar application for eight years from the date of authorization of the innovative product, after which a generic or biosimilar MAA can be submitted, and the

innovator's data may be referenced. The market exclusivity period prevents a successful generic or biosimilar applicant from commercializing its product in the EU until 10 years have elapsed from the initial MA of the reference product in the EU. The overall ten-year period may, occasionally, be extended for a further year to a maximum of 11 years if, during the first eight years of those ten years, the MA holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. However, there is no guarantee that a product will be considered by the EU's regulatory authorities to be a new chemical/biological entity, and products may not qualify for data exclusivity.

In the EU, there is a special regime for biosimilars, or biological medicinal products that are similar to a reference medicinal product but that do not meet the definition of a generic medicinal product. For such products, the results of appropriate preclinical or clinical trials must be provided in support of an application for MA. Guidelines from the EMA detail the type of quantity of supplementary data to be provided for different types of biological product.

Orphan Designation in the EU

In the EU, Regulation (EC) No. 141/2000, as implemented by Regulation (EC) No. 847/2000 provides that a medicinal product can be designated as an orphan medicinal product by the European Commission if its sponsor can establish that: (i) the product is intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions; (ii) either (a) such conditions affect not 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 the necessary investment in developing the medicinal product; and (iii) there exists no satisfactory authorized method of diagnosis, prevention, or treatment of the condition that has been authorized in the EU, or even if such method exists, the product will be of significant benefit to those affected by that condition.

Regulation (EC) No 847/2000 sets out further provisions for implementation of the criteria for designation of a medicinal product as an orphan medicinal product. An application for the designation of a medicinal product as an orphan medicinal product must be submitted at any stage of development of the medicinal product but before filing of an MAA. An MA for an orphan medicinal product may only include indications designated as orphan. For non-orphan indications treated with the same active pharmaceutical ingredient, a separate marketing authorization has to be sought.

Orphan medicinal product designation entitles an applicant to incentives such fee reductions or fee waivers, protocol assistance, and access to the centralized marketing authorization procedure. Upon grant of a marketing authorization, orphan medicinal products are entitled to a ten-year period of market exclusivity for the approved therapeutic indication, which means that the EMA cannot accept another marketing authorization application or accept an application to extend for a similar product and the European Commission cannot grant a marketing authorization for the same indication for a period of ten years. The period of market exclusivity is extended by two years for orphan medicinal products that have also complied with an agreed PIP. No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications. Orphan medicinal product designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

The period of market exclusivity may, however, be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria on the basis of which it received orphan medicinal product destination, including where it can be demonstrated on the basis of available evidence that the original orphan medicinal product is sufficiently profitable not to justify maintenance of market exclusivity or where the prevalence of the condition has increased above the threshold. Additionally, an MA may be granted to a similar medicinal product with the same orphan indication during the ten year period if: (i) if the applicant consents to a second original orphan medicinal product application, (ii) if the manufacturer of the original orphan medicinal product is unable to supply sufficient quantities; or (iii) if the second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior to the original orphan medicinal product. A company may voluntarily remove a product from the register of orphan products.

Post-authorization Requirements in the EU

Where an MA is granted in relation to a medicinal product in the EU, the holder of the MA is required to comply with a range of regulatory requirements applicable to the manufacturing, marketing, promotion and sale of medicinal products. Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the European Commission and/or the competent regulatory authorities of the individual EU Member States. The holder of an MA must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance who is responsible for oversight of that system. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports (PSURs).

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

In the EU, the advertising and promotion of medicinal products are subject to both EU and EU Member States' laws governing promotion of medicinal products, interactions with physicians and other healthcare professionals, misleading and comparative advertising and unfair commercial practices. General requirements for advertising and promotion of medicinal products, such as direct-to-consumer advertising of prescription medicinal products are established in EU law. However, the details are governed by regulations in individual EU Member States and can differ from one country to another. For example, applicable laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristic (SmPC), which may require approval by the competent national authorities in connection with an MA. The SmPC is the document that provides information to physicians concerning the safe and effective use of the product. Promotional activity that does not comply with the SmPC is considered off-label and is prohibited in the EU.

Pricing, Coverage and Reimbursement in the EU

In the EU, pricing and reimbursement schemes vary widely from country to country. Some EU Member States may approve a specific price for a product, or they may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other EU Member States allow companies to fix their own prices for products but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions.

Moreover, in order to obtain reimbursement for our products in some European countries, including some EU Member States, we may be required to compile additional data comparing the cost-effectiveness of our products to other available therapies. This Health Technology Assessment (HTA) of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures in some EU Member States, including those representing the larger markets. The HTA process is the procedure to assess therapeutic, economic and societal impact of a given medicinal product in the national healthcare systems of the individual country. The outcome of an HTA will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU Member States. The extent to which pricing and reimbursement decisions are influenced by the HTA of the specific medicinal product currently varies between EU Member States. In December 2021, Regulation No 2021/2282 on HTA, was adopted in the EU. This Regulation, which entered into application on January 12, 2025 and has a phased implementation, is intended to boost cooperation among EU Member States in assessing health technologies, including new medicinal products, and providing the basis for cooperation at EU level for joint clinical assessments in these areas. The Regulation permits EU Member States to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU Member States continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technologies, and making decisions on pricing and reimbursement.

Corporate Philanthropy

We have joined the Pledge 1% Movement, a global movement that supports the integration of philanthropy into corporate culture by inspiring companies to donate 1% of product, equity, profit, or employee time to causes of their choice, demonstrating our commitment to philanthropic leadership, particularly in the biotechnology sector. As such, in July 2021, our board of directors approved the reservation of up to 84,556 shares of our common stock (which was approximately 1.0% of our fully-diluted capitalization as of that date) that we may issue to or for the benefit of a charitable foundation established by us or other appropriate charitable recipients pursuant to our Pledge 1% Movement commitment. The common stock will be donated in equal installments over five years following this offering or in full upon a sale of our company, in each case first subject to certain per-share valuation thresholds for our common stock. We have not yet issued any such reserved common stock. If any reserved common stock is issued pursuant to our Pledge 1% Movement commitment, we may incur a non-cash expense in the quarter that we issue such shares equal to the fair value of the shares of our common stock issued. Such donation of shares may also dilute our stockholders' ownership of our common stock. Pursuant to this pledge, we plan to implement programs to encourage our employees to donate 1% of their time to charitable causes.

Facilities

Our principal office is located at 5505 Morehouse Drive, Suite 100, San Diego, California 92121, where we lease 51,621 square feet of space to house our principal office, research and process development laboratories and a cGMP manufacturing center to support our pipeline development and clinical trial supply. This lease will expire in 2029, subject to our option to an additional five-year term. We also have a lease agreement for an additional 13,405 square feet of office space in San Diego, California. We lease this space under a lease that terminates in June 2025. In addition, we have entered into a temporary license agreement for our occupation and use of an additional 11,960 square feet of office and laboratory space in San Diego, California. We believe that these facilities will be adequate for our near-term needs. If required, we believe that suitable additional or alternative space would be available in the future on commercially reasonable terms.

Employees and Human Capital Resources

As of December 31, 2024, we had 89 full-time employees, 18 of whom held an M.D., Pharm.D. or Ph.D. degree and all of whom are engaged in research and development activities, operations, finance and administration. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our equity and cash incentive plans are to attract, retain and reward personnel through the granting of stock-based and cash-based compensation awards, in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Legal Proceedings

From time to time, we may become involved in litigation or other legal proceedings. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Corporate Information

We were incorporated under the laws of the State of Delaware on February 14, 2019. Our principal executive offices are located at 5505 Morehouse Drive, Suite 100, San Diego, California, and our telephone number is (858) 267-4467. Our corporate website address is www.artivabio.com. Information contained on, or accessible through, our website shall not be deemed incorporated into and is not a part of this Annual Report on Form 10-K.

All brand names or trademarks appearing in this Annual Report are the property of their respective holders. Use or display by us of other parties' trademarks, trade dress, or products in this Annual Report is not intended to, and does not, imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Exchange Act are available on our website, free of charge, as soon as reasonably practicable after the reports are electronically filed or furnished to the SEC. The SEC maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information that we file with the SEC electronically. We intend to announce material information to the public through filings with the SEC, the investor relations page on our website, which is located at www.artivabio.com, press releases, public conference calls, and public webcasts.

The information disclosed through the foregoing channels could be deemed to be material information. As such, we encourage investors, the media, and others to follow the channels listed above and to review the information disclosed through such channels. The information we post through these channels is not a part of this Annual Report. Any updates to the list of disclosure channels through which we will announce information will be posted on the investor relations page on our website.

Item 1A. Risk Factors

You should carefully consider the risks and uncertainties described below, as well as the other information in this Annual Report on Form 10-K and in our other public filings, including in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and in our financial statements and the related notes appearing elsewhere in this Annual Report on Form 10-K and in our other public filings, which could materially affect our business, financial condition or future results. The risks described below are not the only risks that we face. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could materially and adversely affect our business, financial condition, results of operations and prospects.

We may disclose changes to risk factors or additional risk factors from time to time in our future filings with the SEC.

Risks Related to Our Limited Operating History, Financial Position and Need for Additional Capital

We have a limited operating history, have not completed any clinical trials and have no products approved for commercial sale, which may make it difficult for you to evaluate our current business and predict our future success and viability.

We are a clinical stage biopharmaceutical company with a limited operating history. We were incorporated in February 2019 and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, licensing key intellectual property rights, conducting research and development of our product candidates ourselves and with collaborators, collaborating on scale-up of product candidate manufacturing, establishing cold chain delivery logistics and preparing for and conducting our ongoing and planned preclinical studies and clinical trials.

AlloNK, our lead product candidate, is in early clinical development and our other product candidates and programs are in preclinical development or discovery stages. We have not yet demonstrated an ability to successfully complete a clinical program, including large-scale, pivotal clinical trials, obtaining marketing approval, manufacturing product at a commercial scale, or arranging for a third party to do so on our behalf, or conducting sales and marketing activities necessary for successful product commercialization. This may make it difficult to evaluate the success of our business to date and assess our future viability.

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

Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and the significant risk that product candidates will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval or become commercially viable. For the years ended December 31, 2024 and 2023, our net losses were $65.4 million and $28.7 million, respectively. As of December 31, 2024, we had an accumulated deficit of $246.7 million. Substantially all of our losses have resulted from expenses incurred in connection with our research and development programs and from general and administrative costs associated with our operations.

We expect to continue to incur significant expenses and additional operating losses for the foreseeable future as we seek to advance our product candidates through preclinical and clinical development, expand our research and development activities, develop new product candidates, complete clinical trials, seek regulatory approval and, if we receive regulatory approval, commercialize our products. Furthermore, the costs of advancing product candidates into each succeeding clinical phase tend to increase substantially over time. The total costs to advance any of our product candidates to marketing approval in even a single jurisdiction would be substantial. Because of the numerous risks and uncertainties associated with cell therapy product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to generate any revenue from the commercialization of any approved products or achieve or maintain profitability. Our expenses will also increase substantially as we operate as a public company and add clinical, scientific, operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts.

Before we generate any revenue from product sales, each of our product candidates will require additional preclinical and/or clinical development, potential regulatory approval in multiple jurisdictions, manufacturing, building of a commercial organization, substantial investment and significant marketing efforts. Our expenses could increase beyond expectations if we are required by the FDA, the European Medicines Agency (EMA), the competent authorities of individual European Union (EU) Member States or comparable foreign regulatory authorities to perform preclinical studies and clinical trials in addition to those that we currently anticipate, and/or to modify any of our manufacturing processes or make other changes to our product candidates or development programs. As a result, we expect to continue to incur net losses and negative cash flows for the foreseeable future. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital.

As we continue to build our business, we expect our financial condition and operating results may fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any particular quarterly or annual period as indications of future operating performance. If we are unable to develop and commercialize one or more of our product candidates either alone or with collaborators, or if revenues from any product candidate that receives marketing approval are insufficient, we will not achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability. If we are unable to achieve and then maintain profitability, the value of our securities will be adversely affected.

We will need to obtain substantial additional funding to complete the development and any commercialization of our current and any future product candidates, which may cause dilution to our stockholders. If we are unable to raise this capital when needed, we may be forced to delay, reduce or eliminate our research and development programs or other operations.

The development of biopharmaceutical product candidates is capital-intensive. We expect to spend substantial amounts to advance our product candidates into clinical development and to complete the clinical development of, seek regulatory approvals for and commercialize our product candidates, if approved. We will require additional capital, which we may raise through public or private equity or debt financings or other capital sources, which may include strategic collaborations and other strategic arrangements with third parties, to enable us to complete the development and potential commercialization of our product candidates. Furthermore, as a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when

needed would have a negative effect on our financial condition and our ability to pursue our business strategy. In addition, attempting to secure additional financing may divert the time and attention of our management from day-to-day activities and harm our development efforts. If we are unable to raise capital when needed or on acceptable terms, we would be forced to delay, reduce or eliminate certain of our research and development programs.

Our operations have consumed significant amounts of cash since inception. As of December 31, 2024, our cash, cash equivalents and investments were $185.4 million. Based on our current cash, cash equivalents and investments, we estimate that our funds will be sufficient to enable us to fund our operating expenses and capital expenditure requirements at least through the end of 2026. This estimate is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more than currently expected because of circumstances beyond our control. Because the length of time and activities associated with successful development of our product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and any marketing and commercialization activities.

Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the type, number, scope, progress, expansions, results, costs and timing of, discovery, preclinical studies and clinical trials of our current and future product candidates, including AlloNK (AB-101), AB-201 and AB-205;
- the costs and timing of manufacturing for our product candidates, including continuing to develop our own manufacturing capabilities;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and comparable foreign regulatory authorities;
- the cost of obtaining, maintaining and protecting our intellectual property portfolio, including filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of establishing a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval;
- the cost and timing of completion of commercial-scale manufacturing activities;
- the cost of making royalty, milestone or other payments under current and any future in-license agreements;
- the timing and amount of the milestone or other payments made to us under our current or any future collaboration agreements;
- costs associated with growing our workforce and retaining and motivating our employees;
- the initiation, progress, timing and results of our commercialization of our product candidates, if approved for commercial sale;
- costs associated with any products or technologies that we may in-license or acquire;
- the costs associated with being a public company; and
- our implementation of additional internal systems and infrastructure, including operational, financial and management information systems.

In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of common stock. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic

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

Risks Related to the Discovery and Development of our Product Candidates

Our approach to the development of NK cell-based product candidates is unproven, and we do not know whether we will be able to develop any products of commercial value, or if competing technological approaches will limit the commercial value of our product candidates or render our platform obsolete.

Our success depends on our ability to develop, obtain regulatory approval for and commercialize our product candidates utilizing our NK cell therapy platform, including manufacturing capabilities, which leverages relatively novel technologies. While we have had favorable preclinical and early clinical study results based on our platform, we are early in our development efforts and may not succeed in demonstrating efficacy and safety for any product candidates in clinical trials or in obtaining marketing approval thereafter. Our understanding of NK cell biology is continuously evolving and this is particularly true in relation to autoimmune diseases where there is limited clinical data available. In particular, our approach in developing treatments for autoimmune diseases with NK cell-based therapies is novel and we have limited experience in doing so as our resources and processes have historically been focused on the development of NK cell-based therapies for cancer. We may also experience timeline delays or serious adverse events, and our product candidates may never become commercialized. All of our product candidates will require significant additional clinical and non-clinical development, review and approval by the FDA or comparable foreign regulatory authorities in one or more jurisdictions, substantial investment, and significant marketing efforts before they can be successfully commercialized. Our methodology and novel approach to cellular therapy may be unsuccessful in identifying additional product candidates, and any product candidates based on our platform may be shown to have harmful side effects or may have other characteristics that may necessitate additional clinical testing, or make the product candidates unmarketable or unlikely to receive marketing approval. Further, because all of our product candidates and development programs are based on our NK cell therapy platform, adverse developments with respect to one of our programs may have a significant adverse impact on the actual or perceived likelihood of success and value of our other programs. For example, if our clinical trials of AlloNK encounter safety, efficacy or manufacturing problems, development delays, regulatory issues or other problems, our development plans for our other product candidates in our pipeline could be significantly impaired.

The FDA has cautioned consumers about potential safety risks associated with T-cell therapies. The FDA has approved only a few cell-based therapies for commercialization and to our knowledge, no NK cell-based therapy has been approved for commercial use by any regulatory authority. Additionally, human primary cells are subject to donor-to-donor variability, which can make standardization more difficult. Understanding and addressing variability in the quality of a donor's cells, could ultimately affect our ability to produce product in a reliable and consistent manner and treat certain patients. As a result, the development and commercialization pathway for our product candidates may be subject to increased uncertainty, as compared to the pathway for new conventional drugs.

In addition, the biopharmaceutical industry is characterized by rapidly advancing technologies. Our future success will depend in part on our ability to maintain a competitive position with our NK cell-based approach. If we fail to stay at the forefront of technological change in utilizing our platform to create and develop product candidates, we may be unable to compete effectively. Our competitors may render our approach obsolete, or limit the commercial value of our product candidates, by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our manufacturing process that we believe we derive from our platform. By contrast, adverse developments with respect to other companies that attempt to use a similar approach to our approach may adversely impact the actual or perceived value of our platform and potential of our product candidates.

There is currently no cell therapy approved in the United States or elsewhere in the world for the treatment of any autoimmune disease, and our research and development activities related to AlloNK for treatment of autoimmune diseases, such as SLE, LN, RA, PV, GPA / MPA, and other autoimmune diseases, may never lead to an approved product.

We are evaluating AlloNK in combination with B-cell targeted mAbs to treat autoimmune diseases, such as SLE, LN, RA, PV, GPA / MPA. There is currently no cell therapy approved in the United States or elsewhere in the world for the treatment of any autoimmune disease. We cannot be certain that our approach will lead to the development of an approvable or marketable product. We may not succeed in demonstrating safety and efficacy of AlloNK in combination with B-cell targeted mAbs for the treatment of autoimmune diseases in our ongoing or anticipated clinical trials or in larger-scale clinical trials. Advancing AlloNK in development creates significant challenges for us, including:

- obtaining marketing approval, as the FDA and other comparable foreign regulatory authorities have yet to approve a cell therapy for the treatment of any autoimmune disease;
- if AlloNK in combination with a B-cell targeted mAb is approved, educating medical personnel regarding the potential efficacy and safety benefits, as well as the challenges, of incorporating our product into their clinical practice; and
- establishing the sales and marketing capabilities upon obtaining any marketing approvals to gain market acceptance.

Our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of developing product candidates and obtaining regulatory approval for any product candidates that we develop.

The clinical trial requirements of the FDA and comparable foreign regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for product candidates such as ours can be more expensive and take longer than for other, better known, or more extensively studied pharmaceutical or other product candidates.

Regulatory requirements in the United States and in other countries governing cell therapy products are evolving and the FDA or comparable foreign regulatory authorities may change the requirements, or identify different regulatory pathways, for approval for any of our product candidates. For example, within the FDA, the Center for Biologics Evaluation and Research (CBER) restructured and created a new Office of Tissues and Advanced Therapies to better align its oversight activities with FDA Centers for Drugs and Medical Devices. It is possible that over time new or different divisions may be established or be granted the responsibility for regulating cell therapy products, including NK cell-based products, such as ours. As a result, we may be required to change our regulatory strategy or to modify our applications for regulatory approval, which could delay and impair our ability to complete the preclinical and clinical development and manufacture of, and obtain regulatory approval for, our product candidates. Changes in FDA or comparable foreign regulatory authorities and advisory groups, or any new requirements or guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional studies, increase our development and manufacturing costs, lead to changes in regulatory pathways, positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions.

We have concentrated our research and development efforts on utilizing NK cell-based therapies. To date, the FDA has approved only a few cell-based therapies for commercialization and no NK cell-based therapy has been approved for commercial use by any regulatory authority. The processes and requirements imposed by the FDA or comparable foreign regulatory authorities may cause delays and additional costs in obtaining approvals for marketing authorization for our product candidates. Because our platform is novel, and cell-based therapies are relatively new, especially as potential treatments for autoimmune diseases, regulatory authorities may lack experience in evaluating product candidates like our product candidates. This novelty may lengthen the regulatory review process, including the time it takes for the FDA or comparable foreign regulatory authorities to review our INDs or comparable foreign applications if and when submitted, increase our development costs and delay or

prevent commercialization of our product candidates. Additionally, advancing novel immune-oncology therapies creates significant challenges for us, including:

- educating medical personnel regarding the potential side-effect profile of our product candidates and, as the clinical program progresses, on observed side effects with the product candidates;
- training medical personnel;
- enrolling sufficient numbers of patients in clinical trials; and
- continuing to develop a manufacturing process to support the clinical testing of our product candidates.

We must be able to overcome these challenges in order for us to develop, commercialize and manufacture our product candidates.

As we advance our product candidates, we will be required to consult with the FDA and comparable foreign regulatory authorities and our product candidates will likely be reviewed by an FDA advisory committee. We also must comply with applicable requirements, and if we fail to do so, we may be required to delay or discontinue development of our product candidates. Delays or unexpected costs in obtaining, or the failure to obtain, the regulatory approval necessary to bring a potential product to market could impair our ability to generate sufficient product revenues to maintain our business.

In addition, either advances or adverse developments in preclinical studies or clinical trials conducted by others in the field of cell therapy products, and cellular immunotherapies in particular, may cause the FDA and comparable foreign regulatory authorities to revise the requirements for approval of any product candidates we may develop, and may otherwise negatively affect our ability to develop and commercialize our product candidates. The regulatory review committees and advisory groups described above and the new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional preclinical studies or clinical trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these treatment candidates, or lead to significant post-approval limitations or restrictions. As we advance our research programs and develop future product candidates, we will be required to consult with these regulatory and advisory groups and to comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of any product candidates we identify and develop.

We are early in our development efforts and are substantially dependent on the success of our lead product candidate, AlloNK, which is in early clinical development. Although we have other product candidates in our pipeline being developed by our partners, all of our other internally developed product candidates are in the preclinical or discovery stage. If we are unable to advance our product candidates in clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

We are in the early stages of our development efforts and are substantially dependent on the success of our lead product candidate, AlloNK, which is in early clinical development. Although we have other product candidates in our pipeline being developed by our partners, all of our other internally developed product candidates are still in the preclinical or discovery stages. We have not yet completed any clinical trials for any product candidate. We will need to progress AlloNK through our recently initiated trial and progress our other early product candidates through preclinical studies and submit INDs to the FDA or comparable foreign regulatory applications to applicable foreign regulatory authorities prior to initiating clinical trials.

Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates. The success of our product candidates will depend on several factors, including the following:

- successful enrollment in, and completion of, clinical trials with favorable results;
- completion of preclinical studies with favorable results;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;

- allowance to proceed with clinical trials under INDs by the FDA or under similar regulatory submissions by applicable foreign regulatory authorities for the conduct of clinical trials of our product candidates and our proposed design of future clinical trials;
- demonstrating the safety and efficacy of our product candidates to the satisfaction of the FDA and other applicable foreign regulatory authorities;
- receipt of regulatory approvals from applicable regulatory authorities, including new drug applications (NDAs) from the FDA and approvals from comparable foreign regulatory authorities and maintaining such approvals;
- making arrangements with third-party manufacturers, or manufacturing sufficient quantities of product candidates for clinical and commercial use using our own facilities;
- establishing sales, marketing and distribution capabilities and launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- establishing and maintaining patent and trade secret protection or regulatory exclusivity for our product candidates;
- acceptance of any products we develop and their benefits and uses, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining healthcare coverage and adequate reimbursement from third-party payors;
- maintaining an acceptable safety profile of our products following approval; and
- building and maintaining an organization of people who can successfully develop our product candidates.

We have not yet succeeded and may not succeed in demonstrating efficacy and safety for any product candidates in clinical trials or in obtaining marketing approval thereafter. Given our early stage of development, it will take several years before we can demonstrate the safety and efficacy of a product candidate sufficient to warrant approval for commercialization, if we can do so at all. If we are unable to develop, or obtain marketing approval for, or, if approved, successfully commercialize our product candidates, we may not be able to generate sufficient revenue to continue our business.

Current clinical data regarding the efficacy of NK cell therapies against autoimmune diseases are limited, raising uncertainties about the therapeutic benefits of treatments like AlloNK for conditions such as SLE, LN, RA, PV, GPA / MPA and other autoimmune diseases. Moreover, these therapies may not prove to be competitive compared to existing treatments for autoimmune diseases.

While we believe in the potential of our allogeneic NK cell-based product candidate, AlloNK, in combination with a B-cell targeted mAb may have a clinical benefit for autoimmune diseases, such as SLE, LN, RA, PV and GPA / MPA, the use of NK cell-based therapies in combination with mAbs represents a novel approach for the treatment of autoimmune disease, and is supported by limited clinical data. To date, the FDA has not approved any cell therapies for autoimmune diseases, adding to the uncertainty surrounding our ongoing clinical trials.

Our belief that AlloNK may be effective as a treatment for autoimmune disease is based on our interpretation of positive clinical data from academic groups and commercial entities using auto-CAR-T or CAR-NK in a limited autoimmune disease patient cohort, preliminary data from our collaborator Affimed in their ongoing investigation of AlloNK in a Phase 2 trial in combination with acimtamig, a CD30-targeted NK cell engager, in CD30+ Hodgkin lymphoma (HL), as well as our own preliminary data from our ongoing Phase 1/2 clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL, which demonstrated complete responses in B-NHL patients as measured by imaging of tumor lesions. We have made certain assumptions regarding the approach responsible for the preliminary activity shown in the reported studies and how that approach and our own preliminary data from our Phase 1/2 clinical trial in patients with aggressive B-NHL will translate to patients with autoimmune diseases, such as LN, which may not be correct.

We cannot be certain whether AlloNK in combination with a B-cell targeted mAb will effectively treat LN, other manifestations of SLE, RA, PV, GPA / MPA or any autoimmune disease for that matter, nor can we guarantee its competitiveness against auto-CAR-T. Additionally, we face competition from numerous cell therapy companies with strong oncology backgrounds, all pursuing development programs in autoimmune diseases, which could hinder our efforts to successfully develop and commercialize AlloNK in combination with a B-cell targeted mAb.

If our clinical trials reveal insufficient activity or unfavorable tolerability of AlloNK in combination with a B-cell targeted mAb against autoimmune diseases, such as SLE, LN, RA, PV and GPA / MPA, encounter delays in advancing AlloNK through clinical development, or if we struggle to compete with other companies in developing and marketing AlloNK in combination with a B-cell targeted mAb, it would significantly impact the commercial prospects of AlloNK, as well as our business, financial condition and growth outlook.

We are developing, and in the future may develop, other product candidates in combination with other therapies, which exposes us to additional risks.

We are developing AlloNK for combination with approved B-cell targeted mAbs. For example, our ongoing Phase 1/2 clinical trial is administering AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL. Beyond rituximab and other anti-CD20 mAbs, we have already conducted numerous preclinical studies in which we have shown cytotoxic activity of AlloNK in combination with other approved B-cell targeted mAb therapies, such as anti-CD19 and anti-CD38 mAbs. Even if any product candidate we develop were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA or comparable foreign regulatory authorities could revoke approval of the therapy used in combination with our product candidate. There is also a risk that safety, efficacy, manufacturing or supply issues could arise with these other existing therapies. For example, the other therapies may lead to toxicities that are improperly attributed to our product candidates or the combination of our product candidates with other therapies may result in negative or inconclusive results that the product candidate or other therapy does not produce when used alone or in combination with a different therapy. This could result in our own products being removed from the market or being less successful commercially. Additionally, the results observed in combinations of any of our product candidates with another therapy may not be predictive of future results of combinations of our product candidates in other combinations or indications.

We may also evaluate our future product candidates in combination with one or more other therapies that have not yet been approved for marketing by the FDA or comparable foreign regulatory authorities. We will not be able to market any product candidate we develop in combination with any such unapproved therapies that do not ultimately obtain marketing approval.

If the FDA or comparable foreign regulatory authorities do not approve these other drugs or revoke their approval of, or if safety, efficacy, manufacturing or supply issues arise with, the drugs we choose to evaluate in combination with any product candidate we develop, we may be unable to obtain approval.

Interim, topline and preliminary data from our preclinical studies or clinical trials that we announce or publish from time to time may not be predictive of future results and may change as more patient data become available and are subject to audit and verification procedures, which could result in material changes to the final data.

From time to time, we may publicly disclose interim, topline or preliminary data from our preclinical studies, clinical trials or planned clinical trials, which is based on a preliminary analysis of then-available data. The results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or 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 interim, topline or preliminary 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. Interim, topline and preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, such data should be viewed with caution until the final data are available. From time to time, we may also disclose interim data from our clinical trials. Interim, topline, or preliminary data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient

enrollment continues and more patient data become available. Adverse differences between interim, topline or preliminary data and final data could significantly harm our business prospects.

Further, others, including regulatory authorities, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. 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, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or our business. If the interim, topline or preliminary data that we report differ from actual results, or if others including comparable foreign regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Moreover, results from previous preclinical studies or clinical trials are not necessarily predictive of future clinical trial results, and interim results of a clinical trial are not necessarily indicative of final results. Our product candidates may fail to show the desired safety and efficacy in clinical development despite positive results in preclinical studies of our product candidates or having successfully advanced through initial clinical trials.

Clinical trials are expensive, time-consuming, difficult to design and implement, and have an uncertain outcome. Further, we may encounter substantial delays in our clinical trials.

The clinical trials and manufacturing of our product candidates are subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to test and market our product candidates. Before obtaining regulatory approvals for the commercial sale of any of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication. In particular, because our product candidates are subject to regulation as biological drug products, we will need to demonstrate that they are safe, pure and potent for use in their target indications. Each product candidate must demonstrate an adequate risk versus benefit profile in its intended patient population and for its intended use.

Clinical testing is expensive and takes many years to complete, and is subject to uncertainty. Our planned clinical trials may not be conducted as planned or completed on schedule, if at all. Delays and failures can occur at any time during the clinical trial process. Even if our future clinical trials are completed as planned, their results may not support the safety and effectiveness of our product candidates for their targeted indications or support continued clinical development of such product candidates. Our future clinical trial results may not be successful.

In addition, even if our planned trials are successfully completed, the FDA or comparable foreign regulatory authorities may not interpret the results as we do, and more trials could be required before we submit our product candidates for approval. To the extent that the results of the trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates.

To date, we have not completed any clinical trials required for the approval of our product candidates. We may experience delays in conducting any clinical trials, and we do not know whether our clinical trials will begin on time, will need to be redesigned, will recruit and enroll patients on time or have data readouts or be completed on schedule, or at all. Events that may prevent successful or timely commencement, readouts, and completion of clinical development and preclinical studies include:

- inability to generate sufficient preclinical, toxicology, or other in vivo or in vitro data to support the initiation of clinical trials;

- delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for advanced clinical trials, or failure to do so;
- delays in reaching agreement with the FDA, or other comparable foreign regulatory authorities as to the design or implementation of our clinical trials, or failure to do so;
- delays in or failure to obtain regulatory approval to commence a clinical trial;
- delays in or failure to reach an agreement on acceptable terms with clinical trial sites or prospective contract research organizations (CROs) the terms of which can be subject to extensive negotiation and may vary significantly among different clinical trial sites;
- delays in or failure to obtain institutional review board (IRB) approval or positive ethics committee opinion at each site;
- delays in or failure to recruit suitable patients to participate in a clinical trial;
- delays in or failure to develop and validate the companion diagnostic to be used in a clinical trial, if applicable;
- delays in or failure to have patients complete a clinical trial or return for post-treatment follow-up;
- clinical sites, CROs or other third parties deviating from trial protocol or dropping out of a trial;
- failure to perform in accordance with the FDA's GCP requirements, or applicable regulatory guidelines in other countries;
- the serious, life-threatening diseases of the patients enrolled in our clinical trials, who may die or suffer adverse medical events during the course of the trials for reasons that may not be related to our product candidates;
- failure in addressing patient safety concerns that arise during the course of a trial, including occurrence of adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- failure to add a sufficient number of clinical trial sites; or
- failure to manufacture sufficient quantities of product candidate for use in 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 or commercialize our product candidates or significantly increase the cost of such trials, including:
- we may experience changes in regulatory requirements or guidance, or receive feedback from regulatory authorities that requires us to modify the design of our clinical trials;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we or our investigators might have to suspend or terminate clinical trials of our product candidates for various reasons, including non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics, a finding that the participants are being exposed to unacceptable health risks;
- adverse events suffered by clinical trial participants that may ultimately be determined to be unrelated to our product candidates;

- the cost of clinical trials of our product candidates may be greater than we anticipate and we may elect not to cover the costs;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- any future collaborators that conduct clinical trials may face any of the above issues, and may conduct clinical trials in ways they view as advantageous to them but that are suboptimal for us.

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, we may:

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

We could encounter delays if a clinical trial is suspended or terminated by us, by the institutional review boards (IRBs) or ethics committees of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board (DSMB) for such trial or by the FDA or comparable foreign regulatory authorities. These 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.

Our lead product candidate, AlloNK, will require extensive clinical testing before we are prepared to submit a BLA or MAA for regulatory approval. We cannot predict with any certainty if or when we might complete the clinical development for our product candidates and submit a BLA or MAA for regulatory approval of any of our product candidates or whether any such BLA or MAA will be approved. We may also seek feedback from the FDA, or other comparable foreign regulatory authorities on our clinical development program, and the FDA or such other comparable foreign regulatory authorities may not provide such feedback on a timely basis, or such feedback may not be favorable, which could further delay our development programs.

We also cannot predict with any certainty whether or when we might complete a given clinical trial. If we experience delays in the commencement or completion of our clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of our product candidates could be harmed, and our ability to generate revenues from our product candidates may be delayed. In addition, any delays in our clinical trials could increase our costs, slow down the development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition and results of operations. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Our product candidates may cause serious adverse events or undesirable side effects or have other properties that may delay or prevent regulatory approval, cause us to suspend or discontinue clinical trials, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

We have not yet completed any human clinical trials of our product candidates. Undesirable side effects that may be caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label than anticipated or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics.

While we believe the interim data reported to date from our Phase 1/2 B-NHL clinical trial indicate that NK cell-based therapies may have the potential to be better tolerated as compared to T cell based therapies due to biologic differences between these cell types there remains a risk of serious adverse events. In addition, historically, clinical trials using NK cell therapies in human subjects have been well-tolerated; however, it is possible that adverse events, including CRS, neurotoxicity or graft-versus-host disease will occur in human subjects during clinical trials.

Furthermore, clinical trial results could reveal an unacceptable severity or incidence of other adverse events, including heart and lung problems or life-threatening infections. Any such findings could cause delays in completion or cancellation of clinical programs. Furthermore, in some instances, the diseases we may be seeking to treat may be less serious than the later stage cancers traditionally being treated with cell therapies or other immunotherapy products. Therefore, we believe the FDA and comparable foreign regulatory authorities may apply a different risk-benefit threshold to our product candidates pursuing autoimmune indications such that any potential harmful side effects that may outweigh the benefits of such product candidates would require us to cease clinical trials or abandon or limit our development of these product candidates or would cause the FDA or comparable foreign regulatory authorities to deny marketing applications for these product candidates. We believe for the FDA and other regulatory authorities may weigh adverse events in the autoimmune patient populations being pursued with cell-based therapies, such as in our ongoing clinical trials, may be lower than it is in oncology, and the risks of negative impact from these toxicities may therefore be higher for our autoimmune programs than for our oncology programs or the oncology programs of others.

If unacceptable side effects or deaths arise in the development of our product candidates, we, the FDA, the IRBs or ethics committees at the institutions in which our studies are conducted, DSMB or comparable foreign regulatory authorities could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. For example, the FDA put our Phase 1/2 clinical trial of AlloNK in combination with rituximab in patients with relapsed or refractory B-NHL on clinical hold in April 2021 due to a patient death and lifted the clinical hold in June 2021 after our investigation and amendments to the clinical trial protocol. Although there was no definitive cause of death, the autopsy findings included widespread metastatic disease and cardiovascular disease, and concluded that the death was possibly due to cardiac arrhythmia. The principal investigator determined that this serious adverse event was not related to AlloNK. We may observe undesirable side effects and we may not be able to complete a clinical trial for AlloNK or any of our other product candidates without further delays or at all. Further undesirable side effects, dose-limiting toxicity events, or deaths in clinical trials with our product candidates may cause the FDA or comparable foreign regulatory authorities to place a clinical hold on the associated clinical trials, to require additional studies, dose de-escalation, or additional protocol amendments, or otherwise to delay or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect site initiation, patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

We study our product candidates in patient populations with significant comorbidities, and these patients may also receive treatment with cytotoxic lymphodepletion agents, cytokines, monoclonal antibodies and/or other treatments that may result in deaths or serious adverse or unacceptable side effects and require us to abandon or limit our clinical development activities.

Patients treated with our product candidates in clinical trials may also receive treatment with cytotoxic lymphodepletion agents, cytokines, monoclonal antibodies and/or other treatments, and may therefore experience side effects or adverse events, including death, that are unrelated to our product candidates. While these side effects or adverse events may be unrelated to our product candidates, they may still affect the success of our clinical studies. The inclusion of seriously ill patients in our autoimmune clinical trials, and critically ill patients in our oncology clinical trials may result in deaths or other adverse medical events due to underlying disease or to other therapies or medications that such patients may receive. Any of these events could prevent us from advancing our product candidates through clinical development, and from obtaining regulatory approval, and would impair our ability to commercialize our product candidates. Any inability to advance our existing product candidates or any other product candidate through clinical development would have a material adverse effect on our business, and the value of our common stock would decline.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process subject to various external factors beyond our control that may cause delays or complications.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. 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 to such trials' conclusion as required by the FDA or other comparable foreign regulatory authorities. We may experience difficulty in patient enrollment in our clinical trials for a number of reasons. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the protocol;
- the size and nature of the patient population required for analysis of the trial's endpoints;
- the proximity of patients to study sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including new products that may be approved for the indications we are investigating;
- our ability to obtain and maintain patient consents for participation in our clinical trials; and
- the risk that patients enrolled in clinical trials will not remain in the trial through the completion of evaluation.

Competing with numerous ongoing trials and established therapies poses a challenge in recruiting patients. Our clinical trials may also compete with other clinical trials of product candidates that are in a similar cellular immunotherapy area as our product candidates, and this competition could reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Additionally, for our ongoing or any future clinical trials of AlloNK for the treatment of other autoimmune diseases, the number of qualified clinical investigators is limited, so we may conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial site. Recent announcements of clinical trial plans by various cell therapy companies targeting autoimmune diseases, including indications we are pursuing, has resulted in competition for investigators and patients in our ongoing clinical trials, and may continue to intensify future competition in any other AlloNK clinical trials we may initiate in the future for the treatment of other autoimmune diseases. Failure to enroll a sufficient number of patients promptly could lead to delays or failure in completing our trials, hindering the development and commercialization of our product candidates within certain patient subgroups or altogether.

Our preclinical programs may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all.

In order to obtain FDA or comparable foreign regulatory authority approval to market a new biological product we must demonstrate proof of safety, purity and potency, or efficacy, in humans. To meet these requirements, we will have to conduct adequate and well-controlled clinical trials. AlloNK is our only product candidate to enter clinical development. Before we can commence clinical trials for additional product candidates, we must complete extensive preclinical testing and studies that support our planned INDs in the United States and comparable applications outside the United States.

We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or comparable foreign regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we may not submit INDs or similar applications for our preclinical programs within our anticipated timelines, if at all, and submission of INDs or similar applications may not result in the FDA or comparable foreign regulatory authorities allowing clinical trials to begin.

Conducting preclinical testing is a lengthy, time-consuming and expensive process. The length of time may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. Any delays in preclinical testing and studies conducted by us or potential future partners may cause us to incur additional operating expenses. The commencement and rate of completion of preclinical studies for a product candidate may be delayed by many factors, including, for example:

- inability to generate sufficient preclinical or other in vivo or in vitro data to support the initiation of clinical trials;
- delays in reaching a consensus with regulatory authorities on study design; and
- the FDA (or comparable foreign regulatory authorities) not allowing us to rely on previous findings of safety and efficacy for other similar but approved products and published scientific literature.

Moreover, because standards for pre-clinical assessment are evolving and may change rapidly, even if we reach an agreement with the FDA on a pre-IND proposal, the FDA may not accept the IND submissions as presented, in which the clinical trial timeline could be delayed.

We may not identify or discover other product candidates and may fail to capitalize on programs or product candidates that may present a greater commercial opportunity or for which there is a greater likelihood of success.

Our business depends upon our ability to identify, develop and commercialize product candidates. A key element of our strategy is to discover and develop additional product candidates based upon our NK cell therapy platform. We are seeking to do so through our collaborations with GC Cell and Affimed, and may also explore additional strategic collaborations for the discovery of new product candidates. Research programs to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. In addition, targets for different autoimmune diseases or cancers may require changes to our manufacturing processes, which may slow down development of or make it impossible to manufacture our product candidates. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for many reasons, including the following:

- the research methodology or technology platform used may not be successful in identifying potential product candidates;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- we may choose to cease development if we determine that clinical results do not show promise;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;

- a product candidate may be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria; and
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors.

Because we have limited resources, we must choose to pursue and fund the development of specific types of treatment, select certain other therapies to test in combination with our product candidates or treatment for a specific type of autoimmune disease or cancer, and we may forego or delay pursuit of opportunities with certain programs or product candidates or combinations or for indications that later prove to have greater commercial potential. Our estimates regarding the potential market for our product candidates could be inaccurate, and if we do not accurately evaluate the commercial potential for a particular product candidate, we may relinquish valuable rights to that product candidate through strategic collaboration, licensing or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Alternatively, we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

If any of these events occur, we may be forced to abandon or delay our development efforts with respect to a particular product candidate or fail to develop a potentially successful product candidate.

Results of any patient who receives our product candidate in an IIT should not be viewed as representative of how the product candidate will perform in our clinical trials and may not be able to be used to establish safety or efficacy for regulatory approval.

Before seeking regulatory approval for any of our product candidates, we must demonstrate statistically significant evidence of both safety and effectiveness in well-controlled clinical trials. However, we do not control the design, administration, or timing of IITs. We rely on investigators and physicians to ensure their compliance with clinical and regulatory requirements when using our product candidates for these trials. Failure to comply could expose us to liability.

While IITs may provide valuable insights, their results cannot be used to establish safety or efficacy for regulatory approval. In fact, they may identify concerns that could impact our findings or ongoing trials, potentially delaying or jeopardizing regulatory approval from the FDA or other regulatory bodies. If results from IITs differ from our sponsored trials or raise concerns, regulatory authorities may question our sponsored trial results and subject them to greater scrutiny. This could result in the need for additional clinical data, delaying clinical development and approval of our product candidates.

Moreover, the patient population in such trials is at high risk for serious adverse events. If these events are attributed to our product candidates, it could negatively impact their safety profile, leading to delays or failure in obtaining regulatory approval or successfully commercializing our drug candidates. Additionally, our supply capabilities may limit patient enrollment in these trials. We may need to restructure or pause supply to enroll sufficient patients in our sponsored trials, potentially leading to adverse publicity or other disruptions.

In summary, while IITs offer valuable insights, they also pose regulatory and operational challenges that could impact our ability to bring our product candidates to market.

The affected populations for our product candidates may be smaller than we or third parties currently project, which may affect the addressable markets for our product candidates.

We select the targets for development of our product candidates based on a number of factors, including the estimated patient populations where we believe there is a meaningful addressable market opportunity. However, our projections of the number of people who have the diseases we are seeking to treat, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are estimates based on our knowledge and understanding of these diseases. The total addressable market opportunity for our product candidates will ultimately depend upon a number of factors, including the diagnosis and treatment criteria included in the final label, if approved for sale in specified indications, acceptance by the medical community, patient access, alternative therapies and product pricing and reimbursement. For example, we intend to prioritize

evaluation and seeking approval for AlloNK in combination with a B-cell targeted mAb in autoimmune diseases. Incidence and prevalence estimates are frequently based on information and assumptions that are not exact and may not be appropriate, and the methodology is forward-looking and speculative. The process we have used in developing an estimated incidence and prevalence range for the indications we are targeting has involved collating limited data from multiple sources. Accordingly, the incidence and prevalence estimates we use should be viewed with caution. Further, the data and statistical information we use, including estimates derived from them, may differ from information and estimates made by our competitors or from current or future studies conducted by independent sources.

Disruptions at the FDA and other government agencies or comparable foreign regulatory authorities 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, cleared or approved or commercialized in a timely manner or at all, which could negatively impact our business.

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

Separately, in response to the COVID-19 pandemic, the FDA postponed most inspections of domestic and foreign manufacturing facilities at various points. Even though the FDA has since resumed standard inspectional operations, any resurgence of the virus or emergence of new variants may lead to further inspectional or administrative delays. If a prolonged government shutdown occurs or other public health crisis were to occur that prevented the FDA or comparable foreign regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or comparable foreign regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Risks Related to Manufacturing and Our Reliance on Third Parties

If third parties that we rely on to conduct clinical trials do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain marketing approval for or commercialize our product candidates.

We do not independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct or otherwise support clinical trials for our product candidates. In addition, our partner GC Cell will be engaging in initial clinical development for AB-201, and has dosed initial patient for AB-205 outside our licensed territories to generate initial proof of concept data. We rely heavily on these parties for execution of clinical trials for our product candidates and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on CROs and other third parties will not relieve us of our regulatory responsibilities. For any violations of laws and regulations during the conduct of our clinical trials, we could be subject to untitled letters, warning letters or enforcement action that may include civil penalties up to and including criminal prosecution.

We and the third parties on which we rely for clinical trials are required to comply with regulations and requirements, including GCP for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials and their rights are protected. These regulations are enforced by the FDA, the competent authorities of the EU Member States, and comparable foreign regulatory authorities for any drugs in clinical development. The FDA and competent authorities of EU Member States enforces GCP requirements through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or these third parties fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection,

the FDA or comparable foreign regulatory authorities will determine that any of our future clinical trials will comply with GCP. In addition, our clinical trials must be conducted with product candidates produced under current Good Manufacturing Practices (cGMP) regulations. Our failure or the failure of these third parties to comply with these regulations may require us to repeat clinical trials, which would delay the marketing approval process and could also subject us to enforcement action. We also are required to register certain ongoing clinical trials and provide certain information, including information relating to the trial's protocol, on a government-sponsored database, ClinicalTrials.gov, within specific timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Although we intend to design the clinical trials for our product candidates, we will rely on third parties to conduct our clinical trials. As a result, many important aspects of our clinical development, including clinical trial conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct future clinical trials will also result in less direct control over the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff.

Communicating with outside parties can also be challenging, potentially leading to mistakes, as well as difficulties in coordinating activities. Outside parties may:

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

If third parties do not perform our clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, we would be unable to rely on clinical data collected by these third parties and may be required to repeat, extend the duration of, or increase the size of any clinical trials we conduct, which could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third parties terminate, we may not be able to enter into arrangements with alternative third parties on commercially reasonable terms, or at all. If third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain are compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, any clinical trials such third parties are associated with may be extended, delayed or terminated, and we may not be able to obtain marketing approval for or successfully commercialize our product candidates. As a result, we believe that our financial results and the commercial prospects for our product candidates in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected the interpretation of the trial. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, refusal to accept or rejection, of our marketing applications by the FDA or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of our product candidates.

We may, from time to time, such as for our ongoing clinical trials, establish partnerships in relation to our clinical trials, receiving advisory services and other support from third parties. Although we believe that these partnerships will enable us to accelerate the development of our product candidates and clinical trials, we cannot guarantee that such collaborations will be successful and, in the event they are not, we may lose our competitive advantage and/or incur additional costs.

Our collaboration agreements with Affimed, GC Cell and any future collaborations with third parties to develop or commercialize our product candidates, mean that our prospects with respect to the product candidates involved will depend in significant part on the success of those collaborations.

Our collaborations, including our collaborations with Affimed and GC Cell, and any future collaborations we may enter with third parties, could result in the following risks:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators could fail to conduct trials on the timeline we expect or otherwise fail to support our partnered trials;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- collaborators could encounter safety or efficacy problems, manufacturing problems, developmental delays, regulatory issues or other problems with our partnered trials;
- collaborators may not properly enforce, maintain or defend our intellectual property rights or may use our proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation, or other intellectual property proceedings;
- disputes may arise between a collaborator and us that cause the delay or termination of the research, development or commercialization of the product candidate, or that result in costly litigation or arbitration that diverts management attention and resources;
- if a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated; and
- collaboration agreements may restrict our right to independently pursue new product candidates.

In addition, if conflicts arise between our collaborators and us, our collaborators may act in a manner adverse to us and could limit our ability to implement our strategies. Future collaborators may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of these collaborations. Competing products, either developed by the collaborators or to which the collaborators have rights, may result in the withdrawal of support for our product candidates. Our collaborators may preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, terminate their agreements with us prematurely or fail to devote sufficient resources to the development and commercialization of products. Any of these developments could harm our product development efforts.

As a result, if we enter into collaboration agreements and strategic partnerships or license our intellectual property, products or businesses, such as our agreements with GC Cell and Affimed, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations, which could delay our timelines or otherwise adversely affect our business. Following a strategic transaction or license, we may not achieve the revenue or specific net income that justifies such transaction.

We may seek to form collaborations in the future with respect to our product candidates, but may not be able to do so, which may cause us to alter our development and commercialization plans.

The advancement of our product candidates and development programs and the potential commercialization of our current and future product candidates will require substantial additional cash to fund expenses. For some of our programs, we may seek to collaborate with pharmaceutical and biotechnology companies to develop and commercialize such product candidates, such as our collaborations with Affimed. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business.

We face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Whether we reach a definitive agreement for other collaborations will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the progress of our clinical trials, the likelihood of approval by the FDA or comparable foreign regulatory authorities, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. Further, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for future product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view them as having the requisite potential to demonstrate safety and efficacy. Any delays in entering into new collaborations or strategic partnership agreements related to any product candidate we develop could delay the development and commercialization of our product candidates, which would harm our business prospects, financial condition and results of operations.

The manufacture of cell therapy products is novel, complex and subject to multiple risks. We could experience manufacturing problems, and/or we could be required to or choose to modify our manufacturing processes, which could result in delays in the development or commercialization of our product candidates or otherwise harm our business.

Our product candidates utilize primary human NK cells, and the process of manufacturing such product candidates is complex, highly regulated and subject to numerous risks. As a result of these complexities, manufacturing our cellular therapy product candidates is generally more complicated than traditional small-molecule chemical compounds or biologics. In addition, our cost of goods development is at an early stage. The actual cost to manufacture and process our product candidates could be greater than we expect and could materially and adversely affect the commercial viability of our product candidates. Moreover, the manufacturing processes for certain of our existing CAR-NK cell product candidates have not been tested at full scale.

Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our product candidates or in any of the manufacturing facilities in which products or other materials are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

We plan to make changes to our manufacturing processes for various reasons, such as to control costs, meet new or additional regulatory requirements, achieve scale, decrease processing time, increase manufacturing success rate, to facilitate the development of future product candidates or for other reasons, and we cannot be sure that even minor changes in these processes will not cause our current or future product candidates to perform differently and affect the results of our ongoing and planned clinical trials or the performance of the product once commercialized. Changes to our processes made during the course of clinical development will require us to amend our IND submission to the FDA to show the comparability of the product used in earlier clinical phases or at earlier portions of a trial to the product used in later clinical phases or later portions of the trial. Other changes to our manufacturing processes made before or after commercialization could require us to show the comparability of the resulting product to the product candidate used in the clinical trials using earlier processes. This could require us to collect additional nonclinical or clinical data from any modified process prior to obtaining marketing approval for the product candidate produced with such modified process. If such data are not ultimately comparable to that seen in the earlier trials or earlier in the same trial in terms of safety or efficacy, we may be required to make further changes to our processes and/or undertake additional clinical testing, either of which could significantly delay the clinical development or commercialization of the associated product candidate, which would materially adversely affect our business, financial condition, results of operations and growth prospects.

We may experience unforeseen events during, or as a result of, ramping up our manufacturing process that could result in delays in manufacturing sufficient quantities of our product candidates or otherwise harm our business.

We currently rely on GC Cell for the manufacturing of certain of our product candidates. While we have built our own clinical manufacturing facility and may decide to operate our manufacturing facility at commercial-scale, we may encounter delays, quality or other issues if and when we begin to use our manufacturing facility for supply, and will continue to rely on GC Cell at least partially for manufacturing of our product candidates in the near term.

We currently rely on GC Cell to manufacture certain of our product candidates. If GC Cell were to breach their agreement with us or otherwise fail to perform for any reason, including due to the loss of key members of GC Cell's management or other key employees, we likely would experience delays while we identify and qualify a replacement manufacturer and we may be unable to do so on terms that are favorable to us, which may make it more difficult for us to develop our product candidates and compete effectively. We have built our own clinical manufacturing facility and may decide to operate our own manufacturing facility at commercial-scale, or may elect to contract with other third-party contract manufacturers. Our cGMP manufacturing center is currently fully functional, but we may also encounter delays or quality or other issues as we begin to use our manufacturing facility or rely on other third-party contract manufacturers given the complexity of manufacturing cell therapies. We will continue to rely on GC Cell at least partially for manufacturing our product candidates in the near term. Any disruption in the supply of our product candidates could result in delays in our clinical trials, which would materially adversely affect our business, financial condition, results of operations and growth prospects.

Our partial reliance on third parties for manufacturing increases the risk that supply of our product candidates may become limited or interrupted or may not be of satisfactory quality and quantity.

While we have built our own clinical manufacturing facility, we currently do not operate our manufacturing facilities at commercial-scale and outsource the manufacturing of our product candidates to third parties, including GC Cell, for certain of our product candidates. Moreover, while we are operating our own clinical manufacturing facility and may decide to operate our manufacturing facility at commercial-scale, we currently have limited personnel with experience in commercial drug manufacturing and currently lack the full resources and capabilities to manufacture any of our product candidates on a commercial scale. Our reliance on GC Cell and on a limited number of third-party manufacturers exposes us to the following risks:

We may continue to depend on certain third-party manufacturers and we may be unable to identify alternative manufacturers on acceptable terms or at all because the number of potential manufacturers is limited and the FDA or comparable foreign regulatory authorities may require us to submit additional information or have questions regarding any replacement contractor. This may require new testing and regulatory interactions. In addition, a new manufacturer would have to be educated in, or develop substantially equivalent processes for, the production of our products.

- GC Cell or any future third-party manufacturer might be unable to timely formulate and manufacture our product or produce the quantity and quality required to meet our clinical and commercial needs, if any.
- GC Cell and any other contract manufacturers may not be able to execute our manufacturing procedures appropriately.
- GC Cell and any future contract manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store and distribute our products.
- Manufacturers are subject to ongoing periodic unannounced inspection by the FDA, the Drug Enforcement Administration, corresponding state agencies and comparable foreign regulatory authorities to monitor and ensure strict compliance with cGMP and other government regulations and corresponding foreign requirements. We have limited control over third-party manufacturers' compliance with these regulations and standards. Despite our efforts to audit and verify regulatory

compliance, one or more of our third-party manufacturing vendors may be found on regulatory inspection by the FDA or other comparable foreign regulatory authorities to be noncompliant with cGMP regulations.

- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our products.
- GC Cell and any future third-party manufacturers could breach their agreement with us.

Though we have built our own clinical manufacturing facility, we expect that we will continue to rely on third parties for various manufacturing needs.

Manufacturers of pharmaceutical products must comply with strictly enforced cGMP requirements, state and federal regulations, as well as foreign requirements when applicable. Any failure of us or our contract manufacturing organizations to adhere to or document compliance to such regulatory requirements could lead to a delay or interruption in the availability of our program materials for clinical study or enforcement action from the FDA or comparable foreign regulatory authorities. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulatory requirements could result in sanctions being imposed on us, including shutdown of the third-party vendor or invalidation of drug product lots or processes, clinical holds, fines, injunctions, civil penalties, delays, suspension, variation or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates, if approved, and significantly harm our business, financial condition, results of operations and prospects. Our potential future dependence upon others for the manufacture of our product candidates may also adversely affect our future profit margins and our ability to commercialize any product candidates that receive regulatory approval on a timely and competitive basis.

We are dependent on third parties to acquire, ship and store our cord blood units, NK cell master cell banks and drug product lots, viral vectors, and master and working feeder cell banks, and any disruption, quality concerns, damage or loss would cause delays in replacement and our business could suffer.

Our product candidates and certain other materials generated or used during their production, including cord blood units, viral vectors and working feeder cell banks, are acquired from and shipped by third parties and stored in freezers maintained by us and by third parties. In addition, our master cell banks are stored in freezers maintained by third parties. If there is a disruption to the supply of these materials, if available materials fail to meet quality standards, or if any of these materials are damaged while in transit or while stored at these facilities, including by the loss or malfunction of these freezers or back-up power systems, as well as by damage from fire, power loss or other natural disasters, we would need to establish replacement products, which could adversely impact our clinical supply and delay our clinical trials and preclinical studies. If we are unable to establish replacement materials in a timely fashion, we could incur significant additional expenses and potential liability to our clinical trial patients whose treatment is delayed, and our business could suffer.

Our cell therapy products depend on the availability of reagents and specialized materials and equipment, including cord blood and viral vectors, which in each case are required to be acceptable to the FDA and comparable foreign regulatory authorities, and such reagents, materials, and equipment may not be available to us on acceptable terms or at all. We and our third-party manufacturers rely on third-party suppliers for various components, materials and equipment required for the manufacture of our product candidates, some of which are single-source products, and do not have supply arrangements for certain of these components.

Manufacturing of our product candidates, including by GC Cell and certain other of our third-party manufacturers, requires many reagents and other specialty materials and equipment, including cord blood and viral vectors, some of which are sourced from sole suppliers. Reagents and other key materials from these suppliers may have inconsistent attributes and introduce variability into our manufactured product candidates, which may contribute to possible adverse events. We and our third-party manufacturers rely on the general commercial availability of materials required for the manufacture of our product candidates, and do not have supply contracts with many of these suppliers and may not be able to obtain supply contracts with them on acceptable terms or at all. Even if we or our third-party manufacturers are able to enter into such contracts, we may be limited to a sole third-

party for the supply of certain required components. An inability by us or our third-party manufacturers to continue to source product from any of these suppliers, which could be due to regulatory actions or requirements affecting the supplier, adverse financial or other strategic developments experienced by a supplier, labor disputes or shortages, availability of raw materials, unexpected demands, or quality issues, could adversely affect our ability to satisfy demand for our product candidates, which could adversely and materially affect our product sales and operating results or our ability to conduct clinical trials, either of which could significantly harm our business.

If we or our third-party manufacturers are required to change suppliers, or modify the components, equipment, materials or disposables used for the manufacture of our product candidates, we may be required to change our manufacturing operations or clinical trial protocols or to provide additional data to regulatory authorities in order to use any alternative components, equipment, materials or disposables, any of which could set back, delay, or increase the costs required to complete our clinical development and commercialization of our product candidates. Additionally, any such change or modification may adversely affect the safety, efficacy, stability, or potency of our product candidates, and could adversely affect our clinical development of our product candidates and harm our business.

If our third-party suppliers use hazardous, non-hazardous, biological or other materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials. We and our suppliers are subject to federal, state and local laws and regulations in the United States and by foreign governmental authorities governing the use, manufacture, storage, handling and disposal of medical and hazardous materials. Although we believe that we and our suppliers' procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, neither we nor our suppliers can completely eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical or hazardous materials. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

Any contamination or interruption in our manufacturing process, shortages of raw materials or failure of our suppliers to deliver necessary components could result in delays in our clinical development or marketing schedules.

Given the nature of cell therapy manufacturing, there is a risk of contamination. If microbial, viral or other contaminants are discovered in our product candidates or in any of the manufacturing facilities in which products or other materials are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. Any contamination could adversely affect our ability to produce product candidates on schedule and could, therefore, delay our clinical trials, harm our results of operations and cause reputational damage. Some of the raw materials required in our manufacturing process are derived from biologic sources. These raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of our product candidates could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could adversely affect our development timelines and our business, financial condition, results of operations and prospects.

Risks Related to Commercialization of Our Product Candidates

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

The biopharmaceutical industry in general, and the cell therapy field in particular, is characterized by rapidly advancing and changing technologies, intense competition and a strong emphasis on intellectual property. We face

substantial and increasing competition from large and specialty biopharmaceutical companies, as well as public and private medical research institutions and governmental agencies. A large number of cell therapy companies with capabilities and expertise in oncology are advancing development programs in autoimmune diseases. Our known biopharmaceutical competitors that are developing allogeneic CAR-NK or CAR-T cell therapies or T-cell engaging bispecific antibodies include, but may not be limited to, the following: Adicet Bio, Inc., Allogene Therapeutics, Inc., Amgen Inc., Autolus Therapeutics plc, Bristol-Myers Squibb Co, Cabaletta Bio, Inc., Candid Therapeutics, Inc., Caribou Biosciences, Inc., Cartesian Therapeutics, Inc., Century Therapeutics, Inc., Cullinan Therapeutics Inc., Fate Therapeutics, Inc., Galapagos NV, Gilead Sciences, Inc., Gracell Biopharmaceuticals, Inc. (acquired by AstraZeneca), GSK plc, iCell Gene Therapeutics Inc., ImmPACT Bio USA, Inc. (acquired by Lyell Immunopharma, Inc.), ITabMed Co., Ltd., Johnson & Johnson, Kyverna Therapeutics, Inc., Luminary Therapeutics, Inc., Merck & Co., Inc., Nkarta, Inc., Novartis AG, Regeneron Pharmaceuticals, Inc., Roche, Sana Biotechnology, Inc., Sanofi, Shoreline Biosciences Inc., Synthekine Inc., Takeda Pharmaceuticals Company Limited, Wugen, Inc. and Xencor, Inc.

Our competitors will also include companies that are or will be developing other targeted therapies, including small molecule or antibodies for the same indications that we are targeting. It is also possible that new competitors, including those developing similar products or alternatives to cellular immunotherapy product candidates, may emerge and acquire significant market share. Many of our current or potential competitors have significantly greater financial, technical and human resources, as well as more expertise in research and development, manufacturing, preclinical testing, conducting clinical studies and trials and commercializing and marketing approved products. Mergers and acquisitions in the biopharmaceutical industry may result in even greater resource concentration among a smaller number of competitors.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our product candidates less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, discovering, developing, receiving regulatory and marketing approval for or commercializing drugs before we do, which would have an adverse impact on our business and results of operations. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies.

We currently have no marketing and sales organization and have no experience as a company in commercializing products, and we may have to invest significant resources to develop these capabilities. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our products, we may not be able to generate product revenue.

We have no internal sales, marketing or distribution capabilities, nor have we commercialized a product. If any of our product candidates ultimately receives regulatory approval, we must build a marketing and sales organization with technical expertise and supporting distribution capabilities to commercialize each such product in major markets, which will be expensive and time consuming, or collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. We have no prior experience as a company in the marketing, sale and distribution of biopharmaceutical products and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. We may not be able to enter into collaborations or hire consultants or external service providers to assist us in sales, marketing and distribution functions on acceptable financial terms, or at all. In addition, our product revenues and our profitability, if any, may be lower if we rely on third parties for these functions than if we were to market, sell and distribute any products that we develop ourselves. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we are not successful in commercializing our products, either on our own or through arrangements with one or more third parties, we may not be able to generate any future product revenue and we would incur significant additional losses.

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

Successful sales of our product candidates, if approved, depend on the availability of coverage and adequate reimbursement from third-party payors including governmental healthcare programs, such as Medicare and Medicaid, managed care organizations and commercial payors, among others. Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In addition, because our product candidates represent new approaches to the treatment of autoimmune disease and cancer, we cannot accurately estimate the potential revenue from our product candidates. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may also be particularly difficult because of the higher prices often associated with such drugs. Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Obtaining coverage and adequate reimbursement from third-party payors is critical to new product acceptance.

Third-party payors decide which drugs and treatments they will cover and the amount of reimbursement. Reimbursement by a third-party payor may depend upon a number of factors, including, but not limited to, the third-party payor's determination that use of a product is:

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

Obtaining coverage and reimbursement of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data for the use of our products. Even if we obtain coverage for a given product, if the resulting reimbursement rates are insufficient, hospitals may not approve our product for use in their facility or third-party payors may require co-payments that patients find unacceptably high. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. Separate reimbursement for the product itself may or may not be available. Instead, the hospital or administering physician may be reimbursed only for providing the treatment or procedure in which our product is used. Further, from time to time, the CMS revises the reimbursement systems used to reimburse healthcare providers, including the Medicare Physician Fee Schedule and Outpatient Prospective Payment System, which may result in reduced Medicare payments. In some cases, private third-party payors rely on all or portions of Medicare payment systems to determine payment rates. Changes to government healthcare programs that reduce payments under these programs may negatively impact payments from private third-party payors, and reduce the willingness of physicians to use our product candidates.

In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Additionally, any companion diagnostic test that we develop will be required to obtain coverage and reimbursement separate and apart from the coverage and reimbursement we seek for our product candidates, if 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.

We intend to seek approval to market our product candidates in both the United States and in selected foreign jurisdictions. If we obtain approval in one or more foreign jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. Outside the United States, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some foreign countries, particularly those in Europe, the pricing of biologics is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. The EU provides options for EU Member States to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and

to control the prices of medicinal products for human use. An EU Member State may approve a specific price for the medicinal product, it may refuse to reimburse a product at the price set by the manufacturer or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Many EU Member States also periodically review their reimbursement procedures for medicinal products, which could have an adverse impact on reimbursement status. Moreover, in order to obtain reimbursement for our products in some European countries, including some EU Member States, we may be required to compile additional data comparing the cost-effectiveness of our products to other available therapies. This Health Technology Assessment (HTA) of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures in some EU Member States, including those representing the larger markets. The HTA process is the procedure to assess therapeutic, economic and societal impact of a given medicinal product in the national healthcare systems of the individual country. The outcome of an HTA will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU Member States. The extent to which pricing and reimbursement decisions are influenced by the HTA of the specific medicinal product currently varies between EU Member States. The downward pressure on healthcare costs has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country. Even if a pharmaceutical product obtains a marketing authorization in the EU, there can be no assurance that reimbursement for such product will be secured on a timely basis or at all.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if government and other third-party payors fail to provide coverage and adequate reimbursement. We expect downward pressure on pharmaceutical pricing to continue. Further, coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

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

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare professionals, pharmaceutical companies or others selling or otherwise coming into contact with our products. On occasion, large judgments have been awarded in class action lawsuits based on products that had unanticipated adverse effects. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation and significant negative media attention;
- withdrawal of participants from our clinical trials;
- significant costs to defend the related litigation and related litigation;
- distraction of management’s attention from our primary business;
- substantial monetary awards to patients or other claimants;
- inability to commercialize our product candidates;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- decreased demand for our product candidates, if approved for commercial sale; and
- loss of revenue.

Risks Related to Government Regulation

The regulatory approval process of the FDA and comparable foreign regulatory authorities are lengthy, time-consuming and inherently unpredictable, and even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval for any of our product candidates, and any such regulatory approval may be for a narrower indication than we seek.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing, and distribution of drug products, including biologics, are subject to extensive regulation by the FDA and comparable foreign regulatory authorities in and outside the United States. We are not permitted to market any biological drug product in the United States or outside the United States until we receive approval of a BLA from the FDA or similar approvals from comparable foreign regulatory authorities. We have not previously submitted a BLA to the FDA, or similar approval filings to comparable foreign authorities. A BLA and similar applications must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and effectiveness for each desired indication. The BLA and similar applications must also include significant information regarding the chemistry, manufacturing and controls for the product, including with respect to chain of identity and chain of custody of the product.

Our product candidates could fail to receive regulatory approval from the FDA or a comparable foreign regulatory authority for many reasons, including:

- disagreement with the design or conduct of our clinical trials;
- failure to demonstrate to the satisfaction of regulatory authorities that our product candidates are safe and effective, or have a positive benefit/risk profile for its proposed indication;
- failure of clinical trials to meet the level of statistical significance required for approval;
- disagreement with our interpretation of data from preclinical studies or clinical trials;
- the insufficiency of data collected from clinical trials of our product candidates to support the submission and filing of a BLA or other submission or to obtain regulatory approval;
- failure to obtain approval of our manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies or our own manufacturing facility; or
- changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our product candidates, which would significantly harm our business, results of operations and prospects. The FDA or a comparable foreign regulatory authority may require more information, including additional preclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program. If we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request (including failing to approve the most commercially promising indications), may grant approval contingent on the performance of costly post-marketing clinical studies, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Even if our product candidates meet their safety and efficacy endpoints in clinical trials, the regulatory authorities may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval.

We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support licensure. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain licensure of the product candidates based on the completed clinical trials, as the FDA often adheres to the Advisory Committee's recommendations. Similar requirements may apply outside the United States.

Similar requirements apply in the EU. The EMA has a Committee for Advanced Therapies (CAT), that is responsible for assessing the quality, safety and efficacy of advanced therapy medicinal products (ATMPs). ATMPs include gene therapy medicinal products, somatic-cell therapy medicinal products and tissue-engineered medicines. The role of the CAT is to prepare a draft opinion on an application for marketing authorization for ATMP candidates that is submitted to the EMA for subsequent review by the Committee for Medicinal Products for Human Use (CHMP). In the EU, the development and evaluation of an ATMP must be considered in the context of the relevant EU guidelines. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines. Similarly complex regulatory environments exist in other jurisdictions in which we might consider seeking regulatory approvals for our product candidates, further complicating the regulatory landscape.

In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory authority policy during the period of product development, clinical trials and the review process. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive and lengthy, and approval may not be obtained. For instance, the regulatory landscape related to clinical trials in the EU recently evolved. The EU Clinical Trials Regulation, (CTR), which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each EU Member State, leading to a single decision for each EU Member State. The assessment procedure for the authorization of clinical trials has been harmonized as well, including a joint assessment by all EU Member States concerned, and a separate assessment by each EU Member State with respect to specific requirements related to its own territory, including ethics rules. Each EU Member State's decision is communicated to the sponsor via the centralized EU portal. Once the clinical trial approved, clinical study development may proceed. The CTR foresaw a three-year transition period that ended on January 31, 2025. Since this date, all new or ongoing trials are subject to the provisions of the CTR.

In addition, the EU pharmaceutical legislation is currently the subject of proposals for a complete review, in the context of the Pharmaceutical Strategy for Europe initiative, launched by the European Commission in November 2020. On April 26, 2023, the European Commission adopted a proposal for a new Directive and Regulation to revise the existing pharmaceutical legislation. The proposed revisions remain to be agreed and adopted by the European Council. Moreover, on December 1, 2024, a new European Commission took office. The proposal could, therefore, still be subject to revisions. If adopted in the form proposed, the recent European Commission proposals to revise the existing EU laws governing authorization of medicinal products may result in a number of changes to the regulatory framework governing medicinal products, including a decrease in data and market exclusivity opportunities for our product candidates in the EU and make them open to generic or biosimilar competition earlier than is currently the case with a related reduction in reimbursement status. The proposed revisions remain to be agreed and adopted by the European Parliament and European Council and the proposals may therefore be substantially revised before adoption, the date of which cannot currently be anticipated. The revisions may however have a significant impact on the pharmaceutical industry and our business in the long term.

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

The regulatory landscape that will govern our product candidates is uncertain; regulations relating to cell therapy products are still developing, and changes in regulatory requirements could result in delays or discontinuation of development of our product candidates or unexpected costs in obtaining regulatory approval.

Because we are developing novel NK cell therapy product candidates that are unique biological entities, the regulatory requirements that we will be subject to are not entirely clear and may change. Regulatory requirements in the United States and in other countries governing cell therapy products have changed frequently and the FDA or

comparable foreign regulatory authorities may change the requirements, or identify different regulatory pathways, for approval for any of our product candidates. For example, within the FDA, the CBER restructured and created a new Office of Tissues and Advanced Therapies to better align its oversight activities with FDA Centers for Drugs and Medical Devices. It is possible that over time new or different divisions may be established or be granted the responsibility for regulating cell therapy products, including NK and CAR-NK cell products such as ours. As a result, we may be required to change our regulatory strategy or to modify our applications for regulatory approval, which could delay and impair our ability to complete the preclinical and clinical development and manufacture of, and obtain regulatory approval for, our product candidates.

In addition to FDA oversight and oversight by IRBs under guidelines promulgated by the National Institutes of Health (NIH) gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee (IBC) a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. Before a clinical study can begin at any institution, that institution's IRB, and its IBC assesses the safety of the research and identifies any potential risk to public health or the environment. While the NIH guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH guidelines voluntarily follow them. Moreover, serious adverse events or developments in clinical trials of cell therapy product candidates conducted by others may cause the FDA or comparable foreign regulatory authorities to initiate a clinical hold on our clinical trials or otherwise change the requirements for approval of any of our product candidates. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the trial and approved its initiation. Changes in regulatory authorities and advisory groups, or any new requirements or guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional studies, increase our development and manufacturing costs, lead to changes in regulatory pathways, positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. In addition, adverse developments in clinical trials of cell therapy products conducted by others may cause the FDA or comparable foreign regulatory authorities to change the requirements for approval of any of our product candidates.

These various regulatory review committees and advisory groups and new or revised guidelines that they promulgate from time to time may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. Even if our product candidates obtain required regulatory approvals, such approvals may later be withdrawn as a result of changes in regulations or the interpretation of regulations by applicable regulatory authorities.

Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to operate our business as planned and to generate sufficient product revenue to maintain our business.

The FDA, the EMA and other comparable foreign regulatory authorities may not accept data from trials conducted in locations outside of their jurisdiction.

We may choose to conduct international clinical trials in the future. The acceptance of study data by the FDA, the EMA or other comparable foreign regulatory authority from clinical trials conducted outside of their respective jurisdictions may be subject to certain conditions. In cases where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; (ii) the trials are performed by clinical investigators of recognized competence and pursuant to current GCP requirements; and (iii) the FDA is able to validate the data through an on-site inspection or other appropriate mean. Additionally, the FDA's clinical trial requirements, including the adequacy of the patient population studied and statistical powering, must be met. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA, the EMA or any applicable foreign regulatory authority will accept data from trials conducted outside of its

applicable jurisdiction. If the FDA, the EMA or any applicable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our product candidates not receiving approval for commercialization in the applicable jurisdiction.

We may seek orphan drug designation for some or all of our product candidates across various indications, but we may be unable to obtain such designations or to maintain the benefits associated with orphan drug designation, including market exclusivity, which may cause our revenue, if any, to be reduced.

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

If a product that has orphan drug designation subsequently receives the first FDA approval of that particular product for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a BLA, to market the same drug (including biologic) for the same indication for seven years, except in limited circumstances such as a showing of clinical superiority to the product with orphan drug exclusivity or if FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. As a result, even if one of our product candidates receives orphan exclusivity, the FDA can still approve other biologics that do not have the same principal molecular structural features for use in treating the same indication or disease or the same biologic for a different indication or disease during the exclusivity period. Furthermore, the FDA can waive orphan exclusivity if we are unable to manufacture sufficient supply of our product or if a subsequent applicant demonstrates clinical superiority over our product.

In the EU, orphan designation entitles a party to financial incentives such as reduction of fees, fee waivers, protocol assistance and access to the centralized marketing authorization procedure. Moreover, upon grant of a marketing authorization and assuming the requirement for orphan designation are also met at the time the marketing authorization is granted, orphan medicinal products are entitled to a ten-year period of market exclusivity for the approved therapeutic indication. The period of exclusivity is extended by two years for orphan medicinal products that have also complied with an agreed Pediatric Investigation Plan. However, during such period, marketing authorizations may be granted to a similar medicinal product with the same orphan indication if: (i) the applicant can establish that the second medicinal product, although similar to the orphan medicinal product already authorized is safer, more effective or otherwise clinically superior to the orphan medicinal product already authorized; (ii) the marketing authorization holder for the orphan medicinal product grants its consent; or (iii) if the marketing authorization holder of the orphan medicinal product is unable to supply sufficient quantities of product. The EU exclusivity period can be reduced to six years, if, at the end of the fifth year a medicinal product no longer meets the criteria for orphan designation (i.e., the prevalence of the condition has increased above the orphan designation threshold or it is judged that the product is sufficiently profitable so as not to justify maintenance of market exclusivity).

We have received orphan drug designation for AB-201 in the United States, for the treatment of gastric and gastroesophageal junction cancer. Additionally, we may seek orphan drug designation for some or all of our product candidates in specific orphan indications in which there is a medically plausible basis for the use of these products. Even if we obtain orphan drug designation, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition, or if a subsequent applicant demonstrates clinical superiority over our products, if approved. Similar considerations may apply outside the United States. In addition, although we may seek orphan drug designation for other product candidates, we may never receive such designations In addition, orphan drug exclusivity does not prevent the FDA or European Commission from approving competing drugs for the same or similar indication containing a different active ingredient. In addition, if a subsequent drug is approved for marketing for the same or a similar indication as any of our product candidates that receive marketing approval, we may face increased competition and lose market share regardless of orphan drug exclusivity. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

We may seek special designations by the regulatory authorities to expedite regulatory approvals, but may not be successful in receiving these designations, and even if received, they may not benefit the development and regulatory approval process.

We may seek various designations by regulatory authorities, such as Regenerative Medicine Advanced Therapy Designation (RMAT) Breakthrough Therapy Designation, Fast Track Designation, or PRIority MEdicine (PRIME) Designation from regulatory authorities, for any product candidate that we develop. A product candidate may receive RMAT designation from the FDA if it is a regenerative medicine therapy that is intended to treat, modify, reverse or cure a serious or life-threatening condition, and preliminary clinical evidence indicates that the product candidate has the potential to address an unmet medical need for such condition. RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate, and potential eligibility for rolling review and priority review. Products 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 sites, including through expansion to additional sites post-approval, if appropriate. RMAT-designated products that receive accelerated approval may, as appropriate, fulfill their post-approval requirements through the submission of clinical evidence, clinical studies, patient registries, or other sources of real world evidence (such as electronic health records); through the collection of larger confirmatory data sets; or via post-approval monitoring of all patients treated with such therapy prior to approval of the therapy.

A Breakthrough Therapy is defined by the FDA 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 currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the study can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens.

If a drug is intended for the treatment of a serious or life-threatening condition or disease, and nonclinical or clinical data demonstrate the potential to address an unmet medical need, the product may qualify for Fast Track Designation, for which sponsors must apply. The FDA has broad discretion whether or not to grant this designation. If granted, fast track designation makes a drug eligible for more frequent interactions with FDA to discuss the development plan and clinical trial design, as well as rolling review of the application, which means that the company can submit completed sections of its marketing application for review prior to completion of the entire submission. Products with Fast Track designation may also be eligible for accelerated approval and priority review, if the relevant criteria are met.

Innovative products that target an unmet medical need and are expected to be of major public health interest may be eligible for a number of expedited development and review programs, such as the PRIME scheme, which provides incentives similar to the breakthrough therapy designation in the U.S. PRIME is a voluntary scheme aimed

at enhancing the EMA's support for the development of medicinal products that target unmet medical needs. Eligible products must target conditions for which there is an unmet medical need (there is no satisfactory method of diagnosis, prevention or treatment in the EU or, if there is, the new medicinal product will bring a major therapeutic advantage) and they must demonstrate the potential to address the unmet medical need by introducing new methods of therapy or improving existing ones. Benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and potentially accelerated MAA assessment once a dossier has been submitted.

Seeking and obtaining these designations is dependent upon results of our clinical program, and we cannot guarantee whether and when we may have the data from our clinical programs to support an application to obtain any such designation. The FDA and the EMA, as applicable, have broad discretion whether or not to grant any of these designations, so even if we believe a particular product candidate is eligible for one or more of these designations, the applicable regulatory authority may determine not to grant it. We received Fast Track designation for AlloNK in combination with either rituximab or obinutuzumab to improve disease activity in patients with class III or class IV LN in February 2024. We also received Fast Track designation for AlloNK for IV infusion in combination with rituximab for the treatment of relapsed or refractory B-NHL origin to improve cancer response rates in January 2023. Fast Track designation does not guarantee an accelerated review of AlloNK or increase the likelihood that AlloNK will receive regulatory approval by the FDA. Even if we do receive the designations we may apply for, we may not experience a faster development process, review or approval compared to conventional FDA or EMA procedures, as applicable. The FDA or EU, as applicable, may rescind any granted designations if it believes that the designation is no longer supported by data from our clinical development program. Additionally, qualification for any expedited review procedure does not ensure that we will ultimately obtain regulatory approval for such product candidate.

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

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

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

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

Any regulatory approvals that we receive for our product candidates will require surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require a REMS in order to approve our product candidates, which could entail requirements for a medication guide, physician communication plans or additional

elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, the manufacturing processes, the availability of our product candidates to be administered in rheumatology community centers, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements.

These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any BLA, other marketing application and previous responses to inspectional observations. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. In addition, the FDA or comparable foreign regulatory authorities could require us to conduct another study to obtain additional safety or biomarker information.

Further, we will be required to comply with FDA and comparable foreign regulatory authorities' promotion and advertising rules, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in patient populations that are not described in the product's approved uses (known as "off-label use"), limitations on industry-sponsored scientific and educational activities and requirements for promotional activities involving the internet and social media. Although the FDA and comparable foreign regulatory authorities do not regulate a physician's choice of drug treatment made in the physician's independent medical judgment, they do restrict promotional communications from companies or their sales force with respect to off-label uses of products for which marketing clearance has not been issued. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party suppliers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS or similar foreign program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our product candidates, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, untitled letters, warning letters or holds on clinical trials;
- refusal by the FDA or comparable foreign regulatory authority to approve pending applications or supplements to approved applications submitted by us or suspension or revocation of license approvals;
- product seizure or detention, or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

FDA and comparable foreign regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the any administration may impact our business and industry. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Additionally, the policies of the FDA and other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit, or delay regulatory approval of our product candidates. For example, the U.S. Supreme Court's June 2024 decision in *Loper Bright Enterprises v. Raimondo* overturned the longstanding Chevron doctrine, under which courts were required to give deference to regulatory agencies' reasonable interpretations of ambiguous federal statutes. The *Loper* decision could result in additional legal challenges to regulations and decisions issued by federal agencies, including the FDA, on which we rely. Any such legal challenges, if successful, could have a material impact on our business. Additionally, the *Loper* decision may result in increased regulatory uncertainty, inconsistent judicial interpretations, and other impacts to the agency

rulemaking process, any of which could adversely impact our business and operations. We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may be subject to enforcement action and our business, results of operations, and financial condition could be adversely affected.

Our relationships with customers, physicians, other healthcare professionals and third-party payors are subject, directly or indirectly, to federal, state, local and foreign healthcare fraud and abuse laws, false claims laws, transparency laws, health information privacy and security laws and other healthcare laws and regulations. If we or our employees, independent contractors, consultants, commercial partners and vendors violate these laws, we could face substantial penalties.

Healthcare professionals and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, third-party payors, customers and others may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may impact, among other things, our clinical research program, as well as our proposed and future sales, marketing and education programs. In particular, the promotion, sales and marketing of healthcare items and services is subject to extensive laws and regulations designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive and other business arrangements. We may also be subject to federal, state and foreign laws governing the privacy and security of identifiable patient information. The U.S. healthcare laws and regulations that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, any person or entity from knowingly and willfully, offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, the purchasing, leasing, ordering or arranging for 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. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly and require strict compliance in order to offer protection. Practices that may be alleged to be intended to induce prescribing, purchases or recommendations, including any payments of more than fair market value, may be subject to scrutiny if they do not qualify for an exception or safe harbor. In addition, a person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation;
- federal civil and criminal false claims laws, including the federal civil False Claims Act (FCA) and civil monetary penalties laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other federal government programs that are false or fraudulent or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government, including federal healthcare programs. 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 FCA. Private individuals, commonly known as "whistleblowers," can bring federal civil FCA qui tam actions, on behalf of the government and such individuals and may share in amounts paid by the entity to the government in recovery or settlement;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by any trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statements in connection with the delivery of, or payment for, healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH), and their respective implementing regulations, which impose requirements on covered entities, including certain healthcare providers, health plans and healthcare clearinghouses, and their respective business associates that perform services for them that involve creating, receiving maintaining or transmitting protected health information (PHI) and their subcontractors that use, disclose, access, or otherwise process PHI, relating to the privacy, security and transmission of individually identifiable health information. Penalties for HIPAA violations can be significant. They vary greatly depending on the nature of violation, and could include civil monetary or criminal penalties. HIPAA also authorizes state attorneys general to file suit under HIPAA on behalf of state residents. Courts can award damages, costs and attorneys' fees related to violations of HIPAA in such cases. While HIPAA does not create a private right of action allowing individuals to sue us in civil court for HIPAA violations, its standards have been used as the basis for a duty of care claim in state civil suits such as those for negligence or recklessness in the misuse or breach of PHI; the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician practitioners (physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists and anesthesiologist assistants, and certified nurse midwives), and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we may be subject to state, local and foreign equivalents of each of the healthcare laws described above, among others, some of which may be broader in scope. For example, in the EU, interactions between pharmaceutical companies and healthcare professionals and healthcare organizations are also governed by strict laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct both at EU level and in the individual EU Member States. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of pharmaceutical products is prohibited in the EU. Relationships with healthcare professionals and associations are subject to stringent anti-gift statutes and anti-bribery laws, the scope of which differs across the EU. In addition, national "Sunshine Acts" may require pharmaceutical companies to report/publish transfers of value provided to healthcare professionals and associations on a regular (e.g., annual) basis.

Also, we may be subject to the following: state and foreign anti-kickback and false claims laws that may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental, third-party payors, including private insurers, or that apply regardless of payor; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state and local laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare professionals or marketing expenditures; state and foreign laws that require the reporting of information related to drug pricing; state and local laws requiring the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities, including certain arrangements we have with physicians who are paid in the form of stock or stock options for services provided to us, could be subject to challenge under one or more of such laws. If we or our employees, independent contractors, consultants, commercial partners and vendors violate these laws, we may be subject to investigations, enforcement actions and/or significant penalties. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, damages, disgorgement, monetary fines, imprisonment, possible

exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, additional reporting requirements and/or oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. In addition, the approval and commercialization of any of our product candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

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

The Biologics Price Competition and Innovation Act of 2009 (BPCIA) was enacted as part of the Patient Protection Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, 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 BLA. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation and meaning are subject to uncertainty. While it is uncertain when processes intended to implement BPCIA may be fully adopted by the FDA, any of these processes could have a material adverse effect on the future commercial prospects for our biological products.

We believe that any of the product candidates we develop that is approved in the United States as a biological product under a BLA, if any, 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.

In the European Union, there is a special regime for biosimilars, or biological medicinal products that are similar to a reference medicinal product but that do not meet the definition of a generic medicinal product. For such products, the results of appropriate preclinical or clinical trials must be provided in support of an application for MA. Guidelines from the EMA detail the type of quantity of supplementary data to be provided for different types of biological product.

In addition, the approval of a biologic product biosimilar to one of our products could have a material adverse impact on our business as it may be significantly less costly to bring to market and may be priced significantly lower than our products.

Even if we obtain regulatory approval of our product candidates, the products may not gain market acceptance among physicians, patients, hospitals, rheumatology clinics, cancer treatment centers and others in the medical community.

The use of allogeneic NK cells as a potential autoimmune disease or cancer treatment may not become broadly accepted by physicians, patients, hospitals, rheumatology clinics, cancer treatment centers and others in the medical community. Factors that will influence whether our product candidates are accepted in the market include:

- the clinical indications for which our product candidates are approved;
- physicians, hospitals, rheumatology clinics, cancer treatment centers and patients considering our product candidates as a safe and effective treatment;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the incidence and severity of any side effects;

- product labeling or product insert requirements of the FDA or comparable foreign regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA or comparable foreign regulatory authorities;
- the availability of our product candidates to be administered in rheumatology community centers;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- our pricing and the availability of coverage and adequate reimbursement by third-party payors, including government authorities;
- the willingness of patients to pay out-of-pocket in the absence of coverage and adequate reimbursement by third-party payors, including government authorities;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, rheumatology clinics, cancer treatment centers or others in the medical community, we will not be able to generate significant revenue. Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete.

The advancement of healthcare reform may negatively impact our ability to profitably sell our product candidates, if approved.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to the healthcare system that could impact our ability to profitably sell our product candidates, if approved. In particular, in 2010 the Affordable Care Act was enacted. The Affordable Care Act and its implementing regulations, among other things, revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs and certain biologics, including our product candidates, under the Medicaid drug rebate program are calculated, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid drug rebate program, extended the Medicaid drug rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, and provided incentives to programs that increase the federal government's comparative effectiveness research. Additionally, the Affordable Care Act allowed states to implement expanded eligibility criteria for Medicaid programs, imposed a new Medicare Part D coverage gap discount program, expanded the entities eligible for discounts under the Public Health Service pharmaceutical pricing program and implemented a new Patient-Centered Outcomes Research Institute.

Since its enactment, there have been executive, judicial and political challenges and amendments to certain aspects of the Affordable Care Act. It is unclear how other healthcare reform measures of the second Trump administration, if any, will impact our business.

Other legislative changes have been proposed and adopted since the Affordable Care Act was enacted, including aggregate reductions to Medicare payments to providers, which went into effect beginning on April 1, 2013 and due to subsequent legislative amendments to the statute will stay in effect through 2032, unless additional Congressional action is taken. Additionally, on March 11, 2021, the American Rescue Plan Act of 2021 was signed into law, which eliminated the statutory Medicaid drug rebate cap, which was previously set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning on January 1, 2024. There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. 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. Such reforms could have an adverse effect on

anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates. In addition, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient assistance programs, and reform government program reimbursement methodologies for drugs. For example, the Inflation Reduction Act of 2022 (IRA), among other things, (i) directs the U.S. Department of Health and Human Services (HHS) to negotiate the price of certain high-expenditure, single-source biologics that have been on the market for at least 11 years covered under Medicare, and subject drug manufacturers to civil monetary penalties and a potential excise tax by offering a price that is not equal to or less than the negotiated "maximum fair price" for such drugs and biologics under the law (the "Medicare Drug Price Negotiation Program"), and (ii) imposes rebates with respect to certain drugs and biologics covered under Medicare Part B or Medicare Part D to penalize price increases that outpace inflation. The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. These provisions began to take effect progressively in fiscal year 2023. On August 15, 2024, HHS announced the agreed-upon prices of the first ten drugs that were subject to price negotiations, although the Medicare Drug Price Negotiation Program is currently subject to legal challenges. On January 17, 2025, HHS selected fifteen additional products covered under Part D for price negotiation in 2025. Each year thereafter more Part B and Part D products will become subject to the Medicare Drug Price Negotiation Program. Further, on December 7, 2023, an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act was announced.

Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, designed to encourage importation from other countries and bulk purchasing.

In the EU, similar developments may affect our ability to profitably commercialize our product candidates, if approved. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or Member State level may result in significant additional requirements or obstacles that may increase our operating costs. The delivery of healthcare in the EU, including the establishment and operation of health services and the pricing and reimbursement of medicinal products, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of health care and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU Member States have resulted in restrictions on the pricing and reimbursement of medicinal products by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to commercialize our product candidates, if approved. In markets outside of the United States and EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies.

On December 13, 2021, Regulation No 2021/2282 on HTA amending Directive 2011/24/EU, was adopted in the EU. This Regulation, which entered into force in January 2022 and will apply as of January 2025, is intended to boost cooperation among EU Member States in assessing health technologies, including new medicinal products, and providing the basis for cooperation at EU level for joint clinical assessments in these areas. The Regulation foresees a three-year transitional period and will permit EU Member States to use common HTA tools, methodologies and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU Member States will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technologies, and making decisions on pricing and reimbursement. If we are unable to maintain favorable pricing and reimbursement status in EU Member States for product candidates that we may successfully develop and for which we may obtain regulatory approval, any anticipated revenue from and growth prospects for those products in the EU could be negatively affected.

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

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

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

We and the third parties with whom we work are subject to stringent and evolving U.S. and foreign laws, regulations, and rules, contractual obligations, industry standards, policies and other obligations related to data privacy and information security. Our (or of the third parties with whom we work) actual or perceived failure to comply with such obligations could lead to regulatory investigations or actions, litigation (including class claims) and mass arbitration demands, fines and penalties, a disruption of our business operations, reputational harm and other adverse impacts to our business and financial condition.

We collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit, and share (collectively, process) sensitive and confidential information, including certain personal information, which subjects us to various obligations related to data privacy and information security, such as various laws, regulations, guidance, industry standards, external and internal privacy and security policies, contractual requirements, and other obligations relating to data privacy and security.

In the United States, federal, state, and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal data privacy laws, consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), and other similar laws (e.g., wiretapping laws). For example, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or collectively, HIPAA, federal health information privacy laws, state data breach notification laws, state health information privacy laws and federal, state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), and other similar laws govern the processing of health-related and other personal information impose specific requirements relating to the privacy, security, and transmission of health-related and other personal information . We are subject to new laws governing the privacy of consumer health data. For example, Washington's My Health My Data Act (MHMD) broadly defines consumer health data, places restrictions on processing consumer health data (including imposing stringent requirements for consents), provides consumers certain rights with respect to their health data, and creates a private right of action to allow individuals to sue for violations of the law. Other states are considering and may adopt similar laws.

In addition, numerous U.S. states have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data. As applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt-out of certain data processing activities, such as targeted advertising, profiling, and automated decision-making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, the CCPA applies to personal data of consumers, business representatives, and employees who are California residents, and requires businesses to provide specific disclosures in privacy notices and honor requests of such individuals to exercise certain privacy rights. The CCPA provides for fines and allows private litigants affected by certain data breaches to recover significant statutory damages. Similar laws are being considered in several other states, as well as at the federal and local levels, and we expect more states to pass similar laws in the future.

Outside of the United States an increasing number of laws, regulations, and industry standards govern data privacy and security, Foreign data protection laws, including the EU General Data Protection Regulation (EU GDPR) and the United Kingdom General Data Protection Regulation and Data Protection Act 2018 (UK GDPR) (collectively, the GDPR), may also apply to health-related and other personal data obtained outside of the United States and impose strict requirements for processing such data. For example, the GDPR imposes strict requirements for processing the personal data of individuals within the European Economic Area (EEA) and UK or in the context of our activities within the EEA and UK and provides for potential fines of up to the greater of €20 million under the EU GDPR, 17.5 million pounds sterling under the UK GDPR, or, in each case, 4% of annual global revenue of a noncompliant undertaking, temporary or definitive bans on processing data, or private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests.

In the ordinary course of business, we transfer personal data from Europe and other jurisdictions to the United States or other countries. Europe and other jurisdictions have enacted laws requiring data to be localized or limiting the transfer of personal data to other countries. In particular, the EEA and the UK have significantly restricted the transfer of personal data to the United States and other countries whose privacy laws it generally believes are inadequate. Other jurisdictions may adopt or have already adopted similarly stringent data localization and cross-border data transfer laws. Although there are currently various mechanisms that may be used to transfer personal data from the EEA and UK to the United States in compliance with law, such as the EEA standard contractual clauses, the UK's International Data Transfer Agreement / Addendum and the EU-U.S. Data Privacy Framework (DPF) and the UK extension thereto (which allows for transfers to relevant U.S.-based organizations who self-certify compliance and participate in the Framework), these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the United States. If there is no lawful manner for us to transfer personal data from the EEA or other jurisdictions to the United States, or if the requirements for a legally-compliant transfer are too onerous, we could face significant adverse consequences, including the interruption or degradation of our operations, the need to relocate part of or all of our business or data processing activities to other jurisdictions (such as Europe) at significant expense, increased exposure to regulatory actions, substantial fines and penalties, the inability to transfer data and work with partners, vendors and other third parties, and injunctions against our processing or transferring of personal data necessary to operate our business. Additionally, companies that transfer personal data out of the EEA to other jurisdictions, particularly to the United States, are subject to increased scrutiny from regulators, individual litigants and activist groups. Some European regulators have ordered certain companies to suspend or permanently cease certain transfers out of Europe for allegedly violating the GDPR's cross-border data transfer limitations. For example, in May 2023, the Irish Data Protection Commission determined that a major social media company's use of the standard contractual clauses to transfer personal data from Europe to the United States was insufficient and levied a 1.2 billion Euro fine against the company and prohibited the company from transferring personal data to the United States. Regulators in the United States such as the Department of Justice are also increasingly scrutinizing certain personal data transfers and have proposed and may enact certain data localization requirements, for example, the Biden Administration's executive order Preventing Access to Americans' Bulk Sensitive Personal Data and United States Government-Related Data by Countries of Concern. As we continue to expand into other foreign countries and jurisdictions, we may be subject to additional data privacy and security laws and regulations that may affect how we conduct business.

In addition, privacy advocates and industry groups have regularly proposed, and may propose in the future, self-regulatory standards that may legally or contractually apply to us. We are also bound by contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful. For example, certain privacy laws, such as the GDPR and the CCPA, require our customers to impose specific contractual restrictions on their service providers. We publish privacy policies, marketing materials, white papers, and other statements, such as statements related to compliance with certain certifications or self-regulatory principles, concerning data privacy and security. Regulators in the United States are increasingly scrutinizing these statements, and if these policies or statements are found to be deficient, lacking in transparency, deceptive, unfair, misleading, or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators or other adverse consequences.

Obligations related to data privacy and security (and individuals' data privacy expectations) are quickly changing, becoming increasingly stringent, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. Preparing for and complying with these obligations requires us to devote significant resources, which may necessitate changes to our services, information technologies, systems and practices and to those of any third parties that process data on our behalf. In addition, these obligations may require us to change our business model.

We may at times fail (or be perceived to have failed) in our efforts to comply with our data privacy and security obligations. Moreover, despite our efforts, our personnel or third parties with whom we work may fail to comply with such obligations, which could negatively impact our business operations. If we or the third parties with whom we work fail or are perceived to have failed, to address or comply with applicable data privacy and security obligations, we could face significant consequences, including but not limited to: government enforcement actions (e.g., investigations, fines, penalties, audits, inspections, and similar); litigation (including class-action claims) and mass arbitration demands; additional reporting requirements and/or oversight; bans or restrictions on processing personal data; orders to destroy or not use personal data; imprisonment of company officials; and/or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects about whom we or the third parties upon which we rely obtain information may contractually limit our ability to use and disclose such information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws or breached our contractual obligations, even if we are not found liable, could be expensive and time consuming to defend, could result in adverse publicity and could have a material adverse effect on our business, financial condition, results of operations and prospects. Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: loss of customers; interruptions or stoppages in our business operations (including clinical trials); inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or substantial changes to our business model or operations.

Our business activities may be subject to the U.S. Foreign Corrupt Practices Act (FCPA) and similar anti-bribery and anti-corruption laws of other countries in which we operate, as well as U.S. and certain foreign export controls, trade sanctions and import laws and regulations. Compliance with these legal requirements could limit our ability to compete in foreign markets and subject us to liability if we violate them.

If we expand our operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. Our business activities may be subject to the FCPA and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we operate. The FCPA generally prohibits companies and their employees and third party intermediaries from offering, promising, giving or authorizing the provision of anything of value, either directly or indirectly, to a non-U.S. government official in order to influence official action or otherwise obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the corporation and to devise and maintain an adequate system of internal accounting controls.

Our business is heavily regulated and therefore involves significant interaction with public officials, including officials of non-U.S. governments. Additionally, in many other countries, hospitals owned and operated by the government, and doctors and other hospital employees would be considered foreign officials under the FCPA. Recently the SEC and Department of Justice have increased their FCPA enforcement activities with respect to biotechnology and pharmaceutical companies. There is no certainty that all of our employees, agents or contractors, or those of our affiliates, will comply with all applicable laws and regulations, particularly given the high level of complexity of these laws. Violations of these laws and regulations could result in fines, criminal sanctions against us, our officers or our employees, disgorgement and other sanctions and remedial measures, and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to offer our product in one or more countries and could materially damage our reputation, our brand, our international activities, our ability to attract and retain employees and our business.

In addition, our product and activities may be subject to U.S. and foreign export controls, trade sanctions and import laws and regulations. Governmental regulation of the import or export of our product, or our failure to obtain any required import or export authorization for our product, when applicable, could harm our international sales and adversely affect our revenue. Compliance with applicable regulatory requirements regarding the export of our

product may create delays in the introduction of our product in international markets or, in some cases, prevent the export of our product to some countries altogether. Furthermore, U.S. export control laws and economic sanctions prohibit the shipment of certain products and services to countries, governments and persons targeted by U.S. sanctions. If we fail to comply with export and import regulations and such economic sanctions, penalties could be imposed, including fines and/or denial of certain export privileges. Moreover, any new export or import restrictions, new legislation or shifting approaches in the enforcement or scope of existing regulations, or in the countries, persons, or product targeted by such regulations, could result in decreased use of our product by, or in our decreased ability to export our product to existing or potential customers with international operations. Any decreased use of our product or limitation on our ability to export or sell access to our product would likely significantly harm our business, financial condition, results of operations and prospects.

We are subject to various laws relating to foreign investment and the export of certain technologies, and our failure to comply with these laws or adequately monitor the compliance of our suppliers and others we do business with could subject us to substantial fines, penalties and even injunctions, the imposition of which on us could have a material adverse effect on the success of our business.

We are subject to U.S. laws that regulate foreign investments in U.S. businesses and access by foreign persons to technology developed and produced in the United States. These laws include Section 721 of the Defense Production Act of 1950, as amended by the Foreign Investment Risk Review Modernization Act of 2018, and the regulations at 31 C.F.R. Parts 800 and 801, as amended, administered by the Committee on Foreign Investment in the United States; and the Export Control Reform Act of 2018, which is being implemented in part through Commerce Department rulemakings to impose new export control restrictions on "emerging and foundational technologies" yet to be fully identified. Application of these laws, including as they are implemented through regulations being developed, may negatively impact our business in various ways, including by restricting our access to capital and markets; limiting the collaborations we may pursue; regulating the export our products, services and technology from the United States and abroad; increasing our costs and the time necessary to obtain required authorizations and to ensure compliance; and threatening monetary fines and other penalties if we do not.

Risks Related to Our Intellectual Property

We depend substantially on intellectual property rights granted under our agreements with GC Cell. If we lose our existing licenses or are unable to acquire or license additional proprietary rights from third parties, we may not be able to continue developing our product candidates.

We are dependent on patents, know-how and proprietary technology, both our own and licensed from others. We depend substantially on our agreements with GC Cell, including the licenses granted thereunder. These licenses may be terminated upon certain conditions. Any termination of these licenses could result in the loss of significant rights and could harm our ability to commercialize our product candidates. For example, our proprietary manufacturing methods depend on technology licensed to us by GC Cell. In addition, GC Cell in-licenses some of the intellectual property rights that GC Cell has licensed to us, or that we have the ability to access under our agreements with GC Cell. To the extent these licensors fail to meet their obligations under their license agreements with GC Cell, which we are not in control of, we may lose the benefits of our license agreements with these licensors. In the future, we may also enter into additional license agreements that are material to the development of our product candidates.

We may also enter into additional agreements, including license agreements, with other parties in the future that impose diligence, development and commercialization timelines, milestone payments, royalties, insurance and other obligations on us. We are also obligated to achieve certain development milestones with respect to licensed products in our fields of use within specified time periods. If we fail to comply with our obligations to GC Cell or any of our other current or future collaborators, our counterparties may have the right to terminate these agreements, in which event we might not be able to develop, manufacture or market any product candidate that is covered by these agreements, which could adversely affect the value of the product candidate being developed under any such agreement. Termination of these agreements or reduction or elimination of our rights under these agreements may result in us having to negotiate new or reinstated agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology.

We may rely on third parties from whom we license proprietary technology to file and prosecute patent applications and maintain patents and otherwise protect the intellectual property we license from them. We may have limited control over these activities or any other intellectual property that may be related to our in-licensed intellectual property. For example, we cannot be certain that such activities by these licensors will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. We may have limited control over the manner in which our licensors initiate an infringement proceeding against a third-party infringer of the intellectual property rights, or defend certain of the intellectual property that may be licensed to us. In addition, some of our patent rights are co-owned with GC Cell and others, and may in the future be co-owned with other third parties. We may need the cooperation of GC Cell and any future co-owners of our patent rights in order to enforce such patent rights against third parties, and such cooperation may not be provided to us. It is also possible that our licensors' or co-owners' infringement proceeding or defense activities may be less vigorous than if we conduct them ourselves. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

The licensing and acquisition of third-party intellectual property rights is a competitive practice, and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. We may not be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire. Furthermore, we may be unable to in-license any compositions, methods of use, processes, or other third-party intellectual property rights from third parties, which we identify as necessary for our product candidates.

If we are unable to obtain and maintain patent protection for our technology and product candidates or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

We rely, and will continue to rely, upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our proprietary manufacturing methods, proprietary technologies, product candidate development programs and product candidates. Our success depends in large part on our ability to secure and maintain patent protection in the United States and other countries with respect to our current product candidates and any future product candidates we may develop. We seek to protect our proprietary position by filing or collaborating with our licensors and co-owners to file patent applications in the United States and abroad related to our proprietary technologies, development programs and product candidates. 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 or in a timely manner. Moreover, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain.

Composition of matter patents for biological and pharmaceutical product candidates often provide a strong form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain that the claims in our pending patent applications directed to composition of matter of our product candidates will be considered patentable by the United States Patent and Trademark Office (USPTO) or by patent offices in foreign countries. Method of use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Method of manufacturing patents protect only the manufacturing process. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product, but manufactured by a method that is outside the scope of the patented manufacturing method. Moreover, even if a competitor's manufacturing process does infringe or contribute to the infringement of method of manufacturing patents, such infringement is difficult to detect and therefore difficult to prevent or prosecute.

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. Therefore, these patents and patent applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our proprietary products and technology, including

current product candidates, any future product candidates we may develop, and our NK cell therapy technology in the United States or in other foreign countries, in whole or in part. Alternately, our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from using our technology or from developing competing products and technologies. It is possible that not all potentially relevant prior art relating to our patents and patent applications has been found, which can prevent a patent from issuing from a pending patent application or later invalidate or narrow the scope of an issued patent. For example, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or, in some cases, not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Even if patents do successfully issue and even if such patents cover our current product candidates, any future product candidates we may develop and our NK cell therapy technology, third parties may challenge their validity, ownership, enforceability or scope thereof, which may result in such patents being narrowed, invalidated, or held unenforceable or circumvented. Any successful challenge to these patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any of our product candidates or gene regulation technology. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our product candidate, if approved, or practicing our own patented technology. Our competitors may be able to circumvent our patents by developing similar or alternative product candidates in a non-infringing manner. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate and our NK cell therapy platform under patent protection could be reduced. If any of our patents expire or are challenged, invalidated, circumvented or otherwise limited by third parties prior to the commercialization of our product candidate, and if we do not own or have exclusive rights to other enforceable patents protecting our product candidate or technologies, competitors and other third parties could market products and use processes that are substantially similar, or superior, to ours and our business would suffer.

If the patent applications we hold or have in-licensed with respect to our development programs and product candidates fail to issue, if their validity, breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for any of our current or future product candidates or technology, it could dissuade companies from collaborating with us to develop product candidates, encourage competitors to develop competing products or technologies and threaten our ability to commercialize future product candidates. Any such outcome could harm our business.

We are a party to intellectual property license agreements with GC Cell which are important to our business, and we expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, royalties and other obligations on us. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, or, in some cases, under other circumstances, the licensor may have the right to terminate the license, in which event we would not be able to market product candidate(s) covered by the license.

The patent position of biotechnology and pharmaceutical companies is generally highly uncertain, involves complex legal, scientific and factual questions, and is characterized by the existence of large numbers of patents and frequent litigation based on allegations of patent or other intellectual property infringement or violation. The standards that the USPTO and its foreign counterparts use to grant patents are not always applied predictably or uniformly. In addition, the laws of jurisdictions outside the United States may not protect our rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. 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. Since patent applications in the United States and other jurisdictions are confidential for a period of time after filing, we cannot be certain that we were the first to file for patents covering our inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in the issuance of patents, or may result in the issuance of patents which fail to protect our technology or products, in whole or in part, or which fail to effectively prevent others from commercializing competitive technologies and products.

The issuance of a patent is not conclusive as to its inventorship, ownership, scope, validity or enforceability and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. We may become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our owned or licensed patent rights. For example, with respect to our licensed patents and jointly owned patents and patent applications from GC Cell, competitors may claim that they invented the inventions claimed in our issued patents or patent applications prior to the inventors of our licensed patents. 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 products without infringing third-party patent rights. Thus, even if our patent applications issue as patents, they may not issue in a form that will provide us with meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage.

Moreover, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however, the life of a patent and the protection it affords, is limited. Without patent protection for our current or future product candidates, we may be open to competition from biosimilar versions of such products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Third parties may assert claims against us alleging infringement of their patents and proprietary rights, or we may need to become involved in lawsuits to defend or enforce our patents, either of which could result in substantial costs or loss of productivity, delay or prevent the development and commercialization of our product candidates, prohibit our use of proprietary technology or sale of products or put our patents and other proprietary rights at risk.

Our commercial success depends, in part, upon our ability to develop, manufacture, market and sell our product candidates without alleged or actual infringement, misappropriation or other violation of the patents and proprietary rights of third parties. However, our research, development and commercialization activities may be subject to claims that we infringe or otherwise violate patents or other intellectual property rights owned or controlled by third parties. Litigation relating to infringement or misappropriation of patent and other intellectual property rights in the pharmaceutical and biotechnology industries is common, including patent infringement lawsuits, interferences, derivation and administrative law proceedings, inter partes review and post-grant review before the USPTO, as well as oppositions and similar processes in foreign jurisdictions. The various markets in which we plan to operate are subject to frequent and extensive litigation regarding patents and other intellectual property rights. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for or obtain, patents that will prevent, limit or otherwise interfere with our ability to make, use and sell, if approved, our product candidates. In addition, many companies in intellectual property-dependent industries, including the biotechnology and pharmaceutical industries, have employed intellectual property litigation as a means to gain an advantage over their competitors. Numerous U.S., EU and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates, and as the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our product candidates may be subject to claims of infringement of the intellectual property rights of third parties. Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us. We may be subject to third-party claims including patent infringement, interference or derivation proceedings, post-grant review and inter partes review before the USPTO or similar adversarial proceedings or litigation in other jurisdictions. Even if such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, and the holders of any such patents may be able to block our

ability to commercialize the applicable product candidate unless we obtained a license under the applicable patents, or until such patents expire or are finally determined to be invalid or unenforceable. There may be third-party patents or patent applications with claims to compositions, formulations, or methods of treatment, prevention use, or manufacture of our product candidates or technologies. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover aspects of our compositions, formulations, or methods of treatment, prevention or use, the holders of any such patents may be able to prohibit our use of those compositions, formulations, methods of treatment, prevention or use or other technologies, effectively blocking our ability to progress the clinical development of or commercialize the applicable product candidate until such patent expires or is finally determined to be invalid or unenforceable or unless we obtained a license.

We also may be subject to third party claims arising from prior employment agreements and/or consulting agreements entered into by our officers, employees, independent contractors and/or consultants. Claims may include breach of nondisclosure, nonuse, noncompetition and non-solicitation provisions, intellectual property assignment and ownership, and misuse or misappropriation of intellectual property, trade secrets and other confidential information, among others. If a court of competent jurisdiction finds that we breached the provisions of third party consulting agreements, we may be prohibited from using certain intellectual property, trade secrets and confidential information, effectively blocking our ability to seek patent protection for our inventions and halting the progress of our clinical development and commercialization efforts.

In addition, defending such claims would cause us to incur substantial expenses and, if successful, could cause us to pay substantial damages if we are found to be infringing a third party's intellectual property rights. These damages potentially include increased damages and attorneys' fees if we are found to have infringed such rights willfully. Further, if a patent infringement suit is brought against us or our third-party service providers, our development, manufacturing or sales activities relating to the product or product candidate that is the subject of the suit may be delayed or terminated, as parties making claims against us may obtain injunctive or other equitable relief. As a result of patent infringement claims, or in order to avoid potential infringement claims, we may choose to seek, or be required to seek, a license from the third party, which may require payment of substantial royalties or fees, or require us to grant a cross-license under our intellectual property rights. These licenses may not be available on reasonable terms or at all. Even if a license can be obtained on reasonable terms, the rights may be nonexclusive, which would give our competitors access to the same intellectual property rights. If we are unable to enter into a license on acceptable terms, we could be prevented from commercializing one or more of our product candidates, or forced to modify such product candidates, or to cease some aspect of our business operations, which could harm our business significantly. We might also be forced to redesign or modify our product candidates so that we no longer infringe the third-party intellectual property rights, which may result in significant cost or delay to us, or which redesign or modification could be impossible or technically infeasible. Even if we were ultimately to prevail, any of these events could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business. Intellectual property litigation, regardless of its outcome, may cause negative publicity, adversely impact prospective customers, cause product shipment delays, or prohibit us from manufacturing, importing, marketing or otherwise commercializing our products, services and technology. In addition, if the breadth or strength of protection provided the patents and patent applications we own or in-license is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Competitors may infringe our patents or other intellectual property. If we or one of our licensors or co-owners were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that our patent is invalid or unenforceable. In patent litigation in the United States and in Europe, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness lack of written description, or non-enablement. Third parties might allege unenforceability of our patents because during prosecution of the patent an individual connected with such prosecution withheld relevant information, or made a misleading statement. Interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. The outcome of proceedings involving assertions of invalidity and

unenforceability during patent litigation is unpredictable. With respect to the validity of patents, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution, but that an adverse third party may identify and submit in support of such assertions of invalidity. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Our patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without infringing our patents or other intellectual property rights.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors view these announcements in a negative light, the price of our common stock could be adversely affected. Such litigation or proceedings could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have an adverse effect on our ability to compete in the marketplace.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might adversely affect our ability to develop, manufacture and market our product candidates.

It is possible that our or our licensors' or co-owners' patent searches or analyses, including but not limited to the identification of relevant patents, analysis of the scope of relevant patent claims or determination of the expiration of relevant patents, are not complete or thorough. It is also possible that we have not identified each and every third-party patent and pending application in the United States, Europe and elsewhere that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. For example, in the United States, 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. Patent applications in the United States, the EU and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates could be filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. After issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that our product candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States, the EU or elsewhere that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our product candidates, if approved. If we fail to identify or correctly interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay monetary damages, we may be temporarily or permanently prohibited from commercializing our product candidates. We might, if possible, also be forced to redesign our product candidates in a manner that no longer infringes third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business.

Our intellectual property licenses with third parties may be subject to disagreements over contract interpretation, which could narrow the scope of our rights to the relevant intellectual property or technology or increase our financial or other obligations to our licensors.

We currently depend, and will continue to depend, on our license agreements, including our agreements with GC Cell. Further development and commercialization of our current or any future product candidates may require us to enter into additional license or collaboration agreements, including, potentially, additional agreements with GC Cell or any of our other licensors. The agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

If any of our licenses or material relationships or any in-licenses upon which our licenses are based are terminated or breached, we may:

- lose our rights to develop and market our products;
- lose patent protection for our products;
- lose rights to important confidential know-how for manufacturing our products;
- experience significant delays in the development or commercialization of our products;
- incur significant extra costs in order to develop, manufacture and commercialize our products;
- not be able to obtain any other licenses on acceptable terms, if at all; or
- incur liability for damages.

These risks apply to any agreements that we may enter into in the future for our products or for any future product candidates. If we experience any of the foregoing, it could have a material adverse effect on our business, financial condition, results or operations and prospects.

Changes in patent laws or patent jurisprudence 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 our intellectual property, particularly our patents. Obtaining and enforcing patents in the biotechnology and genetic medicine industries involve both technological and legal complexity. Therefore, obtaining and enforcing biotechnology and genetic medicine patents is costly, time-consuming and inherently uncertain. In addition, the Leahy-Smith America Invents Act (AIA) which was passed in September 2011, resulted in significant changes to the U.S. patent system. An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned from a "first-to-invent" to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. A third party that files a patent application in the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application and be diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies 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 courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action.

Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. It is not clear what, if any, impact the AIA will have on the operation of our business. However, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' or co-owners' patent applications and the enforcement or defense of our or our licensors' or co-owners' issued patents. We may become involved in opposition, interference, derivation, inter partes review or other proceedings challenging our or our licensors' or co-owners' patent rights, and the outcome of any proceedings are highly uncertain. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our owned or in-licensed 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 products without infringing third-party patent rights.

Additionally, the U.S. Supreme Court has ruled on several patent cases in recent years either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations, and there are other open questions under patent law that courts have yet to decisively address. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways and could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. In addition, the European patent system is relatively stringent in the type of amendments that are allowed during prosecution, but, the complexity and uncertainty of European patent laws has also increased in recent years. Complying with these laws and regulations could limit our ability to obtain new patents in the future that may be important for our business.

Further, on June 1, 2023, the European Patent Package (EU Patent Package) regulations were implemented with the goal of providing a single pan-European Unitary Patent and a new European Unified Patent Court (UPC), for litigation involving European patents. Under the UPC, all European patents, including those issued prior to ratification of the European Patent Package, will by default automatically fall under the jurisdiction of the UPC. The UPC provides our competitors with a new forum to centrally revoke our European patents, and allows for the possibility of a competitor to obtain pan-European injunctions. It will be several years before we will understand the scope of patent rights that will be recognized and the strength of patent remedies provided by the UPC. As the UPC is a new court system, there is no precedent for the court, increasing the uncertainty of any litigation. We will have the right to opt our patents out of the UPC over the first seven years of the court's existence, but doing so may preclude us from realizing the benefits, if any, of the new unified court.

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

The USPTO, European and other patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In addition, periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO, European and other patent agencies over the lifetime of the patent. While an inadvertent failure to make payment of such fees or to comply with such provisions can in many cases be cured by additional payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance with such provisions will result in the abandonment or lapse of the patent or patent application, and the partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents within prescribed time limits. If we or our licensors or co-owners fail to maintain the patents and patent applications covering our product candidates or if we or our licensors or co-owners otherwise allow our patents or patent applications to be abandoned or lapse, it can create opportunities for competitors to enter the market, which would hurt our competitive position and could impair our ability to successfully progress clinical development of or commercialize our product candidates in any indication for which they may be approved.

We enjoy only limited geographical protection with respect to certain patents and we may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents covering our product candidates in all countries throughout the world would be prohibitively expensive, and even in countries where we have sought protection for our intellectual property, such protection can be less extensive than those in the United States. The requirements for patentability may differ in certain countries, particularly developing countries, and the breadth of patent claims allowed can be inconsistent. 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. In-licensing patents covering our product candidates in all countries throughout the world may similarly be prohibitively expensive, if such opportunities are available at all. And in-licensing or filing, prosecuting and defending patents even in only those jurisdictions in which we develop or commercialize our product candidates may be prohibitively expensive or impractical. Competitors may use our and our licensors' and co-owners' technologies in jurisdictions where we have not obtained patent protection or licensed patents to develop their own products and, further, may export otherwise infringing products to territories where we and our licensors and co-owners have patent protection, but where enforcement is not as strong as that in the United States or the EU. These products may compete with our product candidates, and our or our licensors' or co-owners' patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. In addition, we may decide to abandon national and regional patent applications while they are still pending. The grant proceeding of each national or regional patent is an independent proceeding which may lead to situations in which applications may be rejected by the relevant patent office, while substantively similar applications are granted by others. For example, relative to other countries, China has a heightened requirement for patentability and specifically requires a detailed description of medical uses of a claimed drug. Furthermore, generic drug manufacturers or other competitors may challenge the scope, validity or enforceability of our or our licensors' or co-owners' patents, requiring us or our licensors or co-owners to engage in complex, lengthy and costly litigation or other proceedings. Generic drug manufacturers may develop, seek approval for and launch generic versions of our products. It is also quite common that depending on the country, the scope of patent protection may vary for the same product candidate or technology.

The laws of some jurisdictions do not protect intellectual property rights to the same extent as the laws or regulations in the United States and the EU and many companies have encountered significant difficulties in protecting and defending proprietary rights in such jurisdictions. Moreover, the legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets or other forms of intellectual property, particularly those relating to biotechnology products, which could make it difficult for us to prevent competitors in some jurisdictions from marketing competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, are likely to result in substantial costs and divert our efforts and attention from other aspects of our business, and additionally could put at risk our or our licensors' or co-owners' patents of being invalidated or interpreted narrowly, could increase the risk of our or our licensors' or co-owners' patent applications not issuing, or could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, while damages or other remedies may be awarded to the adverse party, which may be commercially significant. If we prevail, damages or other remedies awarded to us, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. Furthermore, while we intend to protect our intellectual property rights in our expected significant markets, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our product candidates. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate, which may have an adverse effect on our ability to successfully commercialize our product candidates in all of our expected significant foreign markets. If we or our licensors or co-owners encounter difficulties in protecting, or are otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition in those jurisdictions.

In some jurisdictions including EU countries, compulsory licensing laws compel patent owners to grant licenses to third parties. In addition, some countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors or co-owners are forced to grant a license to third parties under patents relevant to our business, or if we or our licensors or co-owners are prevented from enforcing patent rights against third parties, our competitive position may be substantially impaired in such jurisdictions.

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

The term of any individual patent depends on applicable law in the country where the patent is granted. In the United States, provided all maintenance fees are timely paid, a patent generally has a term of 20 years from its application filing date or earliest claimed non-provisional filing date. Extensions may be available under certain circumstances, but the life of a patent and, correspondingly, the protection it affords is limited. Even if we or our licensors or co-owners obtain patents covering our product candidates, when the terms of all patents covering a product expire, our business may become subject to competition from competitive medications, including generic medications. Given the amount of time required for the development, testing and regulatory review and approval of new product candidates, patents protecting such candidates may expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

If we do not obtain patent term extension in the United States under the Hatch-Waxman Act and in foreign countries under similar legislation, thereby potentially extending the term of marketing exclusivity for our product candidates, our business may be harmed.

In the United States, a patent that covers an FDA-approved drug or biologic may be eligible for a term extension designed to restore the period of the patent term that is lost during the premarket regulatory review process conducted by the FDA. Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984 (the Hatch-Waxman Act), which permits a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, and only claims covering such approved drug product, a method for using it or a method for manufacturing it may be extended. In the EU, our product candidates may be eligible for term extensions based on similar legislation. In either jurisdiction, however, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Even if we are granted such extension, the duration of such extension may be less than our request. If we are unable to obtain a patent term extension, or if the term of any such extension is less than our request, the period during which we can enforce our patent rights for that product will be in effect shortened and our competitors may obtain approval to market competing products sooner. The resulting reduction of years of revenue from applicable products could be substantial.

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

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

- others may be able to make products that are the same as or similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed;
- others, including inventors or developers of our owned or in-licensed patented technologies who may become involved with competitors, may independently develop similar technologies that function as alternatives or replacements for any of our technologies without infringing our intellectual property rights;
- we or our licensors, co-owners, or our other collaboration partners might not have been the first to conceive and reduce to practice the inventions covered by the patents or patent applications that we own, license or will own or license;
- we or our licensors, co-owners, or our other collaboration partners might not have been the first to file patent applications covering certain of the patents or patent applications that we or they own or have obtained a license, or will own or will have obtained a license;

- we or our licensors or co-owners may fail to meet obligations to the U.S. government with respect to in-licensed patents and patent applications funded by U.S. government grants, leading to the loss of patent rights;
- it is possible that our pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our or our licensors' or co-owners' patents;
- issued patents that we own or exclusively license may not provide us with any competitive advantage, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- we may not exclusively license our patents and, therefore, may not have a competitive advantage if such patents are licensed to others, including for example, under our license agreements with GC Cell, pursuant to which GC Cell and its upstream licensors retain the exclusive right over certain technologies;
- our competitors might conduct research and development activities in countries where we do not have patent rights, or in countries where research and development safe harbor laws exist, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- ownership, validity or enforceability of our or our licensors' or co-owners' patents or patent applications may be challenged by third parties; and
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business.

Our reliance on third parties may require us to share our trade secrets, which increases the possibility that our trade secrets will be misappropriated or disclosed, and confidentiality agreements with employees and third parties may not adequately prevent disclosure of trade secrets and protect other proprietary information.

We consider trade secrets and confidential know-how to be important to our business. We may rely on trade secrets and confidential know-how to protect our technology, especially where patent protection is believed by us to be of limited value. However, trade secrets and confidential know-how are difficult to protect, and we have limited control over the protection of trade secrets and confidential know-how used by our licensors, co-owners, collaborators and suppliers. Because we rely on third parties to manufacture our product candidates, may continue to do so in the future and expect to collaborate with third parties on the development of our current product candidates and any future product candidates we develop, we may, at times, share trade secrets and confidential know-how with them. We also conduct joint research and development programs that may require us to share trade secrets and confidential know-how under the terms of our research and development partnerships or similar agreements. Under such circumstances, trade secrets and confidential know-how can be difficult to maintain as confidential.

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

technology and know-how. Further, we may need to share our trade secrets and confidential know-how with future business partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors, and those affiliated with or controlled by state actors.

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

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

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our unregistered trademarks or trade names. Over the long term, if we are unable to successfully register our trademarks and trade names and establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

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

The growth of our business may depend in part on our ability to acquire or in-license additional proprietary rights. For example, our programs may involve product candidates that may require the use of additional proprietary rights held by third parties. Our product candidates may also require specific formulations to work effectively and efficiently. These formulations may be covered by intellectual property rights held by others. We may develop products containing our compositions and pre-existing pharmaceutical compositions. These pharmaceutical products may be covered by intellectual property rights held by others. We may be required by the FDA, or other comparable foreign regulatory authorities to provide a companion diagnostic test or tests with our product candidates. These diagnostic test or tests may be covered by intellectual property rights held by others. We may be unable to acquire or in-license any relevant third-party intellectual property rights that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license under such intellectual property rights, any such license may be non-exclusive, which may allow our competitors access to the same technologies licensed to us.

We may fail to obtain or enforce assignments of intellectual property rights from our employees and contractors.

While it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing an enforceable agreement with each party who in fact conceives or develops intellectual property that we regard as our own. Furthermore, our assignment agreements may not be self-executing or may be breached, and we may be forced to bring or defend claims to determine the ownership of what we regard as our intellectual property, and we may not be successful in such claims. If we fail in bringing or defending any such

claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Such an outcome could materially adversely affect our business, financial condition, results of operations and growth prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and distraction to management and other employees.

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

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect trade secrets, confidential know-how, processes for which patents are difficult to enforce, and any other elements of our product discovery and development processes that involve proprietary information or technology that is not covered by patents. Trade secrets, however, may be difficult to protect. Although we require all of our employees to assign their inventions to us, and require all of our employees and key consultants who have access to our confidential know-how, information, or technology to enter into confidentiality agreements, we cannot be certain that our trade secrets and other confidential information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. 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 both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

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

We do and will continue to employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our licensors, competitors or potential competitors. Although we seek to protect our ownership of intellectual property rights by ensuring that our agreements with our employees, consultants, collaborators, independent contractors and other third parties with whom we do business include provisions requiring such parties to assign rights in inventions to us and to not use the know-how or confidential information of their former employer or other third parties, we may be subject to claims that we or our employees, consultants, collaborators or independent contractors have inadvertently or otherwise used or disclosed know-how or confidential information of their former employers or other third parties. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents.

Litigation may be necessary to defend against these claims. We may not be successful in defending these claims, and if we do fail in defending any such claims, in addition to paying monetary damages, we may lose valuable personnel or intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property, which could result in customers seeking other sources for the technology, or in ceasing from doing business with us. Any such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to progress our clinical development programs or commercialize our technology or product candidate. Such a license may not be available on commercially reasonable terms or at all. Even if we are successful, litigation could result in substantial cost and reputational loss and be a distraction to our management and other employees. Moreover, any such litigation or the threat thereof may adversely affect our reputation, our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would have an adverse effect on our business, results of operations and financial condition.

Risks Related to Our Industry and Business

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

As of December 31, 2024, we had 89 full-time employees. We will need to expand our organization, and we may have difficulty identifying, hiring and integrating new personnel. Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

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

Our industry has experienced a high rate of turnover of management personnel in recent years. We are highly dependent on our executive officers, as well as the other members of our management, scientific and clinical teams. Although we have formal employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time and, for certain of our executive officers, entitle them to receive severance payments in connection with their voluntary resignation of employment for good reason, as defined in the employment agreements.

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

If our information technology systems or those of the third parties with whom we work or our data are or were compromised, we could experience adverse impacts resulting from such compromise or failure, including, but not limited to, interruptions to our operations such as our clinical trials, regulatory investigations or actions; litigation; fines and penalties; claims that we breached our data protection obligations; harm to our reputation; a loss of customers or sales; and other adverse consequences.

In the ordinary course of our business, we and third parties with whom we work process confidential and sensitive data, including intellectual property, pre-clinical and clinical trial data, proprietary business information and personal information of employees, business partners and service providers (collectively, Confidential Information) necessary to conduct our business in our and the third parties' upon which we rely data centers and networks. The secure processing, maintenance and transmission of this Confidential Information is critical to our operations. Despite our security measures, our information technology and infrastructure, and those of third parties upon which we rely, including our current and future CROs, may be subject to attacks, damage and interruption

from hackers or internal bad actors, human error, misconfigurations, "bugs" and other technical vulnerabilities, fraud, malfeasance, computer viruses and malware (e.g., ransomware), cyber attacks, social engineering attacks (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), denial or degradation of service attacks, server malfunction, software or hardware failures, loss of data or other information technology assets, adware, attacks enhanced or facilitated by artificial intelligence, natural disasters, terrorism, war and telecommunication and electrical failures or other disruptions. Such threats are prevalent, continue to rise, are increasingly difficult to detect and come from a variety of sources, including traditional computer "hackers," threat actors, "hacktivists," organized criminal threat actors, personnel, sophisticated nation states and nation-state supported actors, including via advanced persistent threat intrusions.

Ransomware attacks, including those from organized criminal threat actors, nation-states and nation-state supported actors, are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, loss of data (including Confidential Information), loss of income, significant extra expenses to restore data or systems, reputational loss and the diversion of funds. To alleviate the financial, operational and reputational impact of a ransomware attack, it may be preferable to make extortion payments, but we may be unwilling or unable to do so (including, for example, if applicable laws or regulations prohibit such payments).

Additionally, we may also face increased cybersecurity risks due to our reliance on internet technology and the number of our employees who continue to work remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities and utilizing network connections, information technology and devices outside our premises or network, including working at home, while in transit and in public locations. Future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate companies into our information technology environment and security program.

We rely on third parties to operate critical business systems to process Confidential Information in a variety of contexts, including, without limitation, cloud-based infrastructure, data center facilities, encryption and authentication technology, employee email, clinical trials and other functions. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If these parties experience a security breach or other interruption, we could experience adverse consequences. While we may be entitled to damages if these third parties fail to satisfy their data privacy or security-related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award. In addition, supply chain attacks have increased in frequency and severity, and we cannot guarantee that third parties and infrastructure in our supply chain have not been compromised or that they do not contain exploitable defects or bugs that could result in a breach of or disruption to our systems and networks or the systems and networks of third parties that support us and our services.

Furthermore, because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience security breaches that may remain undetected for an extended period. We take steps to detect, mitigate and remediate vulnerabilities in our information technology systems (such as our hardware and/or software and those of third parties upon which we rely). We may not, however, detect and remediate all such vulnerabilities including on a timely basis. Further, we may experience delays in developing and deploying remedial measures and patches designed to address identified vulnerabilities. Vulnerabilities could be exploited and result in a security breach. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection and to remove or obfuscate forensic evidence.

We and certain of the third parties upon which we rely are from time to time subject to cyber attacks and security incidents. Although, to our knowledge, we have not experienced any material security breach to date, any such breach could compromise our networks and the Confidential Information stored there could be accessed, publicly disclosed, lost or stolen. While we have taken steps to protect the security of the Confidential Information

that we handle, there can be no assurance that our and the third parties' upon which we rely cybersecurity risk management program and processes, including policies, controls or procedures and other security measures that we have implemented will be fully implemented, complied with or effective in protecting our systems, networks and Confidential Information against current or future security threats. Our security measures could fail and result in unauthorized, accidental or unlawful access to, or disclosure, modification, misuse, loss or destruction of, our Confidential Information, including personal information. We may expend significant resources or modify our business activities (including our clinical trial activities) to try to protect against security breaches. Certain data privacy and security obligations have required us to implement and maintain specific security measures or industry-standard or reasonable security measures to protect our information technology systems and Confidential Information.

Applicable data privacy and security obligations may require us, or we may voluntarily choose, to notify relevant stakeholders, including affected individuals, regulators and investors, of security breaches, or to take other actions such as providing credit monitoring and identity theft protection services. The costs associated with the investigation, remediation and making such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences. Any such unauthorized access, disclosure or other loss of Confidential Information experienced by (or perceived to be experienced by) us or a third party with whom we work could also result in adverse consequences, such as government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing sensitive information (including personal data); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; diversion of management attention; financial loss; disruptions to our operations and cause a loss of confidence in us and our ability to conduct clinical trials, which could adversely affect our reputation; and other similar harms. For example, the loss of preclinical study or clinical trial data from completed, ongoing or planned trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Additionally, theft of our Confidential Information could require substantial expenditures to remedy. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of Confidential Information, we could incur liability and the further development of our product candidates could be delayed. Further, our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations. We cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

Our business is subject to risks arising from pandemic and epidemic diseases.

The COVID-19 worldwide pandemic presented substantial public health and economic challenges and affected our employees, patients, physicians and other healthcare providers, communities and business operations, as well as the U.S. and global economies and financial markets. Any future pandemic or epidemic disease outbreaks could disrupt the supply chain and the manufacture or shipment of our product candidates for use in our clinical trials and research and preclinical studies and, delay, limit or prevent our employees and CROs from continuing research and development activities, impede our clinical trial initiation and recruitment and the ability of patients to continue in clinical trials, alter the results of the clinical trial due to disease progression in participants, impede testing, monitoring, data collection and analysis and other related activities, any of which could delay our preclinical studies and clinical trials and increase our development costs, and have a material adverse effect on our business, financial condition and results of operations. Any future pandemic or epidemic disease outbreak could also potentially further affect the business of the FDA or other comparable foreign regulatory authorities, which could result in delays in meetings related to our ongoing or planned clinical trials, as well have an adverse impact on global economic conditions, which could have an adverse effect on our business and financial condition, including impairing our ability to raise capital when needed.

Our business could be affected by litigation, government investigations, and enforcement actions.

We currently operate in a number of jurisdictions in a highly regulated industry, and we could be subject to litigation, government investigation and enforcement actions on a variety of matters in the United States or foreign jurisdictions, including, without limitation, intellectual property, regulatory, product liability, environmental,

whistleblower, false claims, data privacy and security, anti-kickback, anti-bribery, securities, commercial, employment and other claims and legal proceedings that may arise from conducting our business. Any determination that our operations or activities are not in compliance with existing laws or regulations could result in the imposition of fines, civil and criminal penalties, equitable remedies, including disgorgement, injunctive relief and/or other sanctions against us, and remediation of any such findings could have an adverse effect on our business operations.

Legal proceedings, government investigations and enforcement actions can be expensive and time-consuming. An adverse outcome resulting from any such proceedings, investigations or enforcement actions could result in significant damages awards, fines, penalties, exclusion from the federal healthcare programs, healthcare debarment, injunctive relief, product recalls, reputational damage and modifications of our business practices, which could have a material adverse effect on our business and results of operations. Even if such a proceeding, investigation, or enforcement action is ultimately decided in our favor, the investigation and defense thereof could require substantial financial and management resources.

Our employees and independent contractors, including consultants, vendors and any third parties we may engage in connection with development and commercialization may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could harm our business.

Misconduct by our employees and independent contractors, including consultants, vendors and any third parties we may engage in connection with development and commercialization, could include intentional, reckless or negligent conduct or unauthorized activities that violate: (1) the laws and regulations of the FDA, EU and comparable foreign regulatory authorities, including those laws that require the reporting of true, complete and accurate information to such authorities; (2) manufacturing standards; (3) data privacy and security laws, and fraud and abuse and other healthcare laws and regulations; or (4) other laws that require the reporting of true, complete and accurate financial information and data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws could also involve the improper use or misrepresentation of information obtained in the course of clinical trials, creation of fraudulent data in preclinical studies or clinical trials or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid, other U.S. federal healthcare programs or healthcare programs in other jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations.

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

We have incurred losses during our history, we expect to continue to incur significant losses for the foreseeable future, and we may never achieve profitability. Under current law, U.S. federal net operating losses (NOLs) incurred in taxable years beginning after December 31, 2017, can be carried forward indefinitely, but the deductibility of such U.S. federal NOLs in a taxable year is limited to 80% of taxable income in such year.

As of December 31, 2024, we had federal net operating loss carryforwards of approximately $99.7 million and state net operating loss carryforwards of $143.4 million. All of our federal net operating loss carryforwards as of December 31, 2024 can be carried forward indefinitely. State net operating loss carryforwards begin to expire in 2039. Our NOL carryforwards are subject to review and possible adjustment by the U.S. and state tax authorities.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the Code), and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50 percentage point change (by value) in its equity ownership over a rolling three-year period, the corporation's ability to use its pre-change NOL carryforwards, research and development (R&D) credits and certain other tax attributes to offset its post-change income or taxes may be limited. This could limit the amount of NOLs, R&D credit carryforwards or other applicable tax attributes that we can utilize annually to offset future taxable income or tax liabilities. We have not completed a Section 382 ownership change analysis. If ownership changes have occurred or occur in the future, the amount of remaining tax attribute carryforwards available to offset taxable income and income tax expense in future years may be restricted or eliminated. Changes to U.S. tax rules in respect of the utilization of NOLs, R&D credits and other applicable tax attributes could further affect our ability to use our tax attributes in the future. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, California recently imposed limits on the usability of California state NOL carryforwards and certain state tax credits in tax years beginning after 2023 and before 2027. As a result, we may be unable to use all or a material portion of our NOL carryforwards and other tax attributes, which could adversely affect our future cash flows.

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

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

Investors' expectations of our performance relating to environmental, social and governance factors may impose additional costs and expose us to new risks.

There is an increasing focus from certain investors, employees and other stakeholders concerning corporate responsibility, specifically related to environmental, social and governance factors. Some investors may use these factors to guide their investment strategies and, in some cases, may choose not to invest in us if they believe our policies relating to corporate responsibility are inadequate, including if they believe our policies relating to our Pledge 1% Movement commitment are inadequate. Third-party providers of corporate responsibility ratings and reports on companies have increased to meet growing investor demand for measurement of corporate responsibility performance. The criteria by which companies' corporate responsibility practices are assessed may change, which could result in greater expectations of us and cause us to undertake costly initiatives to satisfy such new criteria. If we elect not to or are unable to satisfy such new criteria, investors may conclude that our policies with respect to corporate responsibility are inadequate. We may face reputational damage in the event that our corporate responsibility procedures or standards do not meet the standards set by various constituencies.

Furthermore, if our competitors' corporate responsibility performance is perceived to be greater than ours, potential or current investors may elect to invest with our competitors instead. In addition, in the event that we communicate certain initiatives and goals regarding environmental, social and governance matters, including with respect to the Pledge 1% Movement campaign, we could fail, or be perceived to fail, in our achievement of such initiatives or goals, or we could be criticized for the scope of such initiatives or goals. If we fail to satisfy the expectations of investors, employees and other stakeholders or our initiatives are not executed as planned, our reputation and financial results could be materially and adversely affected.

Risks Related to the Ownership of Our Common Stock

The trading price of our common stock is likely to be volatile and you could lose all or part of your investment.

The trading price of our common stock is likely to be volatile. The stock market in general and the market for 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 shares of common stock at or above the price you paid. The market price for our common stock may be influenced by those factors discussed in this "Risk Factors" section and many other factors, including:

- timing and results of our preclinical studies and clinical trials or those of our competitors;
- the costs and timing of manufacturing for our product candidates, including developing our own manufacturing capabilities;
- the success of existing or new competitive therapies, products or technologies;
- development of new product candidates that may address our markets and make our product candidates less attractive;
- failure or discontinuation of any of our research or development programs;
- any termination or loss of rights under our GC Cell Research Services Agreement and our Master Agreement for Manufacturing Services with GC Cell;
- changes in the level of expenses related to any of our research or development programs;
- developments related to any existing or future collaborations;
- the recruitment or departure of key personnel;
- regulatory or legal developments in the United States and other countries;
- announcements by us, our partners or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- changes in the structure of healthcare payment systems;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- changes in failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- actual or expected changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales of common stock by us, our executive officers, directors or principal stockholders, or others;
- variations in our financial results or those of companies that are perceived to be similar to us;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions;
- changes in accounting principles; and
- the other factors described in this "Risk Factors" section and elsewhere in this Annual Report on Form 10-K.

In addition, the stock market in general and the market for biopharmaceutical companies in particular have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to operating

performance of the particular companies affected. Following price volatility, holders of securities may institute securities class action litigation against the issuer. If any of holders of our common stock were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our board of directors and senior management would be diverted from the operation of our business. Any adverse determination in litigation could also subject us to significant liabilities. Further, a decline in the financial markets and related factors beyond our control may cause the price of our common stock to decline rapidly and unexpectedly. As a result of this volatility, investors may not be able to sell their common stock at or above the price at which they paid.

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

Our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially own a significant percentage of our outstanding common stock. As a result, such persons, acting together, have the ability to significantly control or influence all matters submitted to our board of directors or stockholders for approval, including the appointment of our management, the election and removal of directors and approval of any significant transaction, as well as our management and business affairs. This concentration of ownership may have the effect of delaying, deferring or preventing a change in control, impeding a merger, consolidation, takeover or other business combination involving us, or discouraging a potential acquiror from making a tender offer or otherwise attempting to obtain control of our business, even if such a transaction would benefit other stockholders.

Future sales and issuances of our securities, including pursuant to our equity incentive plans and our commitment to the Pledge 1% Movement, may cause dilution to our stockholders or decrease our stock price.

We expect that significant additional capital may be necessary to continue our planned operations, including for expanding product development, conducting clinical trials and commercializing our product candidates. We may seek additional capital through public or private equity or debt financings or other capital sources, which may include strategic collaborations and other strategic arrangements with third parties, to enable us to complete the development and potential commercialization of our product candidates. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder.

Pursuant to our 2024 Equity Incentive Plan (2024 Plan), our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. Additionally, the number of shares of our common stock reserved for issuance under our 2024 Plan will automatically increase on January 1 of each calendar year, beginning on January 1, 2025 and continuing through and including January 1, 2034, by 5% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. In addition, pursuant to our ESPP, the number of shares of our common stock reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 2025 (through January 1, 2034), by the lesser of (i) 1% of the total number of shares of our common stock outstanding on the last day of the calendar month before the date of the automatic increase, and (ii) 424,000 shares; provided that before the date of any such increase, our board of directors may determine that such increase will be less than the amount set forth in clauses (i) and (ii). Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

Pursuant to our commitment to the Pledge 1% Movement campaign, in July 2021, our board of directors approved the reservation of up to 84,556 shares of our common stock (the Reserve) (which represented approximately 1.0% of our fully-diluted capitalization as of such date) that we may issue to or for the benefit of a charitable foundation established by us or other appropriate charitable recipients. The Reserve will be donated in equal installments over five years following our IPO or in full upon a sale of our company, in each case, first subject to certain per-share valuation thresholds for our common stock. We have not yet issued any of the Reserve. If any of the Reserve is issued pursuant to our Pledge 1% Movement commitment, such issuance may also dilute your ownership interest.

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

We are an "emerging growth company," as defined in the JOBS Act, and may remain an emerging growth company until the last day of the fiscal year following the fifth anniversary of the closing of our IPO. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenues exceed $1.24 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

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

In addition, as an "emerging growth company" the JOBS Act allows us to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies.

We have taken advantage of the reduced reporting burdens and the information we provide to stockholders will be different than the information that is available with respect to other public companies that are not emerging growth companies. It is possible that this may cause investors to find our common stock less attractive. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our share price may be reduced or more volatile.

Even following the termination of our status as an emerging growth company, we may be able to take advantage of the reduced disclosure requirements applicable to "smaller reporting companies," as that term is defined in Rule 12b-2 of the Exchange Act, and, in particular, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. To the extent that we are no longer eligible to use exemptions from various reporting requirements, we may be unable to realize our anticipated cost savings from these exemptions, which could have a material adverse impact on our operating results.

Future changes in financial accounting standards or practices may cause adverse and unexpected revenue fluctuations and adversely affect our reported results of operations.

Future changes in financial accounting standards may cause adverse, unexpected revenue fluctuations and affect our reported financial position or results of operations. Financial accounting standards in the United States are constantly under review and new pronouncements and varying interpretations of pronouncements have occurred with frequency in the past and are expected to occur again in the future. As a result, we may be required to make changes in our accounting policies. Those changes could affect our financial condition and results of operations or the way in which such financial condition and results of operations are reported.

Compliance with new accounting standards may also result in additional expenses. As a result, we intend to invest all reasonably necessary resources to comply with evolving standards, and this investment may result in

increased general and administrative expenses and a diversion of management time and attention from business activities to compliance activities. See the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations-Recent Accounting Pronouncements." As an emerging growth company, the JOBS Act allows us to delay adoption of new or revised accounting standards applicable to public companies until such pronouncements are made applicable to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates. However, we may elect to early adopt any new or revised accounting standards whenever such early adoption is permitted for non-public companies. We may take advantage of these exemptions up until the time that we are no longer an emerging growth company.

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

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. As a result, capital appreciation, if any, of our common stock would be your sole source of gain on an investment in our common stock for the foreseeable future.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws that are in effect could make a merger, tender offer or proxy contest difficult, thereby depressing the trading price of our common stock.

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

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control);
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that the board of directors or any individual director may only be removed with cause and the affirmative vote of the holders of at least 66-2/3% of the voting power of all of our then outstanding common stock;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide our board of directors into three classes;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner and also specify requirements as to the form and content of a stockholder's notice;

- do not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose; and
- provide that special meetings of our stockholders may be called only by the Chairman of the board, our Chief Executive Officer or by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the holders of at least 66-2/3% of our then-outstanding common stock.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law (Section 203). These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time. A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of this provision.

These and other provisions in our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law make it more difficult or costly for stockholders or potential acquirors to obtain control of our board of directors or initiate actions that are opposed by our then-current board of directors, including delay or impede a merger, tender offer or proxy contest involving our company. The existence of these provisions could negatively affect the price of our common stock and limit opportunities for you to realize value in a corporate transaction.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and any appellate court therefrom is the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative claim or cause of action brought on our behalf; (ii) any claim or cause of action that is based upon a violation of a duty owed by any current or former director, officer, other employee or stockholder, to us or our stockholders; (iii) any claim or cause of action against us or any current or former director, officer or other employee, arising out of or pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; (iv) any claim or cause of action seeking to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws (including any right, obligation, or remedy thereunder); (v) any claim or cause of action as to which the Delaware General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware; and (vi) any claim or cause of action against us or any current or former director, officer or other employee, governed by the internal-affairs doctrine or otherwise related to our internal affairs, in all cases to the fullest extent permitted by applicable law and subject to the court having personal jurisdiction over the indispensable parties named as defendant; provided, however, that if the designation of such court as the sole and exclusive forum for a claim or action referred to in foregoing clauses (i) through (vi) would violate applicable law, then the United States District Court for the District of Delaware shall be the sole and exclusive forum for such claim or cause of action. These provisions would not apply to suits brought to enforce a duty or liability created by the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. Additionally, investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation further provides that unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States of America

shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, including all causes of action asserted against any defendant named in such complaint. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees and may discourage these types of lawsuits and result in increased costs for investors to bring a claim. If a court were to find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions.

General Risk Factors

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

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Nasdaq listing requirements and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costly, particularly after we no longer qualify as an emerging growth company. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

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

Pursuant to Section 404 of the Sarbanes-Oxley Act (Section 404) we are required to furnish a report by our management on our internal control over financial reporting beginning with our second filing of an Annual Report on Form 10-K with the SEC. However, while we remain an emerging growth company or smaller reporting company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing whether such controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. In addition, if we identify one or more material weaknesses as a result of this implementation and evaluation process, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

Unstable market and economic conditions, including any adverse macroeconomic conditions or geopolitical events, may have serious adverse consequences on our business, financial condition and stock price.

The global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts,

rising interest rates, supply chain constraints, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks and uncertainty about economic stability. The financial markets and the global economy may also be adversely affected by the current or anticipated impact of government tariffs, public health crises, military conflict, including the conflict between Russia and Ukraine and the ongoing conflicts in the Middle East, terrorism or other geopolitical events. For example, the COVID-19 pandemic resulted in widespread unemployment, economic slowdown and extreme volatility in the capital markets. Sanctions imposed by the United States and other countries in response to military conflicts, including the one in Ukraine, may also adversely impact the financial markets and the global economy, and any economic countermeasures by the affected countries or others could exacerbate market and economic instability. The extent of the impact of these conditions on our operational and financial performance, including our ability to execute our business strategies and initiatives in the expected timeframe, as well as that of third parties upon whom we rely, will depend on future developments which are uncertain and cannot be predicted. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. Events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. Our general business strategy may be adversely affected by any such economic downturn, volatile business environment or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult, more costly and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive an economic downturn, which could directly affect our ability to attain our operating goals on schedule and on budget.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Section 404(a) of the Sarbanes-Oxley Act requires that beginning with our second annual report following our IPO, management assess and report annually on the effectiveness of our internal control over financial reporting and identify any material weaknesses in our internal control over financial reporting. Although Section 404(b) of the Sarbanes-Oxley Act requires our independent registered public accounting firm to issue an annual report that addresses the effectiveness of our internal control over financial reporting, we have opted to rely on the exemptions provided in the JOBS Act, and consequently will not be required to comply with SEC rules that implement Section 404(b) until such time as we are no longer an emerging growth company or smaller reporting company.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

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

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

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make any related party transaction disclosures. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

We could be subject to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business. Additionally, the increase in the cost of directors' and officers' liability insurance may cause us to opt for lower overall policy limits or to forgo insurance that we may otherwise rely on to cover significant defense costs, settlements and damages awarded to plaintiffs.

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

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have, and may never obtain, research coverage by securities and industry analysts. If no or few securities or industry analysts commence coverage of us, the trading price for our shares could be negatively impacted. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our share performance, or if any of our preclinical studies or clinical trials and operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Our operations are concentrated in one location, and we or the third parties upon whom we depend may be adversely affected by a wildfire and earthquake or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our current operations are predominantly located in California. Any unplanned event, such as a flood, wildfire, explosion, earthquake, extreme weather condition, epidemic or pandemic, power outage, telecommunications failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Any similar impacts of natural or manmade disasters on our third-party contract manufacturing organizations (CMOs) and contract research organizations, or CROs, could cause delays in our clinical trials and may have a material and adverse effect on our ability to operate our business and have significant negative consequences on our financial and operating conditions. If a natural disaster, power outage or other event occurred that prevented us from using our clinical sites, impacted clinical supply or the conduct of our clinical trials, that damaged critical infrastructure, such as the manufacturing facilities of our third-party CMOs, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we and our CMOs and CROs have in place may prove inadequate in the event of a serious disaster or similar event. In the event of an accident or incident at these facilities, we cannot assure you that the amounts of insurance we currently carry will be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our CMOs or CROs, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our development programs may be harmed. Any business interruption could adversely affect our business, financial condition, results of operations and prospects.

Our insurance policies may be inadequate, may not cover all of our potential liabilities and may potentially expose us to unrecoverable risks.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include property, general liability, employee benefits liability, business automobile, workers' compensation, clinical trials/products liability, cybersecurity liability, directors' and officers' and employment practices insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. No assurance can be given that an insurance carrier will not seek to cancel or deny coverage after a claim has occurred. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our financial position and results of operations. For example, although we maintain product liability insurance coverage that also covers our clinical trials, this insurance may not be adequate to cover all liabilities that we may incur, and we may be required to increase our product liability insurance coverage. We anticipate that we will need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any product candidate. Insurance availability, coverage terms and pricing continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify. However, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage and insurers may not respond as we intend to cover insurable events that may occur. Any significant uninsured liability may require us to pay substantial amounts, which would materially adversely affect our business, financial condition, results of operations and growth.

In addition, although we are dependent on certain key personnel, we do not have key person life insurance policies on any such individuals other than our Chief Executive Officer. While we maintain some life insurance coverage on our Chief Executive Officer, the insurance proceeds may not be sufficient to compensate for the adverse effects that we expect would arise from the loss of Fred Aslan, M.D., and the costs associated with recruiting a new Chief Executive Officer. Therefore, if any of our key personnel die or become disabled, the loss of such person could materially adversely affect our business, financial condition, results of operations and growth prospects.

Conflicts of interest may arise because some members of our board of directors are representatives of our principal stockholders.

Certain of our principal stockholders or their affiliates are venture capital funds or other investment vehicles that could invest in entities that directly or indirectly compete with us. As a result of these relationships, when conflicts arise between the interests of the principal stockholders or their affiliates and the interests of other stockholders, members of our board of directors that are representatives of the principal stockholders may not be disinterested.

The increasing use of social media platforms presents new risks and challenges.

Social media is increasingly being used to communicate about our clinical development programs and the diseases our product candidates are being developed to treat. We intend to utilize appropriate social media in connection with communicating about our development programs. Social media practices in the biopharmaceutical industry continue to evolve and regulations relating to such use are not always clear. This evolution creates uncertainty and risk of noncompliance with regulations applicable to our business. For example, patients may use social media channels to report an alleged adverse event during a clinical trial. When such disclosures occur, we may fail to monitor and comply with applicable adverse event reporting obligations, or we may not be able to defend our business or the public's legitimate interests in the face of the political and market pressures generated by social media due to restrictions on what we may say about our investigational products. There is also a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us on any social networking website, or a risk that a post on a social networking website by any of our employees may be construed as inappropriate promotion. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face regulatory actions, or incur other harm to our business.

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity.

Risk Management and Strategy

Our cybersecurity risk management and strategy program consist of cybersecurity-related policies and procedures, industry standard technology solutions including antivirus, firewalls and monitoring tools, awareness training for all employees, periodic testing, insurance coverage and a cybersecurity incident response plan. We have implemented and maintain various information security processes designed to identify, assess, and manage material risks from cybersecurity threats to our critical computer networks, third party hosted services, communications systems, hardware and software, and our critical data, including intellectual property and confidential information that is proprietary, strategic or competitive in nature (Information Systems and Data).

Our information security function helps identify, assess and manage the Company's cybersecurity threats and risks, as well as identify and assess risks from cybersecurity threats by monitoring and evaluating our threat environment using various methods including, for example using manual tools, conducting scans of the threat environment, evaluating our industry's risk profile, evaluating threats reported to us, conducting internal and external audits, and conducting threat assessments for both internal and external threats.

Depending on the environment, we implement and maintain various technical, physical, and organizational measures, processes, standards and policies designed to manage and mitigate material risks from cybersecurity threats to our Information Systems and Data, including, for example maintaining an incident response plan and policies, maintaining disaster recovery and business continuity plans, conducting risk assessments, encrypting certain data, maintaining network security controls, segregating data, maintaining access controls, monitoring systems, conducting periodic employee training, penetration testing, asset management tracking and disposal, physical security measures, and physical security controls.

Our assessment and management of material risks from cybersecurity threats are integrated into the Company's overall risk management processes. For example, (1) Cybersecurity risk is addressed as a component of the Company's enterprise risk management program;(2) The security administrator works with management to prioritize our risk management processes and mitigate cybersecurity threats that are more likely to lead to a material impact on our business; (3) Our management evaluates material risks from cybersecurity threats against our overall business objectives and reports to the audit committee of the board of directors, which evaluates our overall enterprise risk; and (4) We have a cybersecurity incident response plan to identify, assess, respond to, and inform escalating levels of management based on the nature and severity of such incidents.

We use third-party service providers to assist us from time to time to identify, assess, and manage material risks from cybersecurity threats, including for example cybersecurity software providers. We also use third-party service providers to perform a variety of functions throughout our business, such as contract research organizations. We assess and manage cybersecurity risks associated with our use of these providers by obtaining third party reporting relating to reputation and litigation screening for these vendors.

For a description of the risks from cybersecurity threats that may materially affect the Company and how they may do so, see the section titled "Risk Factors" in Part I. Item 1A of this Annual Report on Form 10-K, including the risk factor titled "—Our internal computer systems, or those used by our CROs or other contractors or consultants, may fail or experience security breaches or other unauthorized or improper access."

Governance

The audit committee of our board of directors is responsible for oversight the Company's cybersecurity risk, including oversight and mitigation of risks from cybersecurity threats.

Our cybersecurity risk assessment and management processes are implemented and maintained by certain Company management, including our information security and legal functions. Our head of information technology is responsible for integrating cybersecurity risk considerations into the Company's overall risk management strategy, communicating key priorities to relevant personnel, approving budgets, helping prepare for cybersecurity incidents, approving cybersecurity processes, reviewing security assessments and other security-related reports, and retaining assessors, consultants, auditors, or third parties in connection with the company's cybersecurity program. Although we design and assess our program based on the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF). This means that we use the NIST CSF as a guide to help us identify, assess, and manage cybersecurity risks relevant to our business. It does not, however, mean that we meet any technical standards, specifications, or requirements.

Our cybersecurity incident response policy and plans are designed to escalate certain cybersecurity incidents to members of management depending on the circumstances. The Director of Information Technology (IT) works with the Company's incident response team, which consists of members of IT, legal, compliance, human resources, and others as applicable) to help the Company mitigate and remediate cybersecurity incidents of which they are notified. In addition, the Company's incident response policy and plans include reporting to the audit committee of the board of directors for certain cybersecurity incidents.

The audit committee receives periodic reports from management concerning the Company's significant cybersecurity threats and risk and the processes the Company has implemented to address them. The audit committee also has access to various reports, summaries or presentations related to cybersecurity threats, risk and mitigation. As we become more dependent on information technologies to conduct our operations, cyber incidents, including deliberate attacks and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication. These threats 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. Because the techniques used to obtain unauthorized access, disable, or degrade service or sabotage systems change frequently and often are not recognized until launched against a target, we and our partners may be unable to anticipate these techniques or to implement adequate preventative measures. Further, we do not have any control over the operations of the facilities or technology of our cloud and service providers, including any third-party vendors that collect, process and store personal data on our behalf. Our systems, servers, and platforms and those of our service providers may be vulnerable to computer viruses or physical or electronic break-ins that our or their security measures may not detect. Individuals able to circumvent such security measures may misappropriate our confidential or proprietary information, disrupt our operations, damage our computers, or otherwise impair our reputation and business. We may need to expend significant resources and make significant investment to protect against security breaches or to mitigate the impact of any such breaches. There can be no assurance that we or our third-party providers will be successful in preventing cyber attacks or successfully mitigating their effects. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, and the further development and commercialization of our future product candidates could be delayed.

Item 2. Properties.

Our principal office is located at 5505 Morehouse Drive, Suite 100, San Diego, California 92121, where we lease 51,621 square feet of space to house our principal office, research and process development laboratories and a cGMP manufacturing center to support our pipeline development and clinical trial supply. This lease will expire in 2029, subject to our option to an additional five-year term. We also have a lease agreement for an additional 13,405 square feet of office space in San Diego, California. We lease this space under a lease that terminates in June 2025. In addition, we have entered into a temporary license agreement for our occupation and use of an additional 11,960 square feet of office and laboratory space in San Diego, California. We believe that these facilities will be adequate for our near-term needs. If required, we believe that suitable additional or alternative space would be available in the future on commercially reasonable terms.

Item 3. Legal Proceedings.

From time to time, we may become involved in litigation or other legal proceedings. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information

Our common stock has been listed on the Nasdaq Global Market under the symbol "ARTV" since July 19, 2024. Prior to this date, there was no public market for our common stock.

Holders of Common Stock

As of March 19, 2025, there were approximately 23 holders of record of our common stock. This number was derived from our shareholder records and does not include beneficial owners of our common stock whose shares are held in the name of various dealers, clearing agencies, banks, brokers and other fiduciaries.

Dividend Policy

We have never declared or paid any dividends on our capital or common stock. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends will be made at the discretion of our board of directors, subject to applicable laws, and would depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors considers relevant.

Securities Authorized for Issuance under Equity Compensation Plans

See Item 12 of Part III of this Annual Report on Form 10-K for information about our equity compensation plans which is incorporated by reference herein.

Recent Sales of Unregistered Securities

Common Stock Issued upon Conversion of Preferred Stock

In July 2024, immediately prior to the completion of our initial public offering (the IPO), 6,160,385 outstanding shares of convertible preferred stock converted into 6,160,385 shares of common stock. Immediately prior to the completion of the IPO, we filed an Amended and Restated Certificate of Incorporation, which authorized a total of 700,000,000 shares of common stock and 10,000,000 shares of preferred stock. Upon the filing of the Amended and Restated Certificate of Incorporation, 6,160,385 shares of our convertible preferred stock then outstanding were automatically converted into 6,160,385 shares of our common stock. Due to such conversion, the issuance of such shares of our common stock was exempt from registration under Section 3(a)(9) or Section 4(a)(2) of the Securities Act.

Common Stock Issued Upon Conversion of Simple Agreements for Future Equity (SAFEs)

In July 2024 and in connection with the closing of the IPO, we had in aggregate approximately $24.4 million outstanding under our SAFEs held by certain of our securityholders, which converted to 2,391,418 shares of our common stock, based on the IPO price of $12.00 per share (IPO Price), at a 15% discount to the IPO Price.

Use of Proceeds

On July 22, 2024, we completed our IPO pursuant to which we issued and sold an aggregate of 13,920,000 shares of our common stock, at the IPO Price. In addition, we granted the underwriters a 30-day option to purchase up to an additional 2,088,000 shares of common stock at the public offering price, less underwriting discounts and commissions (Overallotment Option). On July 25, 2024, the underwriters exercised in-part their Overallotment Option and purchased 1,000,000 shares of our common stock. The offer and sale of all of the shares of our common stock in the IPO were registered under the Securities Act pursuant to our Registration Statement on Form S-1, as amended (File No. 333-280568), which were declared effective by the SEC on July 18, 2024. Jefferies LLC, TD Cowen and Cantor Fitzgerald & Co. acted as joint book-running managers for the IPO. Wedbush PacGrow and Needham & Company acted as co-lead managers for the IPO. Shares of our common stock began trading on The Nasdaq Global Market on July 19, 2024.

We received gross proceeds from our IPO of approximately $179.0 million, which resulted in net proceeds of approximately $162.3 million, after deducting underwriting discounts and commissions and other offering expenses payable by us of approximately $16.7 million. None of the underwriting discounts and commissions or other offering expenses were incurred or paid, directly or indirectly, to any of our directors or officers or their associates or to persons owning 10% or more of our common stock or to any of our affiliates.

There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus filed with the SEC pursuant to Rule 424(b) under the Securities Act on July 22, 2024.

Issuer Repurchases of Equity Securities

None.

Item 6. [Reserved]

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion and analysis 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, such as statements regarding our intentions, plans, objectives and expectations for our business. Our actual results and the timing of selected events could differ materially from those described in or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the sections of this Annual Report on Form 10-K entitled "Special Note Regarding Forward-Looking Statements" and "Risk Factors," under Part I, Item 1A.

Overview

We are a clinical-stage biotechnology company focused on developing natural killer (NK) cell-based therapies for patients suffering from devastating autoimmune diseases and cancers. Our product candidates are derived from donor cells (allogeneic) rather than a patient's own cells (autologous) and are pre-manufactured, stored frozen and ready to ship to a patient's treatment location, making them what we believe to be "off-the-shelf." Our lead product candidate, AlloNK, is a non-genetically modified, cryopreserved NK cell therapy being evaluated in combination with B-cell targeted monoclonal antibodies (mAbs) in an ongoing Phase 1/1b trial in systemic lupus erythematosus (SLE) with or without lupus nephritis (LN) and a basket investigator-initiated trial (IIT) in multiple autoimmune indications. Seminal peer-reviewed clinical studies using autologous CD19 chimeric antigen receptor (CAR) T-cell therapy (auto-CAR-T) for the treatment of autoimmune diseases have demonstrated that deep B-cell depletion in the periphery and in the lymphoid tissue can lead to drug free disease remission. We have already demonstrated that AlloNK in combination with rituximab was able to drive deep B-cell depletion in the periphery and observed complete responses (CRs) in heavily pre-treated patients naïve to auto-CAR-T in our ongoing Phase 1/2 clinical trial in patients with relapsed or refractory B-cell non-Hodgkin lymphoma (B-NHL). We believe the preliminary results from our Phase 1/2 clinical trial evaluating AlloNK in combination with rituximab in patients with B-NHL provide a readthrough to autoimmune disease because efficacy in both diseases appears to be accomplished with a shared mechanism of action involving B-cell depletion in the periphery and in the lymphoid tissues, followed by an immunological reset and B-cell reconstitution. We expect to report initial data on autoimmune indications from at least one of our Phase 1/1b trial or the basket IIT in the first half of 2025.

We commenced our operations in 2019 and have devoted substantially all of our resources to date to organizing and staffing our company, business planning, raising capital, establishing and engaging in collaborations, conducting research and development, advancing and scaling up product candidate manufacturing, establishing cold chain delivery logistics, establishing and protecting our intellectual property portfolio and providing general and administrative support for these activities. From our inception through December 31, 2024, we have raised aggregate gross proceeds of $8.0 million from the issuance and sale of convertible promissory notes, $70.0 million from our Series A convertible preferred stock financings, $120.0 million from our Series B convertible preferred stock financing and $24.4 million from our SAFEs. Additionally, in July 2024, we closed on our IPO, in which we issued and sold 13,920,000 shares of common stock at a public offering price of $12.00 per share. We also sold an additional 1,000,000 shares of common stock upon the partial exercise of the underwriters' purchase option. The aggregate net proceeds of the IPO, inclusive of the partial exercise of the underwriters' purchase option and after deducting underwriting discounts, commissions, and offering expenses, was $162.3 million.

We have incurred significant operating losses since the commencement of our operations. We have never generated any revenue from product sales and do not expect to generate any revenues from product sales unless and until we successfully complete development of and obtain regulatory approval for our product candidates, which will not be for several years, if ever. In addition, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution.

We have incurred a net loss of $65.4 million and $28.7 million during the years ended December 31, 2024 and 2023, respectively. As of December 31, 2024, we had an accumulated deficit of $246.7 million, cash, cash equivalents and investments of $185.4 million. We expect to continue to incur significant losses for the foreseeable

future as we advance our current and future product candidates through preclinical and clinical development, continue to build our operations and transition to operating as a public company. Accordingly, until such time as we can generate significant revenue from sales of our product candidates, if ever, we expect to finance our cash needs through public or private equity or debt financings or other capital sources, which may include our existing and any future strategic collaborations and other strategic arrangements with third parties. However, we may not be able to raise additional funds or enter into such other arrangements when needed or on favorable terms, or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration or licensing arrangements with third parties or other strategic transactions, we may have to relinquish rights to our intellectual property, future revenue streams, research programs, or product candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. If we are unable to raise additional capital or enter into such arrangements when needed, we could be forced to delay, limit, reduce or terminate our research and development programs or future commercialization efforts, or grant rights to develop and market our product candidates even if we would otherwise prefer to develop and market such product candidates ourselves.

The manufacturing of our cell therapy products is novel and complex, and we have invested substantial resources to optimize the manufacturing process of our product candidates, including selection and optimization of cord blood units, establishing cold chain supply logistics and leveraging the current Good Manufacturing Practices (cGMP) manufacturing facility of GC Cell Corporation (GC Cell) to expand NK cells and create our product candidates. We also currently operate manufacturing facilities at our leased facility in San Diego, California to support NK and CAR-NK cell production for our pipeline development and clinical trial (and potentially commercial) supply. We also currently rely on other third-parties to ship and store our cord blood units and drug product lots, viral vectors and master and working feeder cell banks, as well as other components used in the manufacturing process for our product candidates, and we expect to continue to do so to meet our preclinical, clinical, and potential commercial activities. We expect that we and GC Cell will be capable of providing and processing sufficient quantities of our product candidates to meet anticipated clinical trial demands cost-effectively. However, any disruption in the supply or manufacture of our product candidates could result in delays in our preclinical studies and clinical trials and increase the costs of our research and development activities. We plan to continue to invest in our manufacturing capability and cryopreservation techniques to continuously improve our production and supply chain capabilities over time.

Collaboration and License Agreements

Below is a summary of the key terms for certain of our license and collaboration agreements. For a more detailed description of these agreements, see the section titled "Business—Collaboration and License Agreements."

GC Cell and Related Agreements

We have entered into several agreements with GC Cell and related entities concerning our NK cell therapy platform and manufacturing of our core products, as described below.

Option and License Agreement with GC Cell

In September 2019, we entered into an option and license agreement with GC Cell, formerly Green Cross Cell Corporation, as amended in June 2020 and February 2022 (the Core Agreement). Under the Core Agreement, GC Cell granted us an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell relating to non-genetically modified and genetically modified NK cells, and culturing, engineering, manufacturing thereof, to research, develop, manufacture, and commercialize NK cell pharmaceutical products anywhere in the world except for Asia, Australia, and New Zealand (the Artiva Territory). GC Cell retained rights under the license to allow it and its affiliates to perform obligations under the Core Agreement and other agreements between us and them.

Under the Core Agreement, GC Cell agreed to conduct a discovery, research, preclinical development, and manufacturing program under a plan approved by a Joint Steering Committee (the JSC), to generate and identify product candidates for nomination as option candidates. GC Cell will bear all costs for its work under the R&D Plan, except that Artiva will bear all costs for completing Investigational New Drug (IND) application-enabling activities performed by GC Cell on behalf of Artiva, other than certain efficacy studies.

For each product candidate determined by the JSC to be an option candidate, we have an exclusive option under the Core Agreement to obtain an exclusive, sublicensable license to research, develop, manufacture and commercialize such candidate in the Artiva Territory for any therapeutic, prophylactic or diagnostic uses in humans, on economic terms to be determined in good faith by the parties. GC Cell retains exclusive rights to the licensed technology in Asia, Australia, and New Zealand, though we have the right to request, and GC Cell has agreed to consider in good faith, inclusion of Australia, New Zealand and/or specific countries in Asia in the Artiva Territory on a product-by-product basis. If we elect not to exercise the option with respect to a particular option candidate, GC Cell retains the right to continue development of such candidate. As of December 31, 2024, we have exercised our rights to license four option candidates, including AlloNK (AB-101), AB-201 and AB-205, as described below.

We have control over and will bear the costs of the development, regulatory, manufacturing and commercialization activities relating to the option candidates for which we have exercised our option, each a licensed product. Accordingly, we have certain diligence obligations and must use commercially reasonable efforts to develop and seek regulatory approval for each licensed product in at least one indication in the United States and the European Union, and following regulatory approval in a country, to commercialize such licensed product in at least one indication in such country. The Core Agreement provides that we have the right to engage GC Cell or its appropriate affiliate to provide research and manufacturing services for the licensed products being developed by us in the Artiva Territory under separately executed service agreements.

Under the Core Agreement, we are obligated to pay a low single-digit percentage royalty on net sales of any licensed products, the manufacture, use or sale of which is claimed by or uses any Core IP. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We also have the exclusive option to extend our license to the Core IP to be worldwide with respect to products originated from us in exchange for a specified increase in the applicable royalty. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. As of December 31, 2024, we have not recognized any net sales royalties under this agreement.

AB-101 Selected Product License Agreement

In November 2019, we entered into a license agreement with GC Cell for our AB-101 product candidate, as amended in February 2022 (the AB-101 Agreement). AB-101 is the first product for which we exercised our option under the Core Agreement. Under the AB-101 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture and commercialize AB-101.

Under the AB-101 Agreement, we are obligated to pay tiered royalties in the low-mid to high single-digit percentage range on annual net sales of any licensed AB-101 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-101 product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We are also obligated to make milestone payments to GC Cell of: (1) up to $22.0 million upon the first achievement of certain development milestones; and (2) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any

licensed AB-101 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. As of December 31, 2024, we have not recognized any net sales royalties or milestones under this agreement.

AB-201 Selected Product License Agreement

In October 2020, we entered into a license agreement with GC Cell for our AB-201 product candidate, as amended in February 2022 (the AB-201 Agreement). AB-201 is the second product for which we exercised our option under the Core Agreement. Under the AB-201 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture, and commercialize AB-201.

Under the AB-201 Agreement, we are obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-201 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-201 product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We are also obligated to make milestone payments to GC Cell of: (1) up to $25.0 million upon the first achievement of certain development milestones; and (2) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-201 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property.

In September 2023, we entered into an amendment to the AB-201 Agreement (the Amended AB-201 Agreement). This amendment granted back to GC Cell an exclusive, royalty and milestone bearing license to all information and patents controlled by us that relate specifically to the research, development, manufacture and use of AB-201, to be used outside of the Artiva Territory. Under the Amended AB-201 Agreement, we will receive tiered royalties in the low single-digit percentage range on annual GC Cell net sales of AB-201 outside of the Artiva Territory. The royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of AB-201 outside of the Artiva Territory and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. We will also receive milestone payments upon achievement of certain development milestones, totaling $1.8 million. In December 2023, GC Cell achieved the first regulatory milestone under the Amended AB-201 Agreement for first IND acceptance for AB-201 outside the Artiva Territory.

License and development support-related revenue recognized in the statements of operations and comprehensive loss, related to GC Cell's development support activities under the Amended AB-201 Agreement, was $0.3 million and $0.6 million during the years ended December 31, 2024 and 2023, respectively.

AB-205 Selected Product License Agreement

In December 2022, we entered into a license agreement with GC Cell for its AB-205 product candidate (the AB-205 Agreement). AB-205 is the fourth product for which we exercised our option under the Core Agreement. Under the AB-205 Agreement, GC Cell granted us an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture and commercialize AB-205.

Under the AB-205 Agreement, we are obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-205 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-205 product and continuing until the later of (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a

licensed product in that country. Upon our election to proceed with clinical development of AB-205 (prior to which we may not make, use or sell AB-205 for clinical development purposes), we are obligated to pay a one-time payment of $2.5 million to GC Cell. Thereafter, we are also obligated to make milestone payments to GC Cell of: (i) up to $29.5 million upon the first achievement of certain development milestones, excluding any payments for the Development Cost Share as defined in the AB-205 Agreement; and (ii) up to $28.0 million upon the first achievement of certain sales milestones. As of December 31, 2024, we have not recognized any net sales royalties or milestones under this agreement.

Total reimbursements for development costs invoiced to GC Cell in connection with the AB-205 License Agreement were $0.1 million and $1.6 million for the years ended December 31, 2024 and 2023, respectively. Through December 31, 2024, we received $1.7 million in payments from GC Cell.

Research Services Agreement with GC Cell

As contemplated by the Core Agreement, in August 2020 we entered into the GC Cell Research Services Agreement, as amended in February 2022, under which GC Cell agreed to provide research services in support of the research and development of one or more of the products we have licensed from GC Cell. The Agreement provides that the parties will agree to specific projects as work orders under the GC Cell Research Services Agreement. Each work order shall set forth, upon terms mutually agreeable to GC Cell and us, the specific services to be performed by GC Cell, the timeline and schedule for the performance of the services, and the compensation to be paid by us to GC Cell for the provision of such services, as well as any other relevant terms and conditions.

Master Manufacturing Agreement with GC Cell

In March 2020, we entered into a Master Agreement for Manufacturing Services (the Manufacturing Agreement) with GC Cell, under which GC Cell agreed to manufacture specified products under individual work orders for use in our Phase 1 and Phase 2 clinical trials. Each work order will contain an estimated budget of service fees and out-of-pocket costs to be incurred in the performance of services under the agreement and the work order, as well as additional terms and conditions relating to the estimated budget. We will own all results and data generated by GC Cell under the Manufacturing Agreement.

Merck Exclusive License and Collaboration Agreement

In January 2021, we entered into the Exclusive License and Research Collaboration Agreement (the Merck Collaboration Agreement) with Merck Sharp & Dohme Corp. (Merck) for the discovery, development, manufacture and commercialization of CAR-NK cells that target certain solid tumor antigens. Merck paid us $30.0 million upfront for two target programs under the Merck Collaboration Agreement. We are also eligible to receive additional payments for achieving certain development, regulatory approval and sales milestones, as well as royalties on net sales. In addition, we will be reimbursed for the conduct of each research program, including external research costs and manufacture and supply of clinical material for Phase 1 clinical trials.

Concurrent with entering into the Merck Collaboration Agreement, we also entered into an agreement with GC Cell to obtain exclusive, worldwide rights to GC Cell's CAR-NK technology with respect to the licensed products and to engage GC Cell to perform services in support of the research programs (the Partnered Program License Agreement). We have agreed to reimburse GC Cell for research and development services as these services are provided. Artiva is required to pay GC Cell 100% of regulatory milestones, sales milestones and royalty payments received by Merck relating to products in Asia, Australia, and New Zealand and 50% of upfront payments, license fees, regulatory milestones, sales milestones and royalty payments received by Merck relating to products in all other territories.

In October 2023, the Merck Collaboration Agreement and development thereunder was terminated by Merck.

Affimed Collaboration Agreement

On November 1, 2022, we entered into a strategic collaboration agreement with Affimed GmbH, a subsidiary of Affimed N.V. for the clinical development and commercialization of a combination therapy, for any uses in humans or animals, comprising Affimed's product consisting of an innate cell engager referred to as "AFM13" our product containing an NK cell referred to as AB-101. While the collaboration is initially limited to the United States, the parties will, upon Affimed's request, in good faith discuss an expansion to certain other territories.

We have granted Affimed, with respect to the development of the combination therapy an exclusive, and with respect to the promotion of the combination therapy under the Affimed Collaboration Agreement a non-exclusive, non-transferable (except to affiliates and successors in interest), royalty-free and non-sublicensable (with certain exceptions) license under relevant patents and know-how. Affimed has granted us a non-exclusive, non-transferable (except to affiliates and successors in interest), royalty-free license and non-sublicensable (with certain exceptions) license under relevant Affimed patents and know-how for use in the clinical development of the combination therapy under the Affimed Collaboration Agreement.

The financial terms of the Affimed Collaboration Agreement provides that Affimed shall be responsible for all costs associated with the development of the combination therapy (including all clinical trial costs), except that Affimed and we shall each bear 50% of the costs and expenses incurred in connection with the performance of any confirmatory combination therapy clinical trial required by the FDA. We shall be solely responsible for all costs incurred by us for the supply of AB-101 and IL-2 product used in the clinical trials for the combination therapy, and for carrying out activities assigned to it under the agreed development plan. In addition, under the Affimed Collaboration Agreement, the parties agree to make payments to each other to achieve a proportion of 67%/33% (Affimed/Company) of revenues generated by both parties from commercial sales of each party's product as part of the combination therapy.

Expenses incurred in connection with the Affimed Collaboration Agreement were $0.1 million and $0.9 million during the years ended December 31, 2024 and 2023, respectively.

Components of Results of Operations

Collaboration Revenue

As of December 31, 2024, we have not generated any revenues from product sales or royalties. Our revenues have been derived from the Exclusive License and Research Collaboration Agreement (the Merck Collaboration Agreement) with Merck Sharp & Dohme Corp. (Merck) and a license agreement with GC Cell for our AB-201 product candidate, as amended in February 2022 and September 2023 (the AB-201 Agreement).

In January 2021, we entered into the Merck Collaboration Agreement which was subsequently terminated in October 2023, pursuant to which we received an upfront, non-refundable and non-creditable payment of $30.0 million for two target programs, with an additional $15.0 million payable by Merck if we and Merck agreed upon a third collaboration target.

Additionally, we were entitled to be reimbursed for the conduct of each research program, including external research costs and manufacture and supply of clinical materials for Phase 1 clinical trials, up to $14.0 million per program.

We concluded that Merck represented a customer and in accordance with Accounting Standards Codification (ASC) 606, we determined that the initial transaction price under the Merck Collaboration Agreement equals $58.0 million, consisting of the upfront, non-refundable and non-creditable payment of $30.0 million and the aggregate estimated research and development fees of $28.0 million. The initial transaction price was allocated evenly to each of the two product targets. In addition, we identified our performance obligations under the Merck Collaboration Agreement, including our grant to Merck of a license to certain of our intellectual property subject to certain conditions, our conduct of research services, and our participation in a joint research committee. We determined that all performance obligations should be accounted for as one combined performance obligation for each target program, and that since no individual performance obligation is distinct, and that the combined performance

obligation is transferred over the expected term of the conduct of the research services, which is estimated to be four years which represents the combined terms for the research programs. Upon termination of the Merck Collaboration Agreement, we recognized the remaining portion of the upfront, non-refundable $30.0 million in revenue.

Collaboration revenues recognized under the Merck Collaboration Agreement were zero and $32.9 million for the years ended December 31, 2024 and 2023, respectively.

License and Development Support Revenue

License and development support-related revenues related to GC Cell's development support activities under the AB-201 Agreement were $0.3 million and $0.6 million during the years ended December 31, 2024 and 2023, respectively.

Operating Expenses

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

Research and Development

Our research and development expenses consist primarily of external and internal costs related to the development of product candidates.

External costs include:

- expenses incurred in connection with research, laboratory consumables and preclinical studies;
- expenses incurred in connection with conducting clinical trials including investigator grants and site payments for time and pass-through expenses and expenses incurred under agreements with contract research organizations (CROs) other vendors or central laboratories and service providers engaged to conduct our trials;
- the cost of consultants engaged in research and development related services and the cost to manufacture cell therapy product candidates for use in our clinical trials and preclinical studies;
- costs related to regulatory compliance; and
- the cost of annual license fees.

Internal costs include:

- personnel-related expenses, including salaries and related benefits, travel and stock-based compensation expenses for personnel engaged in research and development functions; and
- facilities, depreciation, and other expenses, which include allocated expenses for rent and maintenance of facilities, insurance and supplies.

Research and development expenses are recognized as incurred and payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received. We track outsourced development, outsourced personnel costs and other external research and development costs of specific programs. We do not track our internal research and development costs on a program-by-program basis because these costs are associated with multiple programs and, as such, are not separately classified.

Research and development activities are central to our business model. There are numerous factors associated with the successful commercialization of any of our product candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. In addition, future regulatory factors beyond our control may impact our development programs. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials.

At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our product candidates. However, we expect that our research and development expenses will increase substantially in connection with our planned preclinical and clinical development activities in the near term and in the future.

General and Administrative

General and administrative expenses consist of personnel-related expenses, including salaries and related benefits, travel and stock-based compensation expenses for personnel engaged in executive, finance and other administrative functions. Other significant costs include facilities-related costs, legal fees relating to intellectual property and corporate matters, professional fees for accounting and consulting services and insurance costs. Additionally, costs include audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums and investor relations costs associated with operating as a public company. We expect that our general and administrative expenses will increase substantially for the foreseeable future to support our continued research and development activities, pre-commercial preparation activities for our product candidates, and, if any product candidate receives marketing approval, commercialization activities.

Interest Income

Interest income consists of interest on our money market funds and short-term investments.

Change in Fair Value of Simple Agreement for Future Equity

In 2023, we issued $24.4 million of SAFEs to various existing investors and related parties. The SAFEs are recorded as liabilities at fair value and remeasured at fair value at each reporting period. The change in fair value for the period is recorded in change in fair value of SAFEs in the statements of operations.

In connection with the closing of the IPO, the outstanding SAFEs converted into 2,391,418 shares of our common stock.

Other Income, Net

Other income, net consists primarily of realized gains and losses on short-term investments.

Income Taxes

We are subject to corporate U.S. federal and state income taxation. We estimate our income tax provision, including deferred tax assets and liabilities, based on management's judgment. We record a valuation allowance to reduce our deferred tax assets to the amounts that are more likely than not to be realized. We consider future taxable income, ongoing tax planning strategies and our historical financial performance in assessing the need for a valuation allowance. If we expect to realize deferred tax assets for which we have previously recorded a valuation allowance, we will reduce the valuation allowance in the period in which such determination is first made.

We record liabilities related to uncertain tax positions in accordance with the guidance that clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements by prescribing a minimum recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return.

Results of Operations

Comparison of the Years Ended December 31, 2024 and 2023

The following table summarizes our results of operations for the years ended December 31, 2024 and 2023 (in thousands)

	YEAR ENDED DECEMBER 31,		
	2024	2023	CHANGE
Revenue:			
Collaboration revenue	$ —	$ 32,923	$ (32,923)
License and development support revenue	251	569	(318)
Total revenue	251	33,492	(33,241)
Operating expenses:			
Research and development	50,328	50,251	77
General and administrative	17,205	13,912	3,293
Total operating expenses	67,533	64,163	3,370
Loss from operations	(67,282)	(30,671)	(36,611)
Other income, net:			
Interest income	5,349	2,535	2,814
Change in fair value of SAFEs	(3,597)	(707)	(2,890)
Other income, net	157	195	(38)
Total other income, net	1,909	2,023	(114)
Loss before provision for income taxes	(65,373)	(28,648)	(36,725)
Provision for income taxes	—	(72)	72
Net loss	$ (65,373)	$ (28,720)	$ (36,653)
Unrealized gain (loss) on investments	(437)	308	(745)
Comprehensive loss	$ (65,810)	$ (28,412)	$ (37,398)

Collaboration Revenue. Collaboration revenues were nil for the year ended December 31, 2024, compared to $32.9 million for the year ended December 31, 2023. The decrease was related to the $32.9 million in revenue pursuant to the Merck Collaboration Agreement which consisted of $26.5 million of recognition of revenue from the deferred up-front payment and $6.4 million in reimbursement revenues for the year ended December 31, 2023.

License and Development Support Revenue. License and development support revenues were $0.3 million for the year ended December 31, 2024, compared to $0.6 million for the year ended December 31, 2023. Revenues were related to the achievement of a research-related milestone in 2023 and development support activities under the AB-201 Agreement with GC Cell.

Research and Development Expenses. We track outsourced development, outsourced personnel costs and other external research and development costs of specific programs. We do not track our internal research and development costs on a program-by-program basis. The following table summarizes our research and development expenses for the years ended December 31, 2024 and 2023 (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
External research and development expense:		
AB-101	$ 19,978	$ 14,090
Other programs	330	3,797
Internal research and development expense:		
Personnel-related	20,050	19,650
Other	9,970	12,714
Total research and development expense	$ 50,328	$ 50,251

Research and development expenses were $50.3 million for the year ended December 31, 2024, compared to $50.3 million for the year ended December 31, 2023. The increase of $0.1 million was primarily due to a $2.4 million increase in external research and development expense, offset by a $2.3 million decrease in internal research and development expense. The $2.4 million increase in external research and development expense is primarily due to a $5.9 million increase in AB-101 costs related to product candidate development and clinical trials as we progressed towards the end of our clinical trial for the B-NHL program and commencement of our clinical trial on the AlloNK for SLE/LN program. The increase was offset by a $3.5 million decrease in other programs as we narrowed our research focus to our AB-101 programs. The $2.3 million decrease in internal research and development expense is primarily due to a $2.7 million decrease in operating costs associated with discovery activities that were discontinued in 2023, offset by a $0.4 million increase in personnel-related expenses due to increased headcount in 2024.

General and Administrative Expenses. General and administrative expenses were $17.2 million for the year ended December 31, 2024, compared to $13.9 million for the year ended December 31, 2023. The increase of $3.3 million was primarily comprised of a $1.5 million increase in personnel-related costs including a $1.3 million increase in administrative personnel expenses and a $0.2 million increase in non-cash stock-based compensation, in addition to a $1.8 million increase in other operational and legal costs.

Other Income, Net. Other income was $1.9 million for the year ended December 31, 2024, compared to other income of $2.0 million for the year ended December 31, 2023. The decrease of $0.1 million was primarily due to the $2.9 million change in fair value of SAFEs, which we entered into in late 2023, offset by a $2.8 million increase in interest income due to more favorable rates of return during 2024.

Provision for Income Taxes. The provision for income taxes was zero for the year ended December 31, 2024, compared to $0.1 million for the year ended December 31, 2023.

Unrealized Gain (Loss) on Investments. Unrealized loss on investments was $0.4 million for the year ended December 31, 2024, compared to an unrealized gain of $0.3 million for the year ended December 31, 2023. The decrease between periods of $0.7 million was primarily due to the change in fair value of investments.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred net losses and negative cash flows from operations since our inception and expect to continue to incur significant and increasing operating losses for the foreseeable future. We have never generated any revenue from product sales and do not expect to generate any revenues from product sales unless and until we successfully complete development of and obtain regulatory approval for our product candidates, which will not be for several years, if ever. In addition, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. From our inception through December 31, 2024, we have raised aggregate gross proceeds of $401.4 million to fund our operations, comprised primarily from proceeds received from the IPO, including proceeds from the underwriters' partial exercise of their overallotment option, our issuance of convertible promissory notes, SAFEs and private placements of our convertible preferred stock. In February 2021, we received a $30.0 million up-front payment from Merck for our two target programs. In addition, as of December 31, 2024, we have received $9.9 million related to reimbursable research services from Merck. As of December 31, 2024, we had cash, cash equivalents and investments of $185.4 million, and an accumulated deficit of $246.7 million. Based on our current operating plans, we expect our existing cash, cash equivalents and investments will be sufficient to fund our planned operating expenses and capital expenditure requirements at least through the end of 2026. Our total future capital requirements will depend on many factors and is subject to the risks and uncertainties set forth in the section titled "Risk Factors."

Future Funding Requirements

We expect our expenses and capital requirements to increase significantly in connection with our ongoing activities, particularly as we advance our lead product candidates and other development programs, in addition to the costs associated with operating as a public company. Accordingly, beyond the net proceeds raised in the IPO (including the partial exercise of the underwriters' overallotment option), we will continue to require substantial additional funding to support our continuing operations.

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

- the initiation, type, number, scope, results, costs and timing of, our ongoing and planned clinical trials of AlloNK, preclinical studies, and initiation of clinical trials for future product candidates, including feedback received from regulatory authorities;
- the costs and timing of manufacturing for our product candidates, including the costs and timing of maintaining our own manufacturing facility, and commercial scale manufacturing if any product candidate is approved;
- the potential expansion of our current development programs to seek new indications;
- the costs, timing and outcome of regulatory review of current or future product candidates;
- the costs of obtaining, maintaining and enforcing our patents and other intellectual property rights;
- our efforts to enhance operational systems and hire additional personnel to satisfy our obligations as a public company, including enhanced internal controls over financial reporting;
- the costs associated with hiring additional personnel and consultants as our business grows, including additional executive officers and clinical development personnel;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the timing and amount of the milestone or other payments we must make to current and future collaborators and licensors;
- the costs and timing of establishing or securing sales and marketing capabilities if current or future product candidate is approved in a region where we choose to commercialize the product on our own;
- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third-party payors and adequate market share and revenue for any approved products;
- patients' willingness to pay out-of-pocket for any approved products in the absence of coverage and/or adequate reimbursement from third-party payors; and
- costs associated with any products or technologies that we may in-license or acquire.

Until such time as we can generate substantial revenue from sales of our product candidates, if ever, we expect to finance our cash needs through public or private equity or debt financings or other capital sources, which may include strategic collaborations and other strategic arrangements with third parties. However, we may not be able to raise additional funds or enter into such other arrangements when needed or on favorable terms, or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaboration or licensing arrangements with third parties or other strategic transactions, we may have to relinquish valuable rights to our intellectual property, future revenue streams, research programs, or product candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. If we are unable to raise additional funds or enter into such arrangements when needed, we could be forced to delay, limit, reduce or terminate our research and development programs or future commercialization efforts, or grant rights to develop and market our product candidates even if we would otherwise prefer to develop and market such product candidates ourselves.

Cash Flows

Comparison of the Years Ended December 31, 2024, and 2023

The following table sets forth a summary of the net cash flow activity for the years ended December 31, 2024, and 2023 (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Net cash (used in) provided by:		
Operating activities	$ (55,032)	$ (47,430)
Investing activities	(120,463)	(25,975)
Financing activities	162,226	24,391
Net decrease in cash	$ (13,269)	$ (49,014)

Operating Activities

Net cash used in operating activities for the year ended December 31, 2024, was $55.0 million, consisting primarily of our net loss incurred during the period of $65.4 million, partially offset by $10.7 million of non-cash charges. Non-cash charges consisted of $7.0 million in stock-based compensation expense, $3.6 million in change in fair value of SAFEs, $2.4 million in depreciation and amortization expense, and $2.3 million of accretion of discounts on short-term investments. Changes in operating assets and liabilities included a $2.0 million increase in prepaid expense and other current assets, a $1.6 million decrease in receivables, a $0.7 million decrease in accrued expenses, a $0.5 million increase in accounts payable, and a $0.3 million change in other net balance sheet assets and liabilities.

Net cash used in operating activities for the year ended December 31, 2023, was $47.4 million, consisting primarily of our net loss incurred during the period of $28.7 million, partially offset by $9.6 million of non-cash charges and $28.3 million of a net decrease in operating assets and liabilities. Non-cash charges consisted primarily of $7.1 million in stock-based compensation expense, $2.3 million in depreciation and amortization expense, $0.7 million in change in fair value of SAFEs and $0.5 million of accretion of discounts on short-term investments. The net change in operating assets and liabilities related primarily to a $26.5 million decrease in deferred revenue, a $1.2 million decrease in receivables, a $0.9 million decrease in accrued expenses, and a $0.4 million decrease in accounts payable, partially offset by decreases of $0.5 million in prepaid expenses and other current assets and $0.2 million of other balance sheet items.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2024, was $120.5 million related to $176.2 million of purchases of investments and $0.6 million of purchases of property and equipment, partially offset by $56.3 million in maturities of short-term investments.

Net cash used in investing activities for the year ended December 31, 2023, was $26.0 million related to $49.5 million of purchases of short-term investments and $3.3 million related to purchases of property and equipment, partially offset by $26.8 million in maturities of short-term investments.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2024, was $162.2 million related to net cash proceeds received from the IPO.

Net cash provided by financing activities for the year ended December 31, 2023, was $24.4 million related to SAFE proceeds received.

Contractual Obligations and Commitments

In addition to ongoing capital needs to fund our ongoing operations, our material cash requirements include the following contractual and other obligations.

We lease certain office space in San Diego, California, under a non-cancelable operating lease, with a term through December 2025 (the Executive Drive Lease). The Executive Drive Lease commenced on December 23, 2019, with a six-year initial term and includes aggregate monthly payments to the lessor of approximately $2.8 million. The Executive Drive Lease also provides for rent abatements and scheduled increases in base rent. In connection with the lease, we made a one-time cash security deposit in the amount of $0.4 million, of which $0.2 million was refunded in October 2021 and the remaining $0.2 million is refundable at the end of the lease term and is included in long-term assets in the balance sheets. The Executive Drive Lease includes a renewal option, which includes an option to renew for five additional years. We will not exercise the option and, as such, is not reflected as part of the right of use asset and associated lease liabilities.

In June 2021, we entered into a lease agreement for corporate office and laboratory space in San Diego, California (the Morehouse Lease), which represented a portion of a new facility that was under construction. The Morehouse Lease includes multiple, successive commencement dates. The office and laboratory space commenced in the second quarter of 2022 and the third quarter of 2022 for the cGMP manufacturing center. The Morehouse Lease has an initial term of 88 months and includes aggregate monthly payments to the lessor of approximately $23.2 million with a rent escalation clause, and a tenant improvement allowance of $12.3 million. We are also required to maintain a cash security deposit in the form of an unconditional and irrevocable letter of credit of $0.2 million which must remain in place until the termination of the lease and is considered a non-current asset as of December 31, 2024. These obligations are further described in Note 11 to our financial statements appearing elsewhere in this this Annual Report.

In August 2022, we entered into a lease agreement to use designated laboratory and vivarium space in San Diego, California (the Explora Lease). The Explora Lease is accounted for as an operating lease and commenced in August 2022. The Explora Lease has an initial term of 36 months and includes aggregate monthly payments to the lessor of approximately $0.8 million with a rent escalation clause.

On July 22, 2022, we entered into a sublease (the Sublease Agreement) with Origis Operating Services, LLC, (the Sublessee), whereby we agreed to sublease to Sublessee all of the 13,405 rentable square feet of office space currently leased by us under the Executive Drive Lease. The sublease commenced on August 1, 2022, and has a term through December 31, 2025. The aggregate base rent is approximately $2.6 million commencing August 1, 2022. We record sublease income as a reduction of general and administrative expense. Upon execution of the Sublease Agreement, we received a cash security deposit of $0.1 million from the Sublessee which is recorded as other non-current liabilities in the balance sheets.

As of December 31, 2024, we have future remaining operating lease payments of $17.0 million relating to leases we have recognized in the balance sheets, of which $4.0 million is payable before December 31, 2025.

Under our collaboration agreements, we have milestone payment obligations that are contingent upon the achievement of specified development, regulatory and commercial sales milestones and are required to make certain royalty payments in connection with the sale of products developed under the agreement (see Note 8 to our financial statements included elsewhere in this Annual Report). As of December 31, 2024, we are unable to estimate the timing or likelihood of achieving the milestones or making future product sales.

We enter into contracts in the normal course of business for contract research services, contract manufacturing services, professional services and other services and products for operating purposes. These contracts generally provide for termination after a notice period, and, therefore, are cancelable contracts.

Off-Balance Sheet Arrangements

We did not have, during the periods presented, and we do not currently have any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (GAAP). The preparation of our financial statements and related disclosures requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, expenses, and the disclosure of our contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our financial statements, each appearing elsewhere in this Annual Report, we believe that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations.

Revenue Under Collaboration Agreements

We recognize research and development revenue from the Merck Collaboration Agreement. Collaboration agreements typically contain multiple elements, or performance obligations, including technology licenses or options to obtain technology licenses, research and development services, and manufacturing services. Upon entering into a collaboration agreement, we are required to make the following judgments:

- *Identifying the performance obligations contained in the agreement.* Our assessment of what constitutes a separate performance obligation requires the application of judgment. Specifically, we have to identify which goods and services we are required to provide under the contract are distinct.
- *Determining the transaction price, including any variable consideration*. To determine the transaction price, we review the amount of consideration eligible to earn under the agreement. We do not typically include any payments that may be received in the future in the initial transaction price since the payments are typically not probable because they are contingent upon certain future events. We are required to reassess the total transaction price at each reporting period to determine if additional payments should be included in the transaction price that have subsequently become probable.
- *Allocating the transaction price to each of the performance obligations*. When we allocate the transaction price to more than one performance obligation, we make estimates of the relative stand-alone selling price of each performance obligation because we do not typically sell our goods or services on a stand-alone basis. The estimate of the relative stand-alone selling price requires us in some cases to make significant judgments. For example, when delivering a license at the start of an agreement, we use valuation methodologies, such as the relief from royalty method, to value the license. Under this method we are required to make estimates, including: future sales, royalties on future product sales, contractual milestones, expenses, income taxes and discount rates. Additionally, when estimating the selling price for research and development services, we make estimates, including: the number of internal hours to be spent on the services, the cost of work we and third parties will perform, and the cost of clinical trial material to be used.

The research and development revenue we recognize each period is comprised of amortization from upfront payments and reimbursements for research services. Each of these types of revenue requires us to make various judgments and estimates. In October 2023, the Merck Collaboration Agreement and development thereunder was terminated by Merck.

Research and Development Expenses and Accrued Research and Development Costs

We are required to estimate our expenses resulting from obligations under contracts with vendors, consultants and CROs, in connection with conducting research and development activities. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. We reflect research and development expenses in our financial statements by matching those expenses with the period in which services and

efforts are expended. We account for these expenses according to the progress of the preclinical or clinical study as measured by the timing of various aspects of the study or related activities. We determine accrual estimates through review of the underlying contracts along with preparation of financial models taking into account discussions with research and other key personnel as to the progress of studies, or other services being conducted.

Although we do not expect our estimates to be materially different from amounts actually incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting amounts that are too high or too low in any particular period.

Fair Value of Simple Agreement for Future Equity

As described above, we have entered into SAFEs with various existing investors and related parties. The SAFEs granted investors with rights to participate in a future equity financing. The SAFEs have no maturity dates and bear no interest. The estimated fair value of the SAFEs is determined based on the aggregated, probability-weighted average of the outcomes of certain scenarios, including: (i) an equity financing, with conversion of the SAFEs into a number of shares of convertible preferred stock at the lower of the post-money valuation cap price of $48.25 and the discount price (lowest price of the standard convertible preferred stock sold in the equity financing multiplied by the specified discount rate of 85%); (ii) an initial public offering, with conversion of the SAFEs into a number of shares of common stock equal to the purchase amount of the SAFE divided by the discount price (the lower of (a) the price per share of common stock sold to the public by the underwriters in the initial public offering multiplied by the discount rate of 85% or (b) the post-money valuation cap price of $48.25); (iii) a liquidity event (change of control or direct listing) with mandatory conversion to common stock at the lower of the post-money valuation cap price of $48.25 and the discount price (price of the common stock multiplied by the discount rate of 85%); and (iv) a dissolution event, with SAFEs holders automatically entitled to receive cash payments equal to the purchase amount, prior to and in preference to any distribution of any assets or surplus funds to the holders of convertible preferred and common stock. The combined value of the probability-weighted average of those outcomes is then discounted back to each reporting period in which the SAFEs are outstanding, in each case based on a risk-adjusted discount rate estimated based on the implied interest rate using the changes in observed interest rates of corporate debt that we believe is appropriate for those probability-adjusted cash flows.

SAFEs are recorded as liabilities at fair value and remeasured at fair value at each reporting period. We record changes in fair value of all SAFEs in changes in fair value of SAFEs in the statements of operations and comprehensive loss. Debt issuance costs related to the SAFEs were recorded as general and administrative expenses in the statements of operations and comprehensive loss as incurred.

Stock-Based Compensation Expense

Stock-based compensation expense represents the cost of the grant date fair value of employee, officer, director and non-employee stock options. We estimate the fair value of stock options on the date of grant using the Black-Scholes option pricing model and recognize the expense over the requisite service period of the awards, which is generally the vesting period, on a straight-line basis. We account for forfeitures when they occur and reverse any compensation cost previously recognized for awards for which the requisite service has not been completed, in the period that the award is forfeited.

The Black-Scholes option pricing model uses inputs which are highly subjective assumptions and generally requires significant judgment. These assumptions include:

- ***Fair Value of Common Stock***. See the subsection titled "—Common Stock Valuation" below for valuation methodologies used prior to the initial public offering (IPO). Since the IPO, the fair value of common stock is the closing stock price on the date of grant.
- ***Expected Term***. The expected term represents the period that the options granted are expected to be outstanding. We have limited historical stock option activity and therefore estimate the expected term of stock options granted using the simplified method, which represents the arithmetic average of the original contractual term of the stock option and its weighted-average vesting term.

- ***Expected Volatility***. The expected volatility of stock options is based upon the historical volatility of a number of publicly traded companies in similar stages of clinical development, as there is limited stock price data available of our common stock since the IPO. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available.
- ***Risk-Free Interest Rate***. The risk-free interest rates used are based on the U.S. Treasury yield in effect at the time of grant for zero-coupon U.S. treasury notes with maturities approximately equal to the expected term of the stock options.
- ***Expected Dividend Yield***. We have historically not declared or paid any dividends and do not currently expect to do so in the foreseeable future, and therefore have estimated the dividend yield to be zero.

See Note 9 to our financial statements included elsewhere in this Annual Report for more information concerning certain of the specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options. Certain of such assumptions involve inherent uncertainties and the application of significant judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our stock-based compensation could be materially different.

Common Stock Valuation

We are required to estimate the fair value of the common stock underlying our stock-based awards when performing fair value calculations using the Black-Scholes option pricing model. Prior to the IPO, the fair value of the common stock underlying our stock-based awards was determined on each grant date by our board of directors or our compensation committee, with input from management, considering our most recently available third-party valuation of common shares. All options to purchase shares of our common stock were intended to be granted with an exercise price per share no less than the fair value per share of our common stock underlying those options on the date of grant, based on the information known to us on the date of grant.

Our determination of the value of our common stock was performed using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants (AICPA), Audit and Accounting Practice Aid Series: Valuation of Privately Held Company Equity Securities Issued as Compensation (the AICPA Practice Aid). In addition, our board of directors considered various objective and subjective factors to determine the fair value of our common stock, including:

- valuations of our common stock performed by independent third-party valuation specialists;
- the anticipated capital structure that will directly impact the value of the currently outstanding securities;
- our results of operations and financial position;
- the status of our research and development efforts;
- the composition of, and changes to, our management team and board of directors;
- the lack of liquidity of our common stock as a private company;
- our stage of development and business strategy and the material risks related to our business and industry;
- external market conditions affecting the life sciences and biotechnology industry sectors;
- U.S. and global economic conditions;
- the likelihood of achieving a liquidity event for the holders of our common stock, such as an IPO or a sale of our company, given prevailing market conditions; and
- the market value and volatility of comparable companies

The AICPA Practice Aid prescribes several valuation approaches for setting the value of an enterprise, such as the cost, income and market approaches, and various methodologies for allocating the value of an enterprise to its common stock. The cost approach establishes the value of an enterprise based on the cost of reproducing or replacing the property less depreciation and functional or economic obsolescence, if present. The income approach establishes the value of an enterprise based on the present value of future cash flows that are reasonably reflective of our future operations, discounting to the present value with an appropriate risk adjusted discount rate or capitalization rate. The market approach is based on the assumption that the value of an asset is equal to the value of a substitute asset with the same characteristics.

In accordance with the AICPA Practice Aid, we considered the various methods for allocating the enterprise value to determine the fair value of our common stock at the valuation date. Under the option pricing method (OPM), shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The value of the common stock is inferred by analyzing these options. The probability weighted expected return method (PWERM) is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

Based on our early stage of development and other relevant factors, we determined that an OPM method was the most appropriate method for allocating our enterprise value to determine the estimated fair value of our common stock for valuations performed prior to December 31, 2020. For valuations performed after that date and prior to December 31, 2022, we determined that a PWERM method was the most appropriate. Following the withdrawal of our related registration statement with the SEC on November 1, 2022, we determined that the OPM method was again the most appropriate method to determine the estimated fair value of our common stock for valuations performed after that date and prior to April 18, 2024. For the valuation performed on April 18, 2024 for stock options granted on May 2, 2024, we determined that a hybrid method that combines both OPM and PWERM was the most appropriate. In determining the estimated fair value of our common stock, our board of directors also considered the fact that our stockholders could not freely trade our common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of our common stock based on the weighted-average expected time to liquidity.

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These judgments and estimates include assumptions regarding our future operating performance, the time to completing an IPO or other liquidity event and the determination of the appropriate valuation methods. If we had made different assumptions, our stock-based compensation expense, net loss and net loss per share of common stock could have been significantly different.

Emerging Growth Company and Smaller Reporting Company Status

We are an emerging growth company under the Jumpstart Our Business Startups Act (JOBS Act). Under the JOBS Act, we can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates. However, we may elect to early adopt any new or revised accounting standards whenever such early adoption is permitted for non-public companies. We may take advantage of these exemptions up until the time that we are no longer an emerging growth company.

We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of our IPO, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.235 billion, (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded $700.0 million as of the last business day of the second fiscal quarter of such year, or (iv) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

We are also a smaller reporting company as defined by Rule 12b-2 of the Exchange Act because both the market value of our stock held by non-affiliates is less than $700 million and our annual revenue is less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our voting and non-voting common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

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

We are a smaller reporting company as defined in Item 10(f)(1) of Regulation S-K and are not required to provide the information otherwise required under this item.

Item 8. Financial Statements and Supplementary Data.

The financial statements required pursuant to this item are incorporated by reference herein from the applicable information included in Item 15(a)(1) and (2) of this Annual Report on Form 10-K and are presented beginning on page F-1.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and our principal financial officer, evaluated, as of the end of the period covered by this Annual Report, the effectiveness of our disclosure controls and procedures. Based on that evaluation, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by this Annual Report on Form 10-K, our disclosure controls and procedures were effective at the reasonable assurance level. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act are recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2024, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

This Annual Report on Form 10-K does not include a report of management's assessment regarding internal control over financial reporting or an attestation report of the company's registered public accounting firm due to a transition period established by rules of the SEC for newly public companies.

Item 9B. Other Information.

Trading Arrangements

During the quarter ended December 31, 2024, no director or officer adopted or terminated any Rule 10b5-1 trading arrangement or any non-Rule 10b5-1 trading arrangement (as such terms are defined pursuant to Item 408(a) of Regulation S-K).

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

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

We have adopted 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. The code of business conduct and ethics provides a framework for sound ethical business decisions and sets forth our expectations on a number of topics, including conflicts of interest, compliance with laws, use of our assets and business ethics. Our code of business conduct and ethics is available under the Corporate Governance section of our website at www.artivabio.com. If the Company ever were to amend or waive any provision of its code of business conduct and ethics that applies to the Company's principal executive officer, principal financial officer, principal accounting officer or any person performing similar functions, the Company intends to satisfy its disclosure obligations, if any, with respect to any such waiver or amendment by posting such information on its website set forth above rather than by filing a Current Report on Form 8-K. In the case of a waiver for an executive officer or a director, the disclosure required under applicable Nasdaq listing standards also will be made available on our website.

The remaining information required by this Item will be set forth in the sections headed "Nominees for Election to the Board of Directors" and "The Board of Directors and Certain Governance Matters" in the Proxy Statement to be filed with the SEC within 120 days after the Company's fiscal year end and is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by this Item will be set forth in the section headed "Executive Compensation" in the Proxy Statement to be filed with the SEC within 120 days after the Company's fiscal year end and is incorporated herein by reference.

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

The information required by this Item will be set forth in the section headed "Security Ownership of Certain Beneficial Owners and Management" in the Proxy Statement to be filed with the SEC within 120 days after the Company's fiscal year end and is incorporated herein by reference.

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

The information required by this Item will be set forth in the section headed "Certain Relationships and Related Person Transactions" in the Proxy Statement to be filed with the SEC within 120 days after the Company's fiscal year end and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this Item will be set forth in the section headed "Principal Accountant Fees and Services" in the Proxy Statement to be filed with the SEC within 120 days after the Company's fiscal year end and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)

1. All financial statements.

The financial statements of Artiva Biotherapeutics, Inc., together with the report thereon of KPMG LLP, an independent registered public accounting firm, are included in this Annual Report on Form 10-K on the following pages:

2. Financial statement schedules.

All schedules have been omitted because the information required to be set forth therein is not applicable, not required or the information required is shown in the financial statements or notes thereto.

3. Exhibits

The following is a list of exhibits filed with this report or incorporated herein by reference.

Exhibit Index

Exhibit number	Description of document	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
3.1	Amended and Restated Certificate of Incorporation.	8-K	7/22/2024	3.1	
3.2	Amended and Restated Bylaws.	S-1	6/28/2024	3.4	
4.1	Form of Common Stock Certificate of the Registrant.	S-1/A	7/15/2024	4.1	
4.2	Amended and Restated Investors' Rights Agreement, dated February 22, 2021, by and among the Registrant and certain of its stockholders.	S-1	6/28/2024	4.2	
4.3	Description of the Registrant's Capital Stock.				X
10.1+	Form of Indemnity Agreement, by and between the Registrant and its directors and officers.	S-1	6/28/2024	10.1	
10.2+	The Registrant's 2020 Equity Incentive Plan, as amended.	S-1	6/28/2024	10.2	
10.3+	Forms of Stock Option Grant Notice, Stock Option Grant Notice with Acceleration of Vesting, Option Agreement and Notice of Exercise under the Registrant's 2020 Equity Incentive Plan.	S-1	6/28/2024	10.3	
10.4+	The Registrant's 2024 Equity Incentive Plan	S-8	7/22/2024	99.3	
10.5+	Forms of Stock Option Grant Notice, Option Agreement and Notice of Exercise under the Registrant's 2024 Equity Incentive Plan.	S-1/A	7/15/2024	10.5	
10.6+	Forms of Restricted Stock Unit Grant Notice and Award Agreement under the Registrant's 2024 Equity Incentive Plan.	S-1/A	7/15/2024	10.6	
10.7+	The Registrant's 2024 Employee Stock Purchase Plan.	S-8	7/22/2024	99.6	
10.8+	The Registrant's Non-Employee Director Compensation Policy.	S-1/A	7/15/2024	10.8	
10.9+	Executive Employment Agreement, dated December 14, 2020, as amended, by and between the Registrant and Fred Aslan, M.D.	S-1	6/28/2024	10.9	
10.10+	Employment Offer Letter, dated May 21, 2022, by and between the Registrant and Thorsten Graef, M.D., Ph.D.	S-1	6/28/2024	10.10	
10.11+	Employment Offer Letter, dated August 27, 2020, as amended, by and between the Registrant and Jennifer Bush.	S-1	6/28/2024	10.11	
10.12	Office Lease, dated June 12, 2019, by and between the Registrant and AAT La Jolla Commons, LLC (as successor-in-interest to HSPFLa Jolla Commons I Investors LLC).	S-1	6/28/2024	10.12	
10.13^	Option and License Agreement, dated September 4, 2019, by and between the Registrant and GC Cell Corporation (f/k/a GC Lab Cell Corporation).	S-1	6/28/2024	10.13	
10.14	Amendment No. 1 to Option and License Agreement, dated June 23, 2020, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.14	

Exhibit number	Description of document	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.15^	Omnibus Amendment, dated February 3, 2022, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.15	
10.16^	Master Agreement for Manufacturing Services, dated March 16, 2020, by and between the Registrant and GC Cell Corporation (f/k/a GC Lab Cell Corporation).	S-1	6/28/2024	10.16	
10.17	Amendment No. 1 to Master Agreement for Manufacturing Services, dated June 16, 2020, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.17	
10.18^	Master Research Services Agreement, dated August 3, 2020, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.18	
10.19^	Selected Product License Agreement (AB-101), dated November 21, 2019, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.19	
10.20^	Selected Product License Agreement (AB-201), dated September 29, 2020, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.20	
10.21^	Amendment to Selected Product License Agreement (AB-201), dated September 6, 2023, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.21	
10.22	Lease Agreement, dated June 16, 2021, by and between the Registrant and ARE-SD Region No. 66, LLC.	S-1	6/28/2024	10.22	
10.23	License Agreement, dated June 16, 2021, by and between the Registrant and ARE-SD Region No. 37, LLC.	S-1	6/28/2024	10.23	
10.24	First Amendment to License Agreement, dated May 9, 2022, by and between the Registrant and ARE-SD Region No. 37, LLC.	S-1	6/28/2024	10.24	
10.25^	Selected Product License Agreement (CD5), dated December 20, 2022, by and between the Registrant and GC Cell Corporation.	S-1	6/28/2024	10.25	
10.26^	Collaboration Agreement, dated November 1, 2022, by and between the Registrant and Affimed GmbH.	S-1	6/28/2024	10.26	
10.27	Amendment No. 1 to Collaboration Agreement, dated November 14, 2022, by and between the Registrant and Affimed GmbH.	S-1	6/28/2024	10.27	
10.28	Amendment No. 2 to Collaboration Agreement, dated June 30, 2023, by and between the Registrant and Affimed GmbH.	S-1	6/28/2024	10.28	
10.29+	Employment Offer Letter, dated December 7, 2021, by and between the Registrant and Christopher P. Horan.	S-1	6/28/2024	10.29	
10.30+	Employment Offer Letter, dated April 15, 2024, by and between the Registrant and Neha Krishnamohan.	S-1	6/28/2024	10.36	
10.31+	Employment Offer Letter, dated September 17, 2020, by and between the Registrant and Heather Raymon, Ph.D.	S-1	6/28/2024	10.37	
10.32+	Consulting Agreement dated November 1, 2023, as amended, by and between the Registrant and Diego Miralles, M.D.	S-1	6/28/2024	10.38	

Exhibit number	Description of document	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
19.1	Insider Trading Policy				X
24.1	Power of Attorney (included on the signature page).				X
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1*	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
97	Incentive Compensation Recoupment Policy				X
101.INS	Inline XBRL Instance Document				X
101.SCH	Inline XBRL Taxonomy Extension Schema With embedded Linkbase Documents Document				X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)				X

+ Indicates management contract or compensatory plan
* This certification is deemed not filed for purpose of section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.
^ Pursuant to Item 601(b)(10) of Regulation S-K, certain portions of this exhibit have been omitted (indicated by "[***]") because the Registrant has determined that the information is not material and is the type that the Registrant treats as private or confidential

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized**.**

ARTIVA BIOTHERAPEUTICS, INC.

Date: March 24, 2025

By: /s/ Fred Aslan, M.D.
Fred Aslan, M.D.
President and Chief Executive Officer

POWER OF ATTORNEY

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

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ Fred Aslan, M.D. **Fred Aslan, M.D.**	President and Chief Executive Officer (Principal Executive Officer)	March 24, 2025
/s/ Neha Krishnamohan **Neha Krishnamohan**	Chief Financial Officer and EVP, Corporate Development (Principal Financial and Accounting Officer)	March 24, 2025
/s/ Brian Daniels, M.D. **Brian Daniels, M.D.**	Director and Board Chair	March 24, 2025
/s/ Laura Bessen, M.D. **Laura Bessen, M.D.**	Director	March 24, 2025
/s/ Elizabeth Hougen **Elizabeth Hougen**	Director	March 24, 2025
/s/ Yong-Jun Huh **Yong-Jun Huh**	Director	March 24, 2025
/s/ Diego Miralles, M.D. **Diego Miralles, M.D.**	Director	March 24, 2025
/s/ Alison Moore **Alison Moore**	Director	March 24, 2025
/s/ Laura Stoppel, Ph.D. **Laura Stoppel, Ph.D.**	Director	March 24, 2025
/s/ Daniel Baker, M.D. **Daniel Baker, M.D.**	Director	March 24, 2025

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Artiva Biotherapeutics, Inc.:

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Artiva Biotherapeutics, Inc. (the Company) as of December 31, 2024 and 2023, the related statements of operations and comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for the years then ended, and the related notes (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2020.

San Diego, California
March 24, 2025

ARTIVA BIOTHERAPEUTICS, INC.

Balance Sheets
(in thousands, except share and par value data)

	AS OF	
	DECEMBER 31, 2024	DECEMBER 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 40,235	$ 53,504
Short-term investments	145,193	23,467
Accounts receivable (including related party amounts of $0 and $569, respectively)	—	1,034
Other receivables (including related party amounts of $0 and $607, respectively)	146	724
Prepaid expenses and other current assets	3,057	1,092
Total current assets	188,631	79,821
Restricted cash	258	258
Property and equipment, net	6,370	8,096
Operating lease right-of-use assets	13,794	16,547
Financing lease right-of-use asset	261	—
Other long-term assets	267	392
Total assets	$ 209,581	$ 105,114
Liabilities, convertible preferred stock, and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable (including related party amounts of $276 and $199, respectively)	$ 1,121	$ 614
Accrued expenses (including related party amounts of $713 and $2,161, respectively)	7,392	8,017
Current portion of operating lease liabilities	3,618	3,596
Current portion of financing lease liability	122	—
Total current liabilities	12,253	12,227
Operating lease liabilities, net of current portion	10,570	13,316
Financing lease liability, net of current portion	44	—
Simple agreements for future equity ("SAFEs") (including related party amounts of $0 and $20,315, respectively)	—	25,100
Other non-current liabilities	73	73
Total liabilities	22,940	50,716
Commitments and contingencies (Note 11)		
Series A convertible preferred stock, $0.0001 par value; zero and 16,110,463 shares authorized as of December 31, 2024 and December 31, 2023, respectively; zero and 3,673,148 shares issued and outstanding as of December 31, 2024 and December 31, 2023, respectively; zero and $80,552 aggregate liquidation preference at December 31, 2024 and December 31, 2023, respectively	—	96,767
Series B convertible preferred stock, $0.0001 par value; zero and 10,909,091 shares authorized as of December 31, 2024 and December 31, 2023, respectively; zero and 2,487,237 shares issued and outstanding as of December 31, 2024 and December 31, 2023, respectively; zero and $120,000 aggregate liquidation preference at December 31, 2024 and December 31, 2023, respectively	—	119,646
Stockholders' equity (deficit):		
Preferred stock, $0.0001 par value; 10,000,000 and zero shares authorized at December 31, 2024 and December 31, 2023 respectively; zero shares issued and outstanding as of December 31, 2024 and December 31, 2023	—	—
Common stock, $0.0001 par value; 700,000,000 and 38,998,588 shares authorized at December 31, 2024 and December 31, 2023, respectively; 24,291,607 and 809,758 shares issued and outstanding at December 31, 2024 and December 31, 2023	3	—
Additional paid-in capital	433,451	18,988
Accumulated other comprehensive gain (loss)	(129)	308
Accumulated deficit	(246,684)	(181,311)
Total stockholders' equity (deficit)	186,641	(162,015)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$ 209,581	$ 105,114

See accompanying notes to financial statements

ARTIVA BIOTHERAPEUTICS, INC.

Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)

	YEAR ENDED DECEMBER 31,	
	2024	2023
Revenue:		
Collaboration revenue	$ —	$ 32,923
License and development support revenue (including related party amounts of $251 and $569, respectively)	251	569
Total revenue	251	33,492
Operating expenses:		
Research and development (including related party amounts of $3,168 and $3,832, respectively)	50,328	50,251
General and administrative	17,205	13,912
Total operating expenses	67,533	64,163
Loss from operations	(67,282)	(30,671)
Other income, net:		
Interest income	5,349	2,535
Change in fair value of SAFEs (including related party amounts of $2,911 and $573, respectively)	(3,597)	(707)
Other income, net	157	195
Total other income, net	1,909	2,023
Loss before provision for income taxes	(65,373)	(28,648)
Provision for income taxes	—	(72)
Net loss	$ (65,373)	$ (28,720)
Net loss per share, basic and diluted	$ (5.81)	$ (35.78)
Weighted-average common shares outstanding, basic and diluted	11,258,851	802,747
Comprehensive loss:		
Net loss	$ (65,373)	$ (28,720)
Other comprehensive income (loss):		
Unrealized gain (loss) on investments	(437)	308
Comprehensive loss	$ (65,810)	$ (28,412)

See accompanying notes to financial statements

ARTIVA BIOTHERAPEUTICS, INC.

Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)
(in thousands, except share data)

	SERIES A CONVERTIBLE PREFERRED STOCK		SERIES B CONVERTIBLE PREFERRED STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	ACCUMULATED OTHER COMPREHENSIVE GAIN (LOSS)	ACCUMULATED DEFICIT	TOTAL STOCKHOLDERS' EQUITY (DEFICIT)
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT				
Balance at December 31, 2022	**3,673,148**	**$ 96,767**	**2,487,237**	**$ 119,646**	**792,991**	**$ —**	**$ 11,895**	**$ —**	**$ (152,591)**	**$ (140,696)**
Exercise of stock options	—	—	—	—	1,948	—	10	—	—	10
Vesting of shares of common stock subject to repurchase, including early exercise	—	—	—	—	14,819	—	30		—	30
Stock-based compensation expense	—	—	—	—	—	—	7,053	—	—	7,053
Unrealized gain on investments	—	—	—	—	—	—	—	308	—	308
Net loss	—	—	—	—	—	—	—	—	(28,720)	(28,720)
Balance at December 31, 2023	**3,673,148**	**$ 96,767**	**2,487,237**	**$ 119,646**	**809,758**	**$ —**	**$ 18,988**	**$ 308**	**$ (181,311)**	**$ (162,015)**
Conversion of preferred stock into common stock upon completion of initial public offering (IPO)	(3,673,148)	(96,767)	(2,487,237)	(119,646)	6,160,385	1	216,412			216,413
Exercise of stock options	—	—	—	—	10,046	—	51	—	—	51
Issuance of common shares in connection with IPO, net of offering costs	—	—	—	—	14,920,000	2	162,323	—	—	162,325
Issuance of common shares upon the conversion of SAFE notes	—	—	—	—	2,391,418	—	28,697	—	—	28,697
Stock-based compensation expense	—	—	—	—	—	—	6,980	—	—	6,980
Unrealized loss on investments	—	—	—	—	—	—	—	(437)	—	(437)
Net loss	—	—	—	—	—	—	—	—	(65,373)	(65,373)
Balance at December 31, 2024	**—**	**$ —**	**—**	**$ —**	**24,291,607**	**$ 3**	**$ 433,451**	**$ (129)**	**$ (246,684)**	**$ 186,641**

See accompanying notes to financial statements

ARTIVA BIOTHERAPEUTICS, INC.

Statements of Cash Flows
(in thousands)

	YEAR ENDED DECEMBER 31,	
	2024	**2023**
Operating activities:		
Net loss	$ (65,373)	$ (28,720)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,431	2,266
Stock-based compensation	6,980	7,053
Change in fair value of SAFEs (including related party amounts of $2,911 and $573, respectively)	3,597	707
Accretion of discounts and amortization of premiums on investments, net	(2,342)	(456)
Changes in operating assets and liabilities:		
Accounts receivable (including related party amounts of $569 and $(569), respectively)	1,034	(510)
Other receivables (including related party amounts of $607 and $(607), respectively)	578	(724)
Prepaid expenses and other current assets	(1,965)	516
Other long-term assets	125	139
Accounts payable (including related party amounts of $76 and $51, respectively)	519	(408)
Accrued expenses (including related party amounts of $(1,447) and $(971), respectively)	(659)	(912)
Operating lease right-of-use asset and lease liabilities, net	43	145
Deferred revenue	—	(26,526)
Net cash used in operating activities	(55,032)	(47,430)
Investing activities:		
Purchases of property and equipment	(642)	(3,258)
Purchases of short-term investments	(176,171)	(49,517)
Maturities of short-term investments	56,350	26,800
Net cash used in investing activities	(120,463)	(25,975)
Financing activities:		
Proceeds from issuance of common stock, net of commissions	166,507	—
Proceeds from issuance of simple agreements for future equity (including related party amounts of $0 and $19,742, respectively)	—	24,393
Proceeds from exercise of stock options	51	10
Payments on finance leases	(149)	—
Cash paid in connection with IPO offering costs	(4,183)	—
Repurchase of restricted stock	—	(12)
Net cash provided by financing activities	162,226	24,391
Net decrease in cash, cash equivalents and restricted cash	(13,269)	(49,014)
Cash, cash equivalents and restricted cash at beginning of period	53,762	102,776
Cash, cash equivalents and restricted cash at end of period	$ 40,493	$ 53,762
Reconciliation of cash, cash equivalents and restricted cash to the balance sheet:		
Cash and cash equivalents	$ 40,235	$ 53,504
Restricted cash	258	258
Total cash, cash equivalents and restricted cash	$ 40,493	$ 53,762
Supplemental disclosures of cash flow information:		
Cash paid during the period for:		
Income taxes	$ —	$ 83
Supplemental disclosures of noncash activities:		
Property and equipment purchases in accounts payable and accrued liabilities	$ 57	$ 18
Conversion of SAFE notes to common stock	$ 28,697	$ —
Conversion of preferred stock to common stock	$ 216,413	$ —
Non-cash additions to financing leases	$ 241	$ —

See accompanying notes to financial statements

ARTIVA BIOTHERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS

1. Organization, Liquidity and Basis of Presentation

Organization

Artiva Biotherapeutics, Inc. (the "Company") was incorporated in the State of Delaware on February 14, 2019. The Company is a biopharmaceutical company focused on developing off-the-shelf, allogeneic, natural killer ("NK") cell-based therapies that are effective, safe and accessible for patients with devastating autoimmune diseases and cancers.

From its inception to December 31, 2024, the Company has devoted substantially all of its resources to organizing and staffing the Company, business planning, raising capital, establishing and engaging in collaborations, performing research and development, advancing and scaling up product candidate manufacturing, establishing cold chain delivery logistics, establishing and protecting its intellectual property portfolio, and providing general and administrative support for these activities.

Reverse Stock Split

On July 12, 2024, the Company effected a 1-for-4.386 reverse stock split of its common stock and convertible preferred stock. The par value and the authorized shares of the common stock and convertible preferred stock were not adjusted as a result of the reverse stock split. These accompanying financial statements and notes to the financial statements give retroactive effect to the reverse stock split for all periods presented.

Initial Public Offering

On July 22, 2024, the Company completed its Initial Public Offering (the "IPO"), pursuant to which it issued and sold 13,920,000 shares of common stock at a public offering price of $12.00 per share. The aggregate gross proceeds of the IPO were $167.0 million before underwriter discounts and commissions, fees, and expenses of $15.9 million, for net proceeds from the IPO of $151.1 million. On July 25, 2024, the underwriters partially exercised their 30-day option and purchased an additional 1,000,000 shares of the Company's common stock at the IPO price, upon which the Company received additional gross proceeds of $12.0 million before commissions of $0.8 million, for net proceeds of approximately $11.2 million. The aggregate net proceeds of the IPO was $162.3 million (the "IPO Proceeds"). All underwriter discounts and commissions, fees, and expenses, including deferred offering costs have been charged to additional paid-in capital as recorded against the gross proceeds.

Liquidity

The Company has incurred net losses and negative cash flows from operations since inception, has a significant accumulated deficit and expects to continue to incur net losses for the foreseeable future. The Company has never generated any revenue from product sales and does not expect to generate any revenues from product sales unless and until it successfully completes development of and obtains regulatory approval for its product candidates, which will not be for several years, if ever. The Company has an accumulated deficit of $246.7 million as of December 31, 2024. During the year ended December 31, 2024, the Company used $55.0 million of cash for operating activities. As of December 31, 2024, the Company has $185.4 million in cash, cash equivalents and investments. From inception through December 31, 2024, the Company has raised aggregate gross proceeds of $401.4 million to fund operations, comprised primarily from proceeds received from the IPO, including proceeds from the underwriters partial exercise of their purchase option, issuances of convertible promissory notes, simple agreements for future equity ("SAFEs") and private placements of convertible preferred stock. Since inception through December 31, 2024, the Company has also received $39.9 million in upfront and reimbursable research service payments from Merck Sharp & Dohme Corp. ("Merck"). The Company believes its existing cash, cash equivalents and investments will be sufficient to fund planned operations for at least one year from the issuance of these financial statements. As such, the prior substantial doubt about the Company's ability to continue as a going concern as discussed in the Company's December 31, 2023 audited financial statements as included in the Company's final prospectus dated July 18, 2024 related to its IPO filed pursuant to Rule 424(b)(4) under the Securities Act of 1933, no longer exists.

If the Company is unable to obtain additional funding before achieving sufficient profitability and positive cash flows from operations, if ever, the Company will be forced to delay, reduce or eliminate some or all of its research and development programs, which could adversely affect its business prospects, or the Company may be unable to continue operations. Although management continues to pursue plans to obtain additional funding before achieving sufficient profitability and positive cash flows from operations, there is no assurance that the Company will be successful in obtaining sufficient funding on terms acceptable to the Company to fund continuing operations, if at all.

Basis of Presentation

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

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Accounting estimates and management judgments reflected in the financial statements include: revenue recognized, the accrual of research and development expenses, common stock, stock-based compensation, SAFEs and operating lease liabilities. Although these estimates are based on the Company's knowledge of current events and actions it may undertake in the future, actual results may materially differ from these estimates and assumptions.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to significant concentration of credit risk consist of cash, cash equivalents, and investments. The Company maintains deposits in federally insured financial institutions in excess of federally insured limits. The Company has not experienced any losses in such accounts, and management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held.

Segment Reporting

The Company's chief operating decision maker ("CODM") is the Chief Executive Officer. The Company has determined that it operates in one operating segment as it only reports operating results on an aggregate basis to the CODM. See Note 13 for segment financial information.

Determination of Fair Value of Certain Liability Instruments

The SAFEs are recorded as a liability in the balance sheets and the Company records subsequent changes in fair value in changes in fair value of SAFEs in the statements of operations and comprehensive loss. Debt issuance costs related to the SAFEs are expensed in the period incurred. Refer to Note 7 for further information on the SAFEs.

Allowance for Credit Losses

For investments in an unrealized loss position, the Company first assesses whether it intends to sell, or is more likely than not that it will be required to sell, the investment before recovery of its amortized cost basis. If either of the criteria regarding intent or requirement to sell is met, the investment's amortized cost basis is written down to fair value through earnings. For investments that do not meet the aforementioned criteria, the Company evaluates whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, the Company considers the extent to which fair value is less than amortized cost, any changes in interest rates, and any changes to the rating of the security by a rating agency, among other factors. If this assessment indicates that a credit loss exists, the present value of cash flows expected to be collected from the security is compared to the amortized

cost basis of the investment. If the present value of cash flows expected to be collected is less than the amortized cost basis, a credit loss exists and an allowance for credit losses is recorded, limited by the amount that the fair value is less than the amortized cost basis. Any impairment that has not been recorded through an allowance for credit losses is recognized in other comprehensive loss.

Fair Value of Financial Instruments

The accounting guidance defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1 – Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.

Level 2 – Quoted prices for similar assets and liabilities in active markets, quoted prices in markets that are not active, or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability.

Level 3 – Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

Investments

The Company holds investments in commercial paper, government and government agency bonds, and corporate bonds. Short-term investments have initial maturities of greater than three months from date of purchase. The Company has classified its investment securities as current assets in the balance sheets because these are considered highly liquid securities and are available for use in current operations. All investments are accounted for as available-for-sale because these investment securities are considered available for use in operations. The Company carries these securities at fair value and reports unrealized gains and losses as a separate component of accumulated other comprehensive income. The cost of debt securities is adjusted for amortization of purchase premiums and accretion of discounts to maturity. Such amortization and accretion are included in other income, net in the statements of operations and comprehensive loss. Realized gains and losses on sales of securities are determined using the specific identification method and recorded in other income, net in the statements of operations and comprehensive loss.

As of December 31, 2024 and 2023, accrued interest receivables on investments were $0.9 million and $0.1 million, respectively, and are included in prepaid expenses and other current assets in the Company's balance sheets. The Company does not measure an allowance for credit losses for accrued interest receivables. For the purposes of identifying and measuring an impairment, accrued interest is excluded from both the fair value and amortized cost basis of the investment. Uncollectible accrued interest receivables associated with an impaired debt security are reversed against interest income upon identification of the impairment. No accrued interest receivables were written off during the years ended December 31, 2024 and 2023.

Cash and Cash Equivalents

Cash and cash equivalents include cash in readily available operating accounts, money market funds, and government bonds. The Company considers all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash equivalents.

Restricted Cash

Restricted cash is comprised of cash that is restricted as to withdrawal or use under the terms of certain contractual agreements. Restricted cash as of December 31, 2024 and 2023, was $0.3 million consisting of collateral for letters of credit related to the Company's lease agreements and is included in non-current assets in the balance sheets (see Note 11).

Property and Equipment, Net

Property and equipment, net is stated at cost and depreciated using the straight-line method over the estimated useful lives of the assets (generally two to five years). The Company capitalizes laboratory equipment used for research and development if it has alternative future use in research and development or otherwise. Upon retirement or sale, the cost of assets disposed and the related accumulated depreciation and amortization are removed from the accounts and any resulting gain or loss is included in loss from operations. Leasehold improvements are stated at cost and depreciated over the shorter of the estimated useful life or remaining lease term.

Impairment of Long-Lived Assets

The Company accounts for the impairment of long-lived assets by reviewing these assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for possible impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying value. If the carrying value of the long-lived asset or asset group is not recoverable on an undiscounted-cash-flow basis, an impairment is recognized to the extent that the carrying value exceeds its fair value. The Company did not recognize impairment losses for the years ended December 31, 2024 or 2023.

Research and Development Expenses and Accrued Research and Development Costs

Research and development expenses include costs to third-party contractors to perform research and development activities, internal related salaries, benefits, stock-based compensation charges for those individuals involved in research and development efforts, and associated overhead expenses. Research and development costs are expensed as incurred.

The Company is required to estimate its expenses resulting from its obligations under contracts with vendors, consultants, and contract research organizations, in connection with conducting research and development activities. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. The Company reflects research and development expenses in its financial statements by matching those expenses with the period in which services and efforts are expended, as measured by the timing of various aspects of the preclinical or clinical study or related activities. The Company determines accrual estimates through review of the underlying contracts along with preparation of financial models taking into account discussions with research and other key personnel as to the progress of studies, or other services being conducted. As of December 31, 2024, the Company has had no material differences between its estimates of such expenses and the amounts actually incurred. Nonrefundable advance payments for goods and services, including fees for process development or manufacturing and distribution of clinical supplies that will be used in future research and development activities, are deferred and recognized as expense in the period that the related goods are consumed, or services are performed, or when it is no longer expected that the goods will be delivered, or the services rendered.

Licenses

Upfront payments and other consideration under license agreements are expensed as research and development expense upon receipt of the license, and annual maintenance fees under license agreements are expensed in the period in which they are incurred.

Certain license agreements include milestone payments which are recognized when it becomes probable that the achievement of certain milestones will be met. The Company records this expense as research and development expense in its statements of operations and comprehensive loss.

Patent Costs

The Company expenses all costs as incurred in connection with patent applications (including direct application fees, and the legal and consulting expenses related to making such applications) and such costs are included in general and administrative expenses in the statements of operations and comprehensive loss.

Leases

At the inception of a contractual arrangement, the Company determines whether the contract contains a lease by assessing whether there is an identified asset and whether the contract conveys the right to control the use of the identified asset in exchange for consideration over a period of time. If both criteria are met, the Company records the associated lease liability and corresponding right-of-use ("ROU") asset upon commencement of the lease using the implicit rate or a discount rate based on a credit-adjusted secured borrowing rate commensurate with the term of the lease. The Company additionally evaluates leases at their inception to determine if they are to be accounted for as an operating lease or a finance lease. A lease is accounted for as a finance lease if it meets one of the following five criteria: the lease has a purchase option that is reasonably certain of being exercised, the present value of the future cash flows is substantially all of the fair market value of the underlying asset, the lease term is for a significant portion of the remaining economic life of the underlying asset, the title to the underlying asset transfers at the end of the lease term, or if the underlying asset is of such a specialized nature that it is expected to have no alternative uses to the lessor at the end of the term.

Leases that do not meet the finance lease criteria are accounted for as an operating lease. Operating lease assets represent a right to use an underlying asset for the lease term and operating lease liabilities represent an obligation to make lease payments arising from the lease. Operating lease liabilities with a term greater than one year and their corresponding ROU assets are recognized in the balance sheets at the commencement date of the lease based on the present value of lease payments over the expected lease term. Certain adjustments to the ROU asset may be required for items such as initial direct costs paid or incentives received. As the Company's leases do not typically provide an implicit rate, the Company utilizes the appropriate incremental borrowing rate, determined as the rate of interest that the Company would have to pay to borrow on a collateralized basis over a similar term and in a similar economic environment. Lease cost is recognized on a straight-line basis over the lease term and variable lease payments are recognized as operating expenses in the period in which the obligation for those payments is incurred. Variable lease payments primarily include common area maintenance, utilities, real estate taxes, insurance, and other operating costs that are passed on from the lessor in proportion to the space leased by the Company. The Company has elected the practical expedient to not separate between lease and non-lease components.

Stock-Based Compensation Expense

Stock-based compensation expense represents the cost of the grant date fair value of employee, officer, director and non-employee stock option grants and restricted stock unit grants, estimated in accordance with the applicable accounting guidance, recognized on a straight-line basis over the vesting period. The vesting period generally approximates the expected service period of the awards. Additionally, the cost associated with the employee stock purchase plan is included within stock-based compensation expense. The Company recognizes forfeitures as they occur.

The fair value of stock options is estimated using a Black-Scholes valuation model on the date of grant. This method requires certain assumptions be used as inputs, such as the fair value of the underlying common stock, expected term of the option before exercise, expected volatility of the Company's common stock, risk-free interest rate and expected dividend yield. Options granted have a maximum contractual term of 10 years. The Company has limited historical stock option activity and therefore estimates the expected term of stock options granted using the simplified method, which represents the arithmetic average of the original contractual term of the stock option and its weighted-average vesting term. The expected volatility of stock options is based upon the historical volatility of a number of publicly traded companies in similar stages of clinical development, as there is limited stock price data

available of the Company's common stock since the IPO. The Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available. The risk-free interest rates used are based on the U.S. Treasury yield in effect at the time of grant for zero-coupon U.S. treasury notes with maturities approximately equal to the expected term of the stock options. The Company has historically not declared or paid any dividends and does not currently expect to do so in the foreseeable future, and therefore has estimated the dividend yield to be zero.

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

Common Stock Valuation

Due to the absence of an active market for the Company's common stock prior to the IPO, the Company utilized methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants' Audit and Accounting Practice Guide: Valuation of Privately-Held Company Equity Securities Issued as Compensation to estimate the fair value of its common stock. In determining the exercise prices for options granted, the Company has considered the fair value of the common stock as of the grant date. The fair value of the common stock was determined based upon a variety of factors, including valuations the Company's common stock performed by independent third-party valuation specialists; the anticipated capital structure that will directly impact the value of the currently outstanding securities; the Company's results of operations and financial position; the status of the Company's research and development efforts; the composition of, and changes to, the Company's management team and board of directors; the lack of liquidity of the Company's common stock as a private company; the Company's stage of development and business strategy and the material risks related to the Company's business and industry; external market conditions affecting the life sciences and biotechnology industry sectors; U.S. and global economic conditions; the likelihood of achieving a liquidity event for the holders of the Company's common stock, such as an IPO or a sale of the Company, given prevailing market conditions; and the market value and volatility of comparable companies.

Significant changes to the key assumptions underlying the factors used could result in different fair values of common stock at each valuation date.

Collaboration, License, and Development Support Revenue

The Company recognizes revenue from its collaboration, license and development support agreements, in a manner that depicts the transfer of control of a product or a service to a customer and reflects the amount of the consideration the Company is entitled to receive in exchange for such product or service. In doing so, the Company follows a five-step approach: (i) identify the contract with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations; and (v) recognize revenue when (or as) the customer obtains control of the product or service. The Company considers the terms of a contract and all relevant facts and circumstances when applying the revenue recognition standard. The Company applies the revenue recognition standard, including the use of any practical expedients, consistently to contracts with similar characteristics and in similar circumstances.

A customer is a party that has entered into a contract with the Company, where the purpose of the contract is to obtain a product or a service that is an output of the Company's ordinary activities in exchange for consideration. To be considered a contract: (i) the contract must be approved (in writing, orally, or in accordance with other customary business practices); (ii) each party's rights regarding the product or the service to be transferred can be identified; (iii) the payment terms for the product or service to be transferred can be identified; (iv) the contract must have commercial substance (that is, the risk, timing or amount of future cash flows is expected to change as a result of the contract); and (v) it is probable that the Company will collect substantially all of the consideration to which it is entitled to receive in exchange for the transfer of the product or the service.

A performance obligation is defined as a promise to transfer a product or a service to a customer. The Company identifies each promise to transfer a product or a service (or a bundle of products or services, or a series of products and services that are substantially the same and have the same pattern of transfer) that is distinct. A product

or a service is distinct if both (i) the customer can benefit from the product or the service either on its own or together with other resources that are readily available to the customer and (ii) the Company's promise to transfer the product or the service to the customer is separately identifiable from other promises in the contract. Each distinct promise to transfer a product or a service is a unit of accounting for revenue recognition. If a promise to transfer a product or a service is not separately identifiable from other promises in the contract, such promises should be combined into a single performance obligation.

The transaction price is the amount of consideration the Company is entitled to receive in exchange for the transfer of control of a product or a service to a customer. To determine the transaction price, the Company considers the existence of any significant financing component, the effects of any variable elements, noncash considerations and consideration payable to the customer. If a significant financing component exists, the transaction price is adjusted for the time value of money. If an element of variability exists, the Company must estimate the consideration it expects to receive and uses that amount as the basis for recognizing revenue as the product or the service is transferred to the customer. There are two methods for determining the amount of variable consideration: (i) the expected value method, which is the sum of probability-weighted amounts in a range of possible consideration amounts; and (ii) the most likely amount method, which identifies the single most likely amount in a range of possible consideration amounts. The amount of variable consideration is included in the transaction price to the extent it is probable that a significant reversal of revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved.

If a contract has multiple performance obligations, the Company allocates the transaction price to each distinct performance obligation in an amount that reflects the consideration the Company is entitled to receive in exchange for satisfying each distinct performance obligation. For each distinct performance obligation, revenue is recognized when (or as) the Company transfers control of the product or the service applicable to such performance obligation.

Commitments and Contingencies

The Company recognizes a liability with regard to loss contingencies when it believes it is probable a liability has been incurred, and the amount can be reasonably estimated. If some amount within a range of loss appears at the time to be a better estimate than any other amount within the range, the Company accrues that amount. When no amount within the range is a better estimate than any other amount the Company accrues the minimum amount in the range. The Company has not recorded any such liabilities as of December 31, 2024 or 2023.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined on the basis of the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company recognizes deferred tax assets to the extent that the Company believes these assets are more likely than not to be realized. In making such a determination, management considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. If management determines that the Company would be able to realize its deferred tax assets in the future in excess of their recorded amount, management would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

As of December 31, 2024 and 2023, the Company maintained full valuation allowances against its deferred tax assets as the Company concluded it had not met the "more likely than not" to be realized threshold. Changes in the valuation allowance when they are recognized in the provision for income taxes may result in a change in the estimated annual effective tax rate.

The Company records uncertain tax positions on the basis of a two-step process whereby (i) management determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (ii) for those tax positions that meet the more-likely-than-not recognition threshold, management recognizes the largest amount of tax benefit that is more than 50% likely to be realized upon ultimate settlement with the related tax authority. The Company recognizes interest and penalties related to unrecognized tax benefits within the provision for income taxes in the statements of operations and comprehensive loss. Any accrued interest and penalties are included within the related tax liability in the balance sheets. As of December 31, 2024, the Company had no accrued interest or penalties.

Comprehensive Loss

Comprehensive loss consists of net loss in excess of unrealized gains and losses on investments. The Company displays comprehensive loss and its components as part of the statements of operations and comprehensive loss.

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of common stock outstanding for the period. Diluted net loss per share is computed by dividing the net loss by the weighted-average number of shares of common stock and common stock equivalents outstanding for the period. Common stock equivalents are only included when their effect is dilutive. The Company's potentially dilutive securities include shares of its convertible preferred stock, as well as outstanding stock options and restricted stock units under the Company's equity incentive plan and have been excluded from the computation of diluted net loss per share as they would be anti-dilutive to the net loss per share. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

The following table sets forth the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their inclusion would be anti-dilutive for the years ended December 31, 2024 and 2023:

	AS OF DECEMBER 31, 2024	AS OF DECEMBER 31, 2023
Convertible preferred stock	—	6,160,385
Unvested restricted stock units	529,359	22,514
Options to purchase common stock	2,216,215	1,315,726
SAFEs (1)	—	—
Total	2,745,574	7,498,625

(1) The contingently convertible SAFEs were not included for purposes of calculating the number of diluted shares outstanding as of December 31, 2023, as the number of dilutive shares was based on a conversion ratio associated with the pricing of a future financing or liquidation event. Therefore, the contingently convertible SAFEs' conversion ratio, and the resulting number of dilutive shares, was not determinable until the contingency was resolved. In connection with the closing of the IPO, the Company's outstanding convertible SAFE shares automatically converted into 2,391,418 shares of common stock.

Recently Adopted Accounting Standards

In August 2020, the FASB issued ASU No. 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): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* ("ASU 2020-06"). ASU 2020-06 was issued to reduce the complexity associated with accounting for certain financial instruments with characteristics of liabilities and equity. ASU 2020-06 reduces the number of accounting models for convertible debt instruments and redeemable convertible preferred stock and improves the disclosures for convertible instruments and related

earnings per share guidance. ASU 2020-06 also amends the guidance for the derivatives scope exception for contracts in an entity's own equity and improves and amends the related earnings per share guidance. For public entities that qualify as a filer with the Securities and Exchange Commission, excluding entities eligible to be smaller reporting companies, ASU 2020-06 is effective for fiscal annual periods beginning after December 15, 2021, including interim periods within those fiscal years. For nonpublic entities, ASU 2020-06 is effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. ASU 2020-06 must be adopted as of the beginning of a Company's annual fiscal year. The Company adopted this standard on January 1, 2024, and the adoption of the standard did not have a material impact on its financial statements.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280)—Improvements to Reportable Segment Disclosures* ("ASU 2023-07"). The update requires entities to disclose their significant segment expense categories and amounts for each reportable segment. Significance is assessed using both quantitative and qualitative factors depending on the facts and circumstances. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and interim periods in fiscal years beginning after December 15, 2024. The Company adopted this standard for the fiscal year 2024 annual financial statements and interim financial statements thereafter and has applied this standard retrospectively for all prior periods presented in the financial statements. See Note 13 – Segment Reporting for further information.

Recently Issued Accounting Standards Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Improvements to Income Tax Disclosures* ("ASU 2023-09"). The update requires enhanced disclosures on income taxes paid, adds disaggregation of continuing operations before income taxes between foreign and domestic earnings and defines specific categories for the reconciliation of jurisdictional tax rate to effective tax rate. ASU 2023-09 is effective for fiscal years beginning after December 15, 2024, and can be applied on a prospective basis. The Company is currently evaluating the impact that this standard will have on the related disclosures in its financial statements.

In November 2024, the FASB issued ASU 2024-03, *Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses* ("ASU 2024-03"). The standard requires that public business entities disclose additional information about specific expense categories in the notes to financial statements for interim and annual reporting periods. The guidance is effective for annual periods beginning after December 15, 2026 and interim periods beginning after December 15, 2027. The guidance is applied on a prospective basis, with a retrospective option, and early adoption is permitted. We are currently evaluating the impact of adoption of this standard on our financial statements and disclosures.

3. Fair Value Measurements

The following table presents information about the Company's financial assets and liabilities that are measured at fair value on a recurring basis and indicates their respective levels within the fair value hierarchy (in thousands):

		AS OF DECEMBER 31, 2024			
	CLASSIFICATION	TOTAL	LEVEL 1	LEVEL 2	LEVEL 3
Assets					
Money market funds	Cash and cash equivalents	$ 31,553	$ 31,553	$ —	$ —
Government bonds	Cash and cash equivalents	6,574	—	6,574	—
Commercial paper	Short-term investments	64,855	—	64,855	—
Government and government agency bonds	Short-term investments	59,458	—	59,458	—
Corporate bonds	Short-term investments	20,880	—	20,880	—
Total assets		$ 183,320	$ 31,553	$ 151,767	$ —

	CLASSIFICATION	AS OF DECEMBER 31, 2023 TOTAL	LEVEL 1	LEVEL 2	LEVEL 3
Assets					
Money market funds	Cash and cash equivalents	$ 28,517	$ 28,517	$ —	$ —
Commercial paper	Short-term investments	2,090	—	2,090	—
Government and government agency bonds	Short-term investments	19,982	—	19,982	—
Corporate bonds	Short-term investments	1,395	—	1,395	—
Total assets		$ 51,984	$ 28,517	$ 23,467	$ —
Liabilities					
SAFEs	Liabilities	$ 25,100	$ —	$ —	$ 25,100
Total liabilities		$ 25,100	$ —	$ —	$ 25,100

The carrying amounts of all cash and cash equivalents, accounts receivable, other receivables, prepaid and other current assets, accounts payable, and accrued expenses are considered to be representative of their respective fair values because of the short-term nature of those instruments.

Short-Term Investments

The Company's assets with a fair value categorized as Level 2 within the fair value hierarchy consist of commercial paper, government and government agency bonds, and corporate bonds. These assets have been initially valued at the transaction price and subsequently valued at the end of each reporting period utilizing third-party pricing services. The pricing services utilize industry standard valuation models whereby all significant inputs, including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, bids, offers, or other market-related data, are observable.

Simple Agreements for Future Equity

The estimated fair value of the SAFEs (see Note 7) is determined based on the aggregated, probability-weighted average of the outcomes of certain scenarios, including: (i) equity financing, with conversion of the SAFEs into a number of shares of convertible preferred stock at the lower of the post-money valuation cap price of $48.25 and the discount price (the lowest price of the standard convertible preferred stock sold in the equity financing multiplied by the specified discount rate of 85%); (ii) liquidity event (change of control, direct listing, or an initial public offering,) with mandatory conversion to common stock at the lower of post-money valuation cap price of $48.25 and discount price (price of the common stock multiplied by the discount rate of 85%); and (iii) dissolution event, with SAFE holders automatically entitled to receive cash payments equal to the purchase amount, prior to and in preference to any distribution of any assets or surplus funds to the holders of convertible preferred and common stock. On May 29, 2024, the Company executed an amendment to the SAFEs (the "SAFE Amendment"). The SAFE Amendment amended the definition of liquidity event to exclude an initial public offering and amended the definition of the discount price under an initial public offering to the lower of (a) the price per share of common stock sold to the public by the underwriters in the initial public offering multiplied by the discount rate of 85% or (b) the post-money valuation cap price of $48.25. The combined value of the probability-weighted average of those outcomes is then discounted back to each reporting period in which the SAFEs are outstanding, in each case based on a risk-adjusted discount rate estimated based on the implied interest rate using the changes in observed interest rates of corporate debt that the Company believes is appropriate for those probability-adjusted cash flows.

Fair value measurements associated with SAFEs were determined based on significant inputs not observable in the market, which represent Level 3 measurements within the fair value hierarchy. Increases and decreases in the fair value of the SAFEs can result from updates to assumptions such as expected timing and probability of a qualified financing event, or changes in discount rates, among other assumptions. Based on management's assessment of the valuation of the SAFEs, performed by the Company's third-party valuation specialists, none of the changes in the fair value of those instruments were due to changes in the Company's own credit risk for the reporting periods presented. Judgment is used in determining these assumptions as of the initial valuation date and at

each subsequent reporting period. Changes or updates to assumptions could have a material impact on the reported fair value, and the change in fair value of SAFEs and the results of operations in any given period.

In connection with the closing of the IPO, the Company's outstanding convertible SAFE shares automatically converted into 2,391,418 shares of common stock.

The following tables summarize the significant inputs not observable in the market upon which the fair value measurements associated with the SAFEs were determined:

	VALUATION TECHNIQUE	UNOBSERVABLE INPUT	AS OF DECEMBER 31, 2023
Liabilities			
SAFEs	Scenario-based approach	Probability weighting	15.0% - 70.0%
		Discount rate	20.1%
		Remaining term to event (in years)	0.50 - 0.75

The following table summarizes the changes in fair value associated with Level 3 financial instruments held during the year ended December 31, 2024 (in thousands):

	SAFEs
Balance at December 31, 2023	$ 25,100
Changes in fair value of SAFEs	3,597
Conversion of SAFEs to common stock	(28,697)
Balance at December 31, 2024	$ —

4. Cash, Cash Equivalents and Short-Term Investments

It is the Company's policy to mitigate credit risk in its financial assets by maintaining a well-diversified portfolio that limits the amount of exposure as to maturity and investment type.

The following table summarizes the Company's cash, cash equivalents and short-term investments (in thousands):

	AS OF DECEMBER 31, 2024					
	CLASSIFICATION	MATURITY	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	FAIR MARKET VALUE
Cash and money market funds	Cash and cash equivalents	Less than three months	$ 33,661	$ —	$ —	$ 33,661
Government bonds	Cash and cash equivalents	Less than three months	6,572	2	—	6,574
Commercial paper	Short-term investments	1 year or less	64,840	30	(15)	64,855
Government and government agency bonds	Short-term investments	1 year or less	17,422	7	(1)	17,428
Corporate bonds	Short-term investments	1 year or less	15,539	—	(9)	15,530
Government and government agency bonds	Short-term investments	Greater than 1 year	42,157	1	(128)	42,030
Corporate bonds	Short-term investments	Greater than 1 year	5,366	9	(25)	5,350
Total cash, cash equivalents and short-term investments			$ 185,557	$ 49	$ (178)	$ 185,428

	AS OF DECEMBER 31, 2023					
	CLASSIFICATION	MATURITY	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	FAIR MARKET VALUE
Cash and money market funds	Cash and cash equivalents	Less than three months	$ 53,504	$ —	$ —	$ 53,504
Commercial paper	Short-term investments	1 year or less	2,048	42	—	2,090
Government and government agency bonds	Short-term investments	1 year or less	19,728	254	—	19,982
Corporate bonds	Short-term investments	1 year or less	1,383	12	—	1,395
Total cash, cash equivalents and short-term investments			$ 76,663	$ 308	$ —	$ 76,971

At December 31, 2024, the Company had 12 securities with contractual maturities of one year or less and 21 securities with contractual maturities greater than one year in an unrealized loss position, all of which have been in an unrealized loss position for less than 12 months. The Company does not intend to sell the investments and it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost basis. As of December 31, 2024, no allowance for credit losses was recorded.

5. Property and Equipment, Net

Property and equipment, net consisted of the following (in thousands):

	AS OF	
	DECEMBER 31, 2024	DECEMBER 31, 2023
Lab equipment	$ 10,395	$ 9,760
Furniture and fixtures	871	871
Computers and software	617	607
Leasehold improvements	410	390
	12,293	11,628
Less accumulated depreciation	(5,923)	(3,532)
Total property and equipment, net	$ 6,370	$ 8,096

The Company recognized $2.4 million and $2.3 million in depreciation expense for the years ended December 31, 2024 and 2023, respectively.

6. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	AS OF	
	DECEMBER 31, 2024	DECEMBER 31, 2023
Accrued research and development expenses	$ 1,472	$ 2,861
Accrued payroll and other employee benefits	4,831	4,047
Other accrued expenses	1,089	1,109
Total accrued expenses	$ 7,392	$ 8,017

7. Simple Agreement for Future Equity

During 2023, the Company entered into SAFEs with various existing investors and related parties with aggregate gross proceeds of $24.4 million. The SAFEs granted investors with rights to participate in a future equity financing. The SAFEs have no maturity dates and bear no interest. Upon an equity financing, the SAFEs will automatically convert into the type of stock issued in the financing at a per share conversion price equal to the greater of (i) the purchase amount of the SAFEs divided by the post-money valuation cap price of $48.25 per share, or (ii) the purchase amount of the SAFEs divided by the 85% per share price paid by investors in the financing. Upon an initial public offering, the SAFEs will automatically convert into shares of common stock equal to the purchase amount of the SAFE divided by the discount price (the lower of (a) the price per share of common stock sold to the public by the underwriters in the initial public offering multiplied by the discount rate of 85% or (b) the post-money valuation cap price of $48.25 per share). Other conversion events include liquidity events (a change of control or direct listing). Upon a liquidity event, each investor will automatically be entitled to receive a portion of proceeds equal to the greater of (i) the purchase amounts of the SAFEs, or (ii) the amount payable in the number of common shares equal to the purchase amount of the SAFEs divided by the 85% per share price. Upon a dissolution event and to the extent sufficient funds are available, the holders of SAFEs shall be entitled to receive cash payments equal to the purchase amount, prior to and in preference to any distribution of any assets or surplus funds to the holders of convertible preferred and common stock.

In connection with the closing of the IPO, the Company's outstanding convertible SAFE shares automatically converted into 2,391,418 shares of common stock.

8. Collaboration and License Agreements

The Company has entered into several agreements with GC Cell and related entities concerning its NK cell therapy platform and manufacturing of its core products, as described below.

Option and License Agreement with GC Cell

In September 2019, the Company entered into an option and license agreement with GC Cell Corporation ("GC Cell"), formerly Green Cross Cell Corporation, as amended in June 2020 and February 2022 (the "Core Agreement"). Under the Core Agreement, GC Cell granted the Company an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell relating to non-genetically modified and genetically modified NK cells, and culturing, engineering, manufacturing thereof, to research, develop, manufacture, and commercialize NK cell pharmaceutical products in the Artiva Territory, which is anywhere in the world except for Asia, Australia, and New Zealand. GC Cell retained rights under the license to allow it and its affiliates to perform obligations under the Core Agreement and other agreements between the Company and them.

Under the Core Agreement, GC Cell agreed to conduct a discovery, research, preclinical development, and manufacturing program under a plan approved by a Joint Steering Committee (the "JSC"), to generate and identify product candidates for nomination as option candidates. GC Cell will bear all costs for its work under the R&D Plan, except that the Company will bear all costs for completing IND-enabling activities performed by GC Cell on behalf of the Company, other than certain efficacy studies.

For each product candidate determined by the JSC to be an option candidate, the Company has an exclusive option under the Core Agreement to obtain an exclusive, sublicensable license to research, develop, manufacture and commercialize such candidate in the Artiva Territory for any therapeutic, prophylactic or diagnostic uses in humans, on economic terms to be determined in good faith by the parties. GC Cell retains exclusive rights to the licensed technology in Asia, Australia, and New Zealand, though the Company has the right to request, and GC Cell has agreed to consider in good faith, inclusion of Australia, New Zealand, and/or specific countries in Asia in the Artiva Territory on a product-by-product basis. If the Company elects not to exercise the option with respect to a particular option candidate, GC Cell retains the right to continue development of such candidate. As of December 31, 2024, the Company has exercised its rights to license four option candidates, AB-101 (AlloNK), AB-201, AB-202, and AB-205, as described below.

The Company has control over and will bear the costs of the development, regulatory, manufacturing, and commercialization activities relating to the option candidates for which it has exercised its option, each a licensed product. Accordingly, the Company has certain diligence obligations and must use commercially reasonable efforts to develop and seek regulatory approval for each licensed product in at least one indication in the United States and the European Union, and following regulatory approval in a country, to commercialize such licensed product in at least one indication in such country. The Core Agreement provides that the Company has the right to engage GC Cell or its appropriate affiliate to provide research and manufacturing services for the licensed products being developed by the Company in the Artiva Territory under separately executed service agreements.

Under the Core Agreement, the Company is obligated to pay a low single-digit percentage royalty on net sales of any licensed products, the manufacture, use or sale of which is claimed by or uses any Core IP. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. The Company also has the exclusive option to extend its license to the Core IP to be worldwide with respect to products originated from the Company in exchange for a specified increase in the applicable royalty. GC Cell is also obligated to pay the Company a royalty at a rate equal to 50% of the royalty payable by the Company for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. As of December 31, 2024, the Company has not recognized any net sales royalties under the Core Agreement.

AB-101 Selected Product License Agreement

In November 2019, the Company entered into a license agreement with GC Cell for its AB-101 product candidate, as amended in February 2022 (the "AB-101 Agreement"). AB-101 is the first product for which the Company exercised its option under the Core Agreement. Under the AB-101 Agreement, GC Cell granted the Company an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture, and commercialize AB-101.

Under the AB-101 Agreement, the Company is obligated to pay tiered royalties in the low-mid to high single-digit percentage range on annual net sales of any licensed AB-101 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-101 product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. The Company is also obligated to make milestone payments to GC Cell of: (1) up to $22.0 million upon the first achievement of certain development milestones; and (2) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay the Company a royalty at a rate equal to 50% of the royalty payable by the Company for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-101 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. As of December 31, 2024, the Company has not recognized any net sales royalties or milestones under the AB-101 Agreement.

AB-201 Selected Product License Agreement

In October 2020, the Company entered into a license agreement with GC Cell for its AB-201 product candidate, as amended in February 2022 (the "AB-201 Agreement"). AB-201 is the second product for which the Company exercised its option under the Core Agreement. Under the AB-201 Agreement, GC Cell granted the Company an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture, and commercialize AB-201.

Under the AB-201 Agreement, the Company is obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-201 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-201 product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. The Company is also obligated to make milestone payments to GC Cell of: (1) up to $25.0 million upon the first achievement of certain development milestones; and (2) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay the Company a royalty at a rate equal to 50% of the royalty payable by the Company for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-201 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property.

In September 2023, the Company entered into an amendment to the AB-201 Agreement (the "Amended AB-201 Agreement"). This amendment granted back to GC Cell an exclusive, royalty and milestone bearing license to all information and patents controlled by the Company that relate specifically to the research, development, manufacture and use of AB-201, to be used outside of the Artiva Territory. Under the Amended AB-201 Agreement, the Company will receive tiered royalties in the low single-digit percentage range on annual GC Cell net sales of AB-201 outside of the Artiva Territory. The royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of AB-201 outside of the Artiva Territory and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. The Company will also receive milestone payments upon achievement of certain development milestones, totaling $1.8 million. In December 2023, GC Cell achieved the first regulatory milestone under the Amended AB-201 Agreement for first IND acceptance for AB-201 outside the Artiva Territory.

The Company recognized $0.3 million and $0.6 million of license and development support-related revenue during the years ended December 31, 2024 and 2023, respectively, in the statements of operations and comprehensive loss, related to development support activities under the Amended AB-201 Agreement. As of December 31, 2024 and December 31, 2023, total accounts receivable related to the Amended AB-201 Agreement were zero and $0.6 million, respectively.

AB-205 Selected Product License Agreement

In December 2022, the Company entered into a license agreement with GC Cell for its AB-205 product candidate (the "AB-205 Agreement"). AB-205 is the fourth product for which the Company exercised its option under the Core Agreement. Under the AB-205 Agreement, GC Cell granted the Company an exclusive, royalty-bearing license in the Artiva Territory, with the right to sublicense through multiple tiers, under certain intellectual property and technology owned or controlled by GC Cell, to research, develop, manufacture, and commercialize AB-205.

Under the AB-205 Agreement, the Company is also obligated to pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-205 products. The royalty rate is subject to reduction under certain scenarios, and royalties are payable on a product-by-product and country-by-country basis, beginning with the first commercial sale of a licensed AB-205 product and continuing until the later of: (i) expiration of the last-to-expire claim of the licensed patents and jointly owned patents in the country of sale; (ii) expiration of any regulatory exclusivity for a licensed product in that country; and (iii) the tenth anniversary of the first commercial sale of a licensed product in that country. Upon election by the Company to proceed with clinical development of AB-205 (prior to which the Company may not make, use or sell AB-205 for clinical development purposes), the Company is obligated to pay a one-time payment of $2.5 million to GC Cell. Thereafter, the Company is also obligated to make milestone payments to GC Cell of: (i) up to $29.5 million upon the first achievement of certain development milestones, excluding any payments for the Development Cost Share as defined in the AB-205 Agreement; and (ii) up to $28.0 million upon the first achievement of certain sales milestones. As of December 31, 2024, the Company has not recognized any net sales royalties or milestones under the AB-205 Agreement.

In connection with the AB-205 License Agreement, the Company recognized $0.1 million and $1.6 million of expense reimbursements for development costs invoiced to GC Cell for the years ended December 31, 2024 and 2023, respectively. During the years ended December 31, 2024 and 2023, the Company received payments from GC Cell totaling $0.7 million and $1.0 million, respectively. As of December 31, 2024 and December 31, 2023, the Company recorded zero and $0.6 million, respectively, in the balance sheets as other receivables from GC Cell.

Research Services Agreement with GC Cell

As contemplated by the Core Agreement, in August 2020 the Company entered into the GC Cell Research Services Agreement, as amended in February 2022, under which GC Cell agreed to provide research services in support of the research and development of one or more of the products the Company has licensed from GC Cell.

The agreement provides that the parties will agree to specific projects as work orders under the GC Cell Research Services Agreement. Each work order shall set forth, upon terms mutually agreeable to GC Cell and the Company, the specific services to be performed by GC Cell, the timeline and schedule for the performance of the services, and the compensation to be paid by the Company to GC Cell for the provision of such services, as well as any other relevant terms and conditions (see Note 10).

Master Manufacturing Agreement with GC Cell

In March 2020, the Company entered into a Master Agreement for Manufacturing Services (the "Manufacturing Agreement") with GC Cell, under which GC Cell agreed to manufacture specified products under individual work orders for use in the Company's Phase 1 and Phase 2 clinical trials. Each work order will contain an estimated budget of service fees and out-of-pocket costs to be incurred in the performance of services under the agreement and the work order, as well as additional terms and conditions relating to the estimated budget. The Company will own all results and data generated by GC Cell under the Manufacturing Agreement (see Note 10).

Merck Exclusive License and Collaboration Agreement

In January 2021, the Company entered into the Exclusive License and Research Collaboration Agreement (the "Merck Collaboration Agreement") with Merck for the discovery, development, manufacture and commercialization of CAR-NK cells that target certain solid tumor antigens. Merck paid the Company $30.0 million upfront for two target programs under the Merck Collaboration Agreement. As part of the Merck Collaboration Agreement, the Company was also eligible to receive additional payments for achieving certain development, regulatory approval and sales milestones, as well as royalties on net sales. In addition, the Company would be reimbursed for the conduct of each research program, including external research costs and manufacture and supply of clinical material for Phase 1 clinical trials.

Concurrent with entering into the Merck Collaboration Agreement, the Company also entered into an agreement with GC Cell to obtain exclusive, worldwide rights to GC Cell's CAR-NK technology with respect to the licensed products and to engage GC Cell to perform services in support of the research programs ("Partnered Program License Agreement"). The Company agreed to reimburse GC Cell for research and development services as these services were provided. The Company was required to pay GC Cell 100% of regulatory milestones, sales milestones and royalty payments received by Merck relating to products in Asia, Australia and New Zealand and 50% of upfront payments, license fees, regulatory milestones, sales milestones and royalty payments received by Merck relating to products in all other territories.

In October 2023, the Merck Collaboration Agreement and development thereunder was terminated by Merck.

The Company applied ASC 808 to the Merck Collaboration Agreement and determined that the agreements were applicable to such guidance. The Company concluded that Merck represented a customer and applied relevant guidance from ASC 606 to account for the Merck Collaboration Agreement. In accordance with this guidance, the Company identified its performance obligations, including its grant of a license to Merck to certain of its intellectual property subject to certain conditions, transfer of technology, its conduct of research services, and its participation in a joint research committee. The Company determined that its grant of a license to Merck to certain of its intellectual

property subject to certain conditions was not distinct from other performance obligations because such grant is dependent on the conduct and results of the research services.

Additionally, the Company determined that its conduct of research services was not distinct from other performance obligations since the research could not be conducted without also delivering the rights to the license, developed intellectual property and technology transfer. Accordingly, the Company determined that all performance obligations should be accounted for as one combined performance obligation for each target program, and that the combined performance obligation is transferred over the expected term of the conduct of the research services, which is collectively estimated to be four years, which represents the combined terms for the research programs ("Expected Research Term").

The Company assessed the upfront, non-refundable and non-creditable payment of $30.0 million received in January 2021 and concluded that there was not a significant financing component to the Merck Collaboration Agreement.

The Company also assessed the effects of the variable consideration under the Merck Collaboration Agreement. Such assessment evaluated, among other things, the likelihood of receiving: (i) various clinical, regulatory and commercial milestone payments; and (ii) royalties on net sales. Based on its assessment, the Company concluded that given the substantial uncertainty related to their achievement, such variable consideration was not included in the transaction price.

In accordance with ASC 606, the Company determined that the initial transaction price under the Merck Collaboration Agreement equaled $58.0 million, consisting of the upfront, non-refundable and non-creditable payment of $30.0 million and the aggregate estimated research and development fees of $28.0 million. The initial transaction price was allocated evenly to each of the two product targets. The upfront payment of $30.0 million was recorded as deferred revenue, and was recognized as revenue over the Expected Research Term as the research services were the primary component of the combined performance obligations. Revenue associated with the upfront payment was recognized based on actual costs incurred as a percentage of the estimated total costs expected to be incurred over the Expected Research.

The Company assessed the payments made to GC Cell in connection with the Partnered Program License Agreement and concluded that all payments received from Merck and paid to GC Cell should be reflected within the Company's financial statements on a gross basis. The Company recognized payments from Merck as collaboration revenue as the performance obligation was satisfied over time, and payments made to GC Cell were recognized as research and development expense, as incurred.

The Company recognized zero and $32.9 million of revenue under the Merck Collaboration Agreement during the years ended December 31, 2024 and 2023, respectively. Over the course of the Merck Collaboration Agreement through December 31, 2024, the Company received $39.9 million in payments from Merck, of which $30.0 million related to the upfront fee, and $9.9 million related to reimbursable research services.

Affimed Collaboration Agreement

On November 1, 2022, the Company entered into a strategic collaboration agreement with Affimed GmbH, a subsidiary of Affimed N.V. ("Affimed") for the clinical development and commercialization of a combination therapy, for any uses in humans or animals, comprising Affimed's product consisting of an innate cell engager referred to as "AFM13" and the Company's product containing an NK cell referred to as AB-101 (the "Affimed Collaboration Agreement"). While the collaboration is initially limited to the United States, the parties will, upon Affimed's request, in good faith discuss an expansion to certain other territories.

The Company has granted Affimed, with respect to the development of the combination therapy an exclusive, and with respect to the promotion of the combination therapy under the Affimed Collaboration Agreement a non-exclusive, non-transferable (except to affiliates and successors in interest), royalty-free and non-sublicensable (with certain exceptions) license under relevant Company patents and know-how. Affimed has granted the Company a non-exclusive, non-transferable (except to affiliates and successors in interest), royalty-free license and non-

sublicensable (with certain exceptions) license under relevant Affimed patents and know-how for use in the clinical development of the combination therapy under the Affimed Collaboration Agreement.

The financial terms of the Affimed Collaboration Agreement provides that Affimed shall be responsible for all costs associated with the development of the combination therapy (including all clinical trial costs), except that Affimed and the Company shall each bear 50% of the costs and expenses incurred in connection with the performance of any confirmatory combination therapy clinical trial required by the FDA. The Company shall be solely responsible for all costs incurred by the Company for the supply of AB-101 and IL-2 product used in the clinical trials for the combination therapy, and for carrying out activities assigned to it under the agreed development plan. In addition, under the Affimed Collaboration Agreement, the parties agree to make payments to each other to achieve a proportion of 67%/33% (Affimed/Company) of revenues generated by both parties from commercial sales of each party's product as part of the combination therapy.

During the years ended December 31, 2024 and 2023, the Company incurred $0.1 million and $0.9 million in expenses in connection with the Affimed Collaboration Agreement, respectively.

9. Convertible Preferred Stock and Stockholders' Equity (Deficit)

Stockholders' Equity (Deficit)

Under the Amended and Restated Certificate of Incorporation dated July 22, 2024, the Company had a total of 710,000,000 shares of capital stock authorized for issuance, consisting of 700,000,000 shares of common stock, par value of $0.0001 per share, and 10,000,000 shares of preferred stock, par value of $0.0001 per share. Additionally, the Company has authorized 84,556 shares reserved under the terms specified as part of the Company's Pledge 1% Movement commitment, in support of its corporate social responsibility and philanthropic pursuits.

Convertible Preferred Stock

In 2020 and 2021, the Company issued 2,077,165 shares and 1,595,983 shares, respectively, of Series A convertible preferred stock at a price of $21.93 per share, resulting in aggregate gross proceeds of $70.0 million and total issuance costs of $0.4 million. The Company converted a promissory note with a fair value of $10.6 million as part of the first closing and reclassified a convertible preferred stock purchase right liability with a fair value of $23.7 million into equity as part of the second closing.

In 2021, the Company issued 2,487,237 shares of Series B convertible preferred stock at a price of $48.25 per share resulting in aggregate gross proceeds of $120.0 million and incurred $0.4 million of total issuance costs.

As of December 31, 2023, the Company's Series A and Series B convertible preferred stock was classified as temporary equity in the balance sheets given that the holders of the convertible preferred stock could cause certain events to occur that are outside of the Company's control whereby the Company could be obligated to redeem the convertible preferred stock. The carrying value of the convertible preferred stock was not adjusted to the redemption value until the contingent redemption events are considered to be probable of occurring.

The Company's convertible preferred stock had the following rights, preferences and privileges:

Dividends

The Company shall not declare, pay or set aside any dividends on shares of any class of capital stock of the Company unless the holders of the Series A or Series B convertible preferred stock shall first receive, or simultaneously receive, a dividend on each outstanding share of the Series A convertible preferred stock equal to an amount as defined in the Company's Amended and Restated Certificate of Incorporation. No such dividends have been declared or paid through December 31, 2024.

Preferences on Liquidation

The holders of the Series A convertible preferred stock are entitled to receive liquidation preferences, in the event of a change in control, at an amount per share equal to the greater of (i) the Series A original issuance price of $21.93, plus any dividends declared but unpaid or (ii) such amount per share as would have been payable had all shares of Series A convertible preferred stock been converted into common stock. The holders of the Series B convertible preferred stock are entitled to receive liquidation preferences, in the event of a change in control, at an amount per share equal to the greater of (1) the Series B original issuance price of $48.25, plus any dividends declared but unpaid or (2) such amount per share as would have been payable had all shares of Series B convertible preferred stock been converted into common stock. Liquidation payments to the holders of the Series A and Series B convertible preferred stock have priority and are made in preference to any payments to the holders of common stock.

After full payment of the liquidation preference to the holders of the Series A and Series B convertible preferred stock, the remaining assets, if any, will be distributed ratably to the holders of the common stock.

Conversion Rights

The shares of Series A and Series B convertible preferred stock are convertible into an equal number of shares of common stock, at the option of the holder, subject to certain anti-dilution adjustments. The conversion rate for the convertible preferred stock is determined by dividing the original issue price by the conversion price. The conversion price is initially the original issue price, but is subject to adjustment for dividends, stock splits, and other distributions. The conversion rate at December 31, 2023, for the Series A and Series B convertible preferred stock was 1:1.

Each share of Series A convertible preferred stock will be automatically converted into common stock at the then effective conversion rate (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock) upon: (i) the closing of the sale of common stock to the public 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 $75.0 million of gross proceeds to the Company; or (ii) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of 60% of the outstanding shares of Series A convertible preferred stock. Each share of Series B convertible preferred stock will be automatically converted into common stock at the then effective conversion rate (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock) upon: (1) the closing of the sale of common stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement Securities Act of 1933, as amended, resulting in at least $75.0 million of gross proceeds to the Company; or (2) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of 60% of the outstanding shares of Series B convertible preferred stock.

Redemption Rights

The holders of Series A and Series B convertible preferred stock do not have any redemption rights, except upon certain liquidation events that are outside of the Company's control.

Voting

The holder of each share of Series A and Series B convertible preferred stock generally vote together with the shares of common stock as a single class, but also have class vote approval rights as provided by the Company's certificate of incorporation or as required by applicable law.

Immediately upon completion of the IPO, 6,160,385 outstanding shares of convertible preferred stock converted into 6,160,385 shares of common stock. There are no Series A or Series B convertible preferred shares outstanding as December 31, 2024.

Common Stock

The voting, dividend, and liquidation rights of the holders of the common stock are subject to, and qualified by, the rights, preferences and privileges of the holders of the Series A and Series B convertible preferred stock. The holders of the common stock are entitled to one vote for each share of common stock held at all meetings of stockholders.

Common stock reserved for future issuance consisted of the following:

	AS OF	
	DECEMBER 31, 2024	DECEMBER 31, 2023
Convertible preferred stock	—	6,160,385
Common stock options granted and outstanding	2,216,215	1,315,726
Restricted stock units granted and outstanding	529,359	22,514
Shares available for issuance under the 2024 and 2020 equity incentive plans, respectively	1,820,868	323,131
Shares available for issuance under the ESPP Plan	212,000	—
Shares available for issuance under the Pledge 1% commitment	84,556	84,556
Total common stock reserved for future issuance	4,862,998	7,906,312

Stock Options

In June 2020, the Company adopted the 2020 Equity Incentive Plan (the "2020 Plan"). The 2020 Plan provides for the grant of incentive stock options ("ISO"), non-statutory stock options ("NSO"), stock appreciation rights, restricted stock awards, restricted stock unit awards, and other stock awards.

The 2020 Plan was amended in December 2020, January 2021, July 2021, August 2022, and in April 2024. In April 2024, the 2020 Plan was amended to increase the total number of shares reserved under the 2020 Plan to 2,083,797.

In July 2024, in connection with the closing of the IPO, the Company's board of directors adopted the 2024 Equity Incentive Plan (the "2024 Plan"), a successor to and continuation of the 2020 Plan. Upon the effectiveness of the 2024 Plan, 4,572,025 shares of common stock were authorized for issuance which consists of (1) 2,630,000 new shares of common stock, (2) 115,436 shares available for issuance under the 2020 Plan, and (3) up to 1,826,589 shares of common stock subject to outstanding stock awards granted under the 2020 Plan that, on or after the 2024 Plan becomes effective, expire or otherwise terminate prior to exercise or settlement; are not issued because the stock award is settled in cash; are forfeited or repurchased because of the failure to vest; or are reacquired or withheld to satisfy a tax withholding obligation or the purchase or exercise price, if any, as such shares become available from time to time. Furthermore, upon effectiveness of the 2024 Plan, no further grants will be made under the 2020 Plan, and the 2020 Plan will automatically terminate on June 23, 2030.

Options granted under the 2024 Plan are exercisable at various dates as determined upon grant and will expire no more than 10 years from their date of grant. The exercise price of each option shall be determined by the board of directors based on the estimated fair value of the Company's stock on the date of the option grant. The exercise price shall not be less than 100% of the fair market value of the Company's common stock at the time the option is granted. Most option grants generally vest 25% on the first anniversary of the original vesting commencement date, with the balance vesting monthly over the remaining three years and early exercise is permitted. The vesting period generally occurs over four years unless there is a specific performance vesting trigger at which time those shares will vest when the performance trigger is probable to occur.

On April 6, 2023, the Company's board of directors approved a stock option repricing (the "Option Repricing") in which the exercise price of certain outstanding options to purchase shares of the Company's common stock under the 2020 Plan was reduced to $5.00 per share, the estimated fair value of the Company's common stock as of December 31, 2022. The Option Repricing was intended to motivate holders of options with exercise prices in excess of the estimated fair value of the Company's common stock to remain with the Company and work toward its success. The Option Repricing included options granted pursuant to the 2020 Plan that were held by, among others, members of the Company's board of directors and the Company's named executive officers.

As a result of the Option Repricing, 1,168,651 shares of vested and unvested stock options outstanding as of April 6, 2023, with original exercise prices ranging from $5.14 to $51.72 per share, were repriced to an exercise price of $5.00 per share. The Option Repricing impacted 70 grantees and the total incremental fair value recognized as a result of the repricing was $1.5 million. During the years ended December 31, 2024 and 2023, the Company recorded $0.4 million and $0.8 million of stock-based compensation expense in relation to the Option Repricing, respectively.

A summary of the Company's stock option activity under the 2020 Plan and 2024 Plan is as follows:

	TOTAL OPTIONS	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE	WEIGHTED-AVERAGE REMAINING CONTRACTUAL TERM (in years)	AGGREGATE INTRINSIC VALUE (in thousands)
Outstanding at December 31, 2023	1,315,726	$ 5.02	9.1	$ 214
Granted	1,064,839	11.17	—	—
Exercised	(10,046)	5.04	—	—
Cancelled	(154,304)	8.59	—	—
Outstanding at December 31, 2024	2,216,215	$ 7.72	8.7	$ 7,118
Exercisable as of December 31, 2024	1,135,571	$ 5.08	8.1	$ 5,686

For the year ended December 31, 2024, the Company recorded $6.2 million in stock-based compensation related to employee and non-employee options. The weighted-average grant date fair value of options granted for the years ended December 31, 2024 and 2023, was $8.79 and $3.27 per share, respectively. The total intrinsic value of options exercised during the years ended December 31, 2024 and 2023, was de minimus. Upon the exercise of stock options, the Company will issue new shares of its common stock. As of December 31, 2024, the unrecognized compensation cost related to outstanding employee and non-employee options was $10.4 million and is expected to be recognized as expense over a weighted-average period of 2.8 years.

The assumptions used in the Black-Scholes option pricing model to determine the fair value of the employee and non-employee stock option grants issued for the years ended December 31, 2024 and 2023, were as follows:

	YEAR ENDED DECEMBER 31,	
	2024	2023
Stock price	$5.18 - $15.45	$ 5.00
Risk-free rate of interest	3.5% - 4.6%	3.6% - 4.4%
Expected term (years)	5.1 - 6.1	5.5 - 6.1
Expected stock price volatility	87.2% - 110.5%	86.5% - 88.6%
Expected dividend yield	—	—

Employee Stock Purchase Plan

In connection with the closing of the IPO, the Company's board of directors adopted the 2024 Employee Stock Purchase Plan (the "ESPP"). The ESPP provides for two-year offering periods consisting of four 6-month purchase periods, and at the end of each purchase period employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the last trading day of the purchase period. A new offering is initiated each January 16 and July 16. In the event the fair market value of the Company's common stock on the first day of any new offering is less than or equal to the fair

market value of a ongoing offering, the ongoing offering shall terminate immediately following the purchase of shares of common stock on the purchase date immediately preceding the new offering and participants in the terminated ongoing offering will be automatically enrolled in the new offering.

An aggregate of 212,000 shares were initially reserved and available for issuance under the ESPP. The ESPP provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2025, by the lesser of 1.0% of the outstanding number of shares of common stock on the immediately preceding December 31, and 424,000 shares of common stock. No shares were issued under the ESPP as of December 31, 2024.

The ESPP is considered a compensatory plan, and for the year ended December 31, 2024 the Company recorded related stock-based compensation of $0.2 million. The assumptions used to estimate the fair value of ESPP awards using the Black-Scholes option valuation model were as follows:

	YEAR ENDED DECEMBER 31, 2024
Stock price	$ 11.91
Risk-free rate of interest	4.4% - 5.2%
Expected term (years)	0.5 - 2.0
Expected stock price volatility	84.4% - 87.9%
Expected dividend yield	—

Restricted Stock Unit Awards

Restricted stock unit awards ("RSUs") granted under the 2020 and 2024 Plan are subject to time-based vesting and convert to shares of common stock in accordance with the vesting schedule. RSUs are valued at the estimated fair value of the Company's stock on the date of grant and are amortized over the requisite service period. The total number of RSUs granted represents the maximum number of RSUs eligible to vest based upon the service conditions set forth in the grant agreements. Employees forfeit unvested RSUs upon termination of employment with a corresponding reversal of expense.

During the years ended December 31, 2024 and 2023, 534,095 and zero RSUs were granted by the Company, respectively. As of December 31, 2024, 529,359 total RSUs were outstanding.

The following table summarizes RSU activity under the 2020 and 2024 Plan during the year ended December 31, 2024:

	NUMBER OF STOCK UNITS	WEIGHTED-AVERAGE GRANT DATE FAIR VALUE PER SHARE
Unvested balance at January 1, 2024	22,514	$ 46.83
Granted	534,095	11.43
Vested	(22,514)	46.83
Forfeited	(27,250)	14.20
Unvested balance at December 31, 2024	506,845	$ 11.28

For the year ended December 31, 2024, the Company recorded $0.5 million in stock-based compensation related to RSUs. As of December 31, 2024, the unrecognized compensation cost related to outstanding RSUs was $5.2 million and is expected to be recognized as expense over a weighted-average period of 3.6 years. The total fair value of RSUs vested during the year ended December 31, 2024 was approximately $1.1 million.

Stock-Based Compensation Expense

The following table summarizes stock-based compensation expense by financial statement line item in the Company's statements of operations and comprehensive loss (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Research and development	$ 3,414	$ 3,639
General and administrative	3,566	3,414
Total	$ 6,980	$ 7,053

In 2023, the Company entered into separation agreements with certain executives, terminating their employment and entering into consulting agreements. Under the separation agreements, service-based requirements for one of the executives were deemed satisfied for all RSUs as of the date of separation. In order for RSUs to vest, there must be a liquidity event and the RSUs must meet the time and service-based requirement prior to the defined Liquidity Event Deadline. There were no outstanding RSUs associated with these executives as of December 31, 2024. The Company recognized zero in incremental compensation cost for the year ended December 31, 2024, and $0.5 million in incremental compensation cost for the year ended December 31, 2023 in relation to the service-based requirement met. The separation agreements also provided for extended vesting terms of certain options grants through the term of the consulting agreements. The Company recognized zero in incremental compensation cost for the year ended December 31, 2024, and $0.2 million in incremental compensation cost for the year ended December 31, 2023 in relation to the extended vesting terms.

10. Related Party Transactions

Relationship with GC Cell and GC Corp

GC Cell and GC Corp, subsidiaries of Green Cross Corp, are stockholders of the Company and are represented on the Company's board of directors.

In November 2019, October 2020, March 2021, and December 2022, the Company entered into a license agreement (collectively, the "License Agreements") with GC Cell (see Note 8). In August 2020, the Company entered into a Research and Service Agreement with GC Cell in which GC Cell is to provide mutually agreed research services in support of the research and development of one or more of the Selected Products that the Company has licensed from GC Cell under the License Agreements. The Company did not incur any research and development expense in connection with the agreements for the years ended December 31, 2024 and 2023. As of December 31, 2024 and December 31, 2023, the Company had no accounts payable and accrued expenses in connection with the GC Cell License Agreements and Research Service Agreement.

In September 2023, the Company and GC Cell amended the AB-201 Agreement (see Note 8). The Company recognized $0.3 million and $0.6 million of license and development support-related revenue for the years ended December 31, 2024 and 2023, respectively, on the statements of operations and comprehensive loss, related to GC Cell's achievement of a defined development milestone and development support activities under the Amended AB-201 Agreement. As of December 31, 2024 and December 31, 2023, total accounts receivable related to the Amended AB-201 Agreement were zero and $0.6 million, respectively.

Under the AB-205 Agreement, GC Cell agreed to reimburse the Company for Direct Costs incurred on behalf of GC Cell in accordance with the Development Plan under the AB-205 Agreement, provided that such reimbursed costs are deemed to form part of the Direct Costs incurred and paid by GC Cell (see Note 8). Total reimbursements for development costs invoiced to GC Cell in connection with the AB-205 Agreement were $0.1 million and $1.6 million for the years ended December 31, 2024 and 2023, respectively. During the years ended December 31, 2024 and 2023, the Company received payments from GC Cell in the amounts of $0.7 million and $1.0 million, respectively. As of December 31, 2024 and December 31, 2023, the Company had zero and $0.6 million recorded in the balance sheets as other receivables, respectively.

In March 2020, the Company entered into the Manufacturing Agreement with GC Cell, where GC Cell is to perform manufacturing services with respect to any biological or chemical product manufactured or to be manufactured for use in Phase 1 or Phase 2 clinical trials. The Company amended the Manufacturing Agreement in June 2020 to include the Company's right to terminate the agreement at will. For the years ended December 31, 2024 and 2023, the Company incurred $2.9 million and $3.7 million, respectively, in research and development expenses in connection with the agreement. As of December 31, 2024 and 2023, the Company had $1.0 million and $2.4 million, respectively, of accounts payable and accrued expenses in connection with the Manufacturing Agreement recorded in the balance sheets.

In January 2021, concurrent with entering into the Merck Collaboration Agreement, the Company also entered into a Partnered Program License Agreement with GC Cell to obtain exclusive, worldwide rights to GC Cell's CAR-NK technology with respect to the licensed products and to engage GC Cell to perform services in support of the research programs. The Company agreed to reimburse GC Cell for research and development services as these services were provided. The Company was required to pay GC Cell 100% of regulatory milestones, sales milestones and royalty payments received by Merck relating to products in Asia, Australia and New Zealand and 50% of upfront payments, license fees, regulatory milestones, sales milestones and royalty payments received by Merck relating to products in all other territories. In October 2023, the Merck Collaboration Agreement and development thereunder was terminated by Merck.

For the year ended December 31, 2023 the Company incurred $0.1 million related to research and development services in connection with the Partnered Program License Agreement.

Relationship with RA Capital

RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund, L.P. and Blackwell Partners LLC—Series A (the "RA Capital Funds") are stockholders of the Company and a member of the Company's board of directors is affiliated with the RA Capital Funds.

In June 2024, the Company entered into a services agreement (the "Blackbird Services Agreement") with Blackbird Clinical, Inc. ("Blackbird"), an entity controlled by RA Capital Management, L.P. RA Capital Management, L.P. is the investment manager for the RA Capital Funds. Under the terms of the Blackbird Services Agreement, Blackbird provides consulting services in connection with the Company's clinical trials, including study strategy, clinical operations and patient operations. The Company incurred $0.3 million of research and development expenses in connection with the consulting services from Blackbird for the year ended December 31, 2024. No expenses were incurred with Blackbird for the year ended December 31, 2023. As of December 31, 2024, and December 31, 2023, the Company had $9 thousand and zero in accounts payable and accrued expenses, respectively, in connection with the Blackbird Services Agreement recorded in the balance sheets.

In November 2024, the Company entered into a services agreement (the "Carnot Services Agreement") with Carnot Pharma, LLC ("Carnot"), an entity controlled by RA Capital Management, L.P. RA Capital Management, L.P. is the investment manager for the RA Capital Funds. Under the terms of the Carnot Services Agreement, Carnot

provides consulting services in connection with the Company's clinical trials, including clinical operations and patient advocacy in support of the Company's AlloNK autoimmune programs. The Company incurred $15 thousand of research and development expenses in connection with the consulting services from Carnot for the year ended December 31, 2024. No expenses were incurred with Carnot for the year ended December 31, 2023. As of December 31, 2024, and December 31, 2023, the Company had $15 thousand and zero in accounts payable and accrued expenses, respectively, in connection with the Carnot Services Agreement recorded in the balance sheets.

11. Commitments and Contingencies

Operating Leases

The Company has multiple facility leases in San Diego, California, for office and laboratory space, including a cGMP manufacturing center, under non-cancellable operating leases with various expiration dates through 2029.

The Company leases certain office space in San Diego, California, under a non-cancelable operating lease, with a term through December 2025 (the "Executive Drive Lease"). The lease agreement for 13,405 square feet commenced on December 23, 2019, with a six-year initial term and includes aggregate monthly payments to the lessor of $2.8 million. The Executive Drive Lease also provides for rent abatements and scheduled increases in base rent. In connection with the lease, the Company made a one-time cash security deposit in the amount of $0.4 million, of which $0.2 million was refunded in October 2021, and the remaining $0.2 million is refundable at the end of the lease term and is included in other long-term assets in the Company's balance sheets. The Executive Drive Lease includes a renewal option, which includes an option to renew for five additional years. The Company will not exercise the option and, as such, is not reflected as part of the ROU asset and associated lease liabilities.

In June 2021, the Company entered into a lease agreement for 51,621 square feet of office and laboratory space, and a cGMP manufacturing center in San Diego, California (the "Morehouse Lease"), which represented a portion of a new facility that was under construction. The construction and design of the asset was the primary responsibility of the lessor. The Company was involved in certain aspects of construction and design for certain interior features and leasehold improvements that will be beneficial to the Company to better suit its business needs and intended purpose of the space. The Morehouse Lease is accounted for as an operating lease and commenced in the second quarter of 2022 (office and laboratory space) and in the third quarter 2022 (cGMP manufacturing center). The Morehouse Lease has an initial term of 88 months and includes aggregate monthly payments to the lessor of approximately $23.2 million with a rent escalation clause, and a tenant improvement allowance of approximately $12.3 million. The lease agreement required the Company to provide an unconditional and irrevocable letter of credit in the amount of $0.2 million, which is recorded as restricted cash on the Company's balance sheets as of December 31, 2024 and 2023.

In August 2022, the Company entered into a lease agreement to use designated laboratory and vivarium space in San Diego, California (the "Explora Lease"). The Explora Lease is accounted for as an operating lease and commenced in August 2022. The Explora Lease has an initial term of 36 months and includes aggregate monthly payments to the lessor of approximately $0.8 million with a rent escalation clause.

The following table presents operating rent expense and related short-term lease costs (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Rent expense	$ 4,052	$ 4,113
Variable lease expense	2,029	$ 2,329
Amount of rent expense related to short-term leases	—	286

Future minimum annual obligations under the Company's operating leases with terms in excess of one year are as follows (in thousands):

Year Ended December 31,	
2025	4,070
2026	3,529
2027	3,520
2028	3,626
2029	2,291
Total minimum lease payments	17,036
Less: amount representing interest	(2,848)
Present value of operating lease liabilities	14,188
Less: operating lease liabilities, current	(3,618)
Operating lease liabilities, net of current portion	$ 10,570

As the Company's leases do not provide an implicit rate, the Company uses an incremental borrowing rate based on average discount rate, which were as follows:

	AS OF	
	DECEMBER 31, 2024	DECEMBER 31, 2023
Weighted-average remaining lease term	4.4 years	5.3 years
Weighted-average discount rate	7.7%	7.8%

On July 22, 2022, the Company entered into a sublease (the "Sublease Agreement") with Origis Operating Services, LLC, (the "Sublessee"), whereby the Company agreed to sublease to Sublessee all of the 13,405 rentable square feet of office space in San Diego, California currently leased by the Company under the Executive Drive Lease. The sublease commenced on August 1, 2022, and has a term through December 31, 2025. The aggregate base rent is approximately $2.6 million commencing August 1, 2022. The Company records sublease income as a reduction of general and administrative expense.

The expected undiscounted cash flows to be received from the sublease are as follows (in thousands):

PERIOD ENDED DECEMBER 31,	
2025	$ 873
Total	$ 873

The Company recognized sublease income of $0.8 million for each of the years ended December 31, 2024 and 2023.

12. Income Taxes

The Company reported pre-tax book losses in the United States of $65.4 million and $28.7 million, for the years ended December 31, 2024 and 2023, respectively.

A reconciliation of the U.S. federal statutory income tax rate to the effective tax rate is as follows (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Expected tax benefit at statutory rate	$ (13,730)	$ (6,033)
State income tax, net of federal benefit	(3,531)	(1,024)
Permanent and other	272	118
Change in fair value of SAFEs	755	—
Stock-based compensation expense	(1,479)	1,109
Executive compensation expense	1,626	—
Research credits, net	(2,794)	(3,106)
Change in state and local tax rate	—	(2,335)
Change in valuation allowance	18,881	11,343
Provision for income taxes	$ —	$ 72

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The principal components of the Company's deferred tax assets and liabilities consisted of the following (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Net operating loss carryforwards	$ 29,693	$ 20,424
Capitalized research and development	21,731	16,407
Operating lease liabilities	3,970	4,733
Intangible assets	959	1,042
Research and development credits	8,423	5,652
Other, net	3,410	2,121
Total deferred tax assets	$ 68,186	$ 50,379
Valuation allowance	(63,115)	(44,112)
Deferred tax assets, net of valuation allowance	$ 5,071	$ 6,267
Deferred tax liabilities:		
Fixed assets	(1,211)	(1,636)
Operating lease assets	(3,860)	(4,631)
Total deferred tax liabilities	$ (5,071)	$ (6,267)
Net deferred tax assets / (liabilities)	$ —	$ —

The Company increased its valuation allowance by $19.0 million for the year ended December 31, 2024 in order to maintain a full valuation allowance against its deferred tax assets. Due to the Company's cumulative losses since inception, the Company recorded a full valuation allowance against its deferred tax assets as of December 31, 2024. The Company intends to maintain a valuation allowance until sufficient positive evidence exists to support a reversal of the allowance.

The Company has net operating loss ("NOL") carryforwards for federal and state income tax purposes of $99.7 million and $143.4 million, respectively, as of December 31, 2024. All of the federal net operating loss carryforwards are not subject to expiration but are limited to 80% of the taxable income in the year the carryforward is used. The state net operating loss carryforwards, if not utilized, will expire in 2039.

As of December 31, 2024, the Company has federal and state research and development credit carryforwards of $7.4 million and $5.2 million, respectively. The federal credits will expire in 2041 and the state credits are available indefinitely.

Pursuant to Sections 382 and 383 of the Code, and corresponding provisions of state law, annual use of the Company's federal and state NOLs and research and development credit carryforwards may be limited in the event

of a cumulative ownership change of more than 50 percentage points (by value) within a rolling three-year period. The Company has not completed an ownership change analysis pursuant to Section 382. If ownership changes have occurred or occurs in the future, the amount of remaining tax attribute carryforwards available to offset taxable income and income tax expense in future years may be restricted or eliminated. If eliminated, the related asset would be removed from deferred tax assets with a corresponding reduction in the valuation allowance.

The Company files income tax returns in the United States federal jurisdiction and California. The Company is not currently under examination by any federal, state or local tax authority and all tax years from inception remain open to United States federal and state examination to the extent of the utilization of net operating loss and credit carryovers.

As of December 31, 2024, the Company had unrecognized tax benefits of $5.0 million related primarily to the federal and state research and development credits as a result of no formal research credit study performed.

A reconciliation of the beginning and ending unrecognized tax benefit amount is as follows (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Unrecognized Tax Benefits - Beginning	$ 3,999	$ 2,853
Increases related to current year positions	1,012	1,040
Increases (decreases) related to prior year positions	(16)	106
Unrecognized Tax Benefits - Ending	$ 4,995	$ 3,999

Due to the full valuation allowance, future recognition of previously unrecognized tax benefits will not impact the Company's effective tax rate. The Company recognizes interest expense and penalties related to the above unrecognized tax benefits within income tax expense (benefit). Management determined that no accrual for interest and penalties was required as of December 31, 2024.

13. Segment Information

The CODM assesses performance for the life sciences segment based on net loss, which includes evaluating the progress of ongoing clinical trials. The life sciences segment is dedicated to developing off-the-shelf, allogeneic, NK cell-based therapies that are effective, safe and accessible for patients with devastating autoimmune diseases and cancers. The measure of segment assets is reported on the balance sheet as total assets. All long-lived assets are maintained in the United States. The following table contains information on segment profit or loss, including significant segment expenses (in thousands):

	YEAR ENDED DECEMBER 31,	
	2024	2023
Revenue	$ 251	$ 33,492
Less:		
AB-101	19,978	14,090
Other programs[(a)]	330	3,797
Personnel-related	30,465	28,610
Other[(b)]	16,760	17,666
Other income, net	1,909	2,023
Provision for income taxes	—	(72)
Net loss	$ (65,373)	$ (28,720)

(a) Other programs primarily includes costs associated with AB-201, Merck, and Affimed.

(b) Other primarily includes consultant, depreciation, rent, common area maintenance, lab supplies, legal, and insurance expenses.

ARTIVA BIOTHERAPEUTICS, INC.
5505 Morehouse Drive, Suite 100
San Diego, California 92121

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On June 24, 2025

Dear Stockholder:

You are cordially invited to attend the Annual Meeting of Stockholders (the Annual Meeting) of Artiva Biotherapeutics, Inc., a Delaware corporation (the Company). The meeting will be held on Tuesday, June 24, 2025, at 8:30 a.m. Pacific Time. The Annual Meeting will be a virtual meeting of stockholders, which will be conducted only via a live audio webcast. You will be able to attend the Annual Meeting, submit your questions and vote online during the meeting by visiting www.proxydocs.com/ARTV. A complete list of record stockholders will be available for examination on a reasonably accessible electronic network by any stockholder for any purpose germane to the Annual Meeting for a period of ten days ending on the day before the Annual Meeting date. If you would like to view the list, please email us at ir@artivabio.com. The meeting will be held for the following purposes:

1. To elect the Board's nominee for Class I director named as nominee in this Proxy Statement to hold office until the 2028 Annual Meeting of Stockholders and his successor is duly elected and qualified, or until his earlier death, resignation or removal.

2. To ratify the appointment by the Audit Committee of the Board of KPMG LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2025.

3. To approve an amendment to the Company's 2024 Equity Incentive Plan (the 2024 Plan) to increase the aggregate number of shares of common stock authorized for issuance under the plan by 1,214,580 shares.

4. To conduct any other business properly brought before the meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

The Annual Meeting will be held virtually through a live webcast. Stockholders of record at the close of business on April 25, 2025, and their proxy holders will be able to attend the Annual Meeting, submit questions and vote during the live webcast by visiting www.proxydocs.com/ARTV and entering the Control Number included in your Notice of Internet Availability or in the instructions that you received via email. Please refer to the additional logistical details and recommendations in the accompanying Proxy Statement. You may log-in beginning at 8:15 a.m. Pacific Time, on Tuesday, June 24, 2025.

Only stockholders of record at the close of business on April 25, 2025, and their proxy holders may vote at the meeting or any adjournment thereof.

By Order of the Board of Directors

/s/ Fred Aslan, M.D.
Fred Aslan, M.D.
President and Chief Executive Officer
San Diego, California
April 28, 2025

Important Notice Regarding the Availability of Proxy Materials for the Stockholders' Meeting to Be Held on Tuesday, June 24, 2025, at 8:30 a.m. Pacific Time at www.proxydocs.com/ARTV.

The proxy statement and annual report to stockholders are available at investors.artivabio.com/financials/sec-filings and www.proxydocs.com/ARTV.

You are cordially invited to attend the meeting online. Whether or not you expect to attend the meeting, please vote over the telephone or the internet as instructed in these materials, or, if you receive a paper proxy card by mail, by completing and returning the proxy mailed to you, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote online if you attend the meeting.

ARTIVA BIOTHERAPEUTICS, INC.

PROXY STATEMENT
FOR THE 2025 ANNUAL MEETING OF STOCKHOLDERS

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ARTIVA BIOTHERAPEUTICS, INC.
5505 Morehouse Drive, Suite 100
San Diego, California 92121

PROXY STATEMENT
FOR THE 2025 ANNUAL MEETING OF STOCKHOLDERS

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive a notice regarding the availability of proxy materials on the internet?

Pursuant to rules adopted by the Securities and Exchange Commission (the SEC), we have elected to provide access to our proxy materials over the internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the Notice) because the board of directors (the Board) of Artiva Biotherapeutics, Inc. (sometimes referred to as the Company or Artiva) is soliciting your proxy to vote at the 2025 Annual Meeting of Stockholders, including at any adjournments or postponements of the meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the internet or to request a printed copy may be found in the Notice.

We intend to first mail the Notice and make this Proxy Statement and the form of proxy available to stockholders on or about May 2, 2025.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after May 12, 2025.

How do I attend the Annual Meeting?

This year's Annual Meeting will be a virtual meeting, which will be conducted entirely online via audio webcast to allow greater participation. You may attend, vote and ask questions at the Annual Meeting by following the instructions provided on the Notice or proxy card to log in to www.proxydocs.com/ARTV. If you are a stockholder of record, you will be asked to provide the control number from your Notice or proxy card. If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, follow the instructions from your broker or bank.

The audio webcast of the Annual Meeting will begin promptly at 8:30 a.m. Pacific Time. We encourage you to access the meeting prior to the start time. Online check-in will begin at 8:15 a.m. Pacific Time, and you should allow reasonable time for the check-in procedures.

You are entitled to attend the Annual Meeting if you were a stockholder as of the close of business on April 25, 2025, the record date, or hold a valid proxy for the meeting. To be admitted to the Annual Meeting, you will need to visit www.proxydocs.com/ARTV and enter the Control Number found next to the label "Control Number" on your Notice or proxy card, or in the email sending you the Proxy Statement. If you are a beneficial stockholder, you should contact the bank, broker or other institution where you hold your account well in advance of the meeting if you have questions about obtaining your control number/ proxy to vote.

Whether or not you participate in the Annual Meeting, it is important that you vote your shares.

What if I cannot find my Control Number?

If you are a stockholder of record, you will be need to contact the Company by email at ir@artivabio.com and request your Control Number prior to the Annual Meeting.

If you are a beneficial owner (that is, you hold your shares in an account at a bank, broker or other holder of record), you will need to contact that bank, broker or other holder of record to obtain your Control Number prior to the Annual Meeting.

Where can we get technical assistance if we are having trouble accessing the meeting or during the meeting?

If you have difficulty accessing the meeting or during the meeting, please refer to the technical support telephone number posted on the virtual meeting website login page, where technicians will be available to help you.

For the Annual Meeting, how do we ask questions of management and the Board?

Stockholders may submit questions relevant to the proposals to be voted on at the Annual Meeting for approximately five days in advance of the Annual Meeting through www.proxydocs.com/ARTV. We plan to spend up to 15 minutes answering appropriate stockholder questions at the conclusion of the Annual Meeting and will include as many stockholder questions that comply with the rules of conduct for the Annual Meeting as the allotted time permits. If we receive substantially similar questions, we will group such questions together and provide a single response to avoid repetition. Questions that are not relevant to the proposals to be voted on at the Annual Meeting will not be responded to. Questions may be submitted during the Annual Meeting through www.proxydocs.com/ARTV.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on April 25, 2025, will be entitled to vote at the Annual Meeting.

Stockholder of Record: Shares Registered in Your Name

If on April 25, 2025, your shares were registered directly in your name with Artiva Biotherapeutics, Inc.'s transfer agent, Equiniti Trust Company, LLC, then you are a stockholder of record. As a stockholder of record, you may vote online at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to fill out and return your vote by proxy over the telephone, vote by proxy through the internet or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If on April 25, 2025, your shares were held, not in your name, but rather in an account at a brokerage firm, bank or other similar organization, then you are the beneficial owner of shares held in "street name" and the Notice should be forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker, bank or other agent regarding how to vote the shares in your account. You must follow the instructions provided by your brokerage firm, bank, or other similar organization for your bank, broker or other stockholder of record to vote your shares per your instructions. Alternatively, many brokers and banks provide the means to grant proxies or otherwise instruct them to vote your shares by telephone and via the Internet, including by providing you with a control number via email or on your Notice or your voting instruction form. If your shares are held in an account with a broker, bank or other stockholder of record providing such a service, you may instruct them to vote your shares by telephone (by calling the number provided in the proxy materials) or over the Internet as instructed by your broker, bank or other stockholder of record. If you did not receive a control number via email or on your Notice or voting instruction form, and you wish to vote prior to or at the virtual Annual Meeting, you must follow the instructions from your broker, bank or other stockholder of record, including any requirement to obtain a valid legal proxy. Many brokers, banks and other stockholders of record allow a beneficial owner to obtain a valid legal proxy either online or by mail, and we recommend that you contact your broker, bank or other stockholder of record to do so.

What am I voting on?

There are three matters scheduled for a vote:

- To elect the Board's nominee for director named as nominee in this Proxy Statement to serve until the 2028 Annual Meeting of Stockholders and his successor are duly elected and qualified, or until his earlier death, resignation or removal. (Proposal 1);
- To ratify the appointment by the Audit Committee of the Board of KPMG LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2025. (Proposal 2); and
- To approve an amendment to the Company's 2024 Plan to increase the aggregate number of shares of common stock authorized for issuance under the plan by 1,214,580 shares. (Proposal 3).

What if another matter is properly brought before the meeting?

The Board does not know of any other matters to be brought before the meeting. If other matters are presented, the proxy holders have discretionary authority to vote all proxies in accordance with their best judgment. Discretionary authority for them to do so is provided for in the proxy card.

How do I vote?

For Proposal 1, you may either vote "For" the nominee to the Board or you may "Withhold" your vote for the nominee to the Board. For each of the other matters to be voted on, you may vote "For" or "Against" or abstain from voting.

The procedures for voting are fairly simple:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote at the Annual Meeting or you may vote by proxy over the telephone, through the internet or using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting and vote at the Annual Meeting even if you have already voted by proxy. This is only required if you want to change your original vote, since votes will not be double counted.

By Internet	By Telephone	By Mail	During the Meeting
You may vote your shares from any location in the world at www.proxypush.com/ARTV (you will need the control number printed on your Notice or proxy card)	You may vote your shares by calling 1-866-390-5317 and following the instructions on your proxy card.	If you received a proxy card by mail, you may vote by completing, dating and signing the proxy card and promptly mailing it in the postage-paid envelope provided.	To vote at the meeting, visit www.proxydocs.com/ARTV (you will need the control number printed on your Notice or proxy registration confirmation email)

Internet and telephone voting facilities for stockholders of record will be available 24 hours a day and will close at 8:30 a.m. Pacific Time on June 24, 2025.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, you should have received a Notice containing voting instructions from that organization rather than from the Company. You must follow these instructions for your bank, broker or other stockholder of record to vote your shares per your instructions. Alternatively, many brokers and banks provide the means to grant proxies or otherwise instruct them to vote your shares by telephone and via the Internet, including by providing you with a control number via email or on your Notice

of Availability or your voting instruction form. If your shares are held in an account with a broker, bank or other stockholder of record providing such a service, you may instruct them to vote your shares by telephone (by calling the number provided in the proxy materials) or over the Internet as instructed by your broker, bank or other stockholder of record. If you did not receive a control number via email or on your Notice of Availability or voting instruction form, and you wish to vote prior to or at the virtual Annual Meeting, you must follow the instructions from your broker, bank or other stockholder of record, including any requirement to obtain your control number. Many brokers, banks and other stockholders of record allow a beneficial owner to obtain their control number either online or by mail, and we recommend that you contact your broker, bank or other stockholder of record to do so.

Internet proxy voting will be provided to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

Each share of common stock you owned as of April 25, 2025, is entitled to one vote.

If I am a stockholder of record and I do not vote, or if I return a proxy card or otherwise vote without giving specific voting instructions, what happens?

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the internet or online at the Annual Meeting, your shares will not be voted.

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, "For" the election of the nominee for director, "For" the amendment to the 2024 Plan, and "For" the ratification of the appointment by the Audit Committee of the Board of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2025. If any other matter is properly presented at the meeting, your proxy holder (one of the individuals named on your proxy card) will vote your shares using that individual's best judgment.

If I am a beneficial owner of shares held in street name and I do not provide my broker or bank with voting instructions, what happens?

If you are a beneficial owner of shares held in street name and you do not instruct your broker, bank or other agent how to vote your shares, your broker, bank or other agent may still be able to vote your shares in its discretion. Brokers, banks and other securities intermediaries may use their discretion to vote your "uninstructed" shares with respect to matters considered to be "routine," but not with respect to "non-routine" matters. In this regard, Proposals 1 and 3 are considered to be "non-routine," meaning that your broker may not vote your shares on these proposals in the absence of your voting instructions. Proposal 2 is considered to be a "routine" matter, meaning that if you do not return voting instructions to your broker by its deadline, your shares may be voted by your broker in its discretion on Proposal 2.

If you are a beneficial owner of shares held in street name, and you do not plan to attend the Annual Meeting, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.

What are "broker non-votes"?

As discussed above, when a beneficial owner of shares held in street name does not give voting instructions to his or her broker, bank or other securities intermediary holding his or her shares as to how to vote on matters deemed to be "non-routine," the broker, bank or other such agent cannot vote the shares. When there is at least one "routine" matter that the broker, bank or other securities intermediary votes on, the shares that are un-voted on "non-routine"

matters are counted as "broker non-votes." Proposal 2 is a "routine" matter and we therefore expect brokers, banks or other securities intermediaries to vote on this proposal. Proposal 1 and Proposal 3 are considered to be "non-routine" matters and we therefore expect broker non-votes to exist in connection with that proposal.

As a reminder, if you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.

Who is paying for this proxy solicitation?

Artiva Biotherapeutics, Inc. will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by email, by telephone or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the Notices to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

- You may submit another properly completed proxy card with a later date.
- You may grant a subsequent proxy by telephone or through the internet.
- You may send a timely written notice that you are revoking your proxy to Artiva Biotherapeutics, Inc.'s Secretary at 5505 Morehouse Drive, Suite 100, San Diego, California 92121. Such notice will be considered timely if it is received at the indicated address by the close of business on the business day one week preceding the date of the Annual Meeting.
- You may attend the Annual Meeting and vote online. Simply attending the Annual Meeting will not, by itself, revoke your proxy.

Your most current proxy card or telephone or internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your broker, bank or other agent, you should follow the instructions provided by your broker, bank or other agent.

What vote is required for adoption or approval of each proposal and how will votes be counted?

Proposal Number	Proposal Description	Vote Required for Approval	Voting Options	Effect of Abstentions [or Withhold votes, as applicable]	Effect of Broker Non-Votes	Board Recommendation
1	Election of Director named in this Proxy Statement	The nominee receiving the most "For" votes will be elected	FOR or WITHOLD	No Effect	No Effect	FOR the nominee
2	Ratification of the appointment of KPMG LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2025	"For" votes from a majority of the votes cast on this proposal is required for approval.	FOR, AGAINST or ABSTAIN	No Effect	No Effect	FOR
3	Approve Company's 2024 Equity Incentive Plan to increase the aggregate number of shares of common stock authorized for issuance by 1,214,580 shares	"For" votes from a majority of the votes cast on this proposal is required for approval.	FOR, AGAINST or ABSTAIN	No Effect	No Effect	FOR

Who will count the vote?

Representatives of BetaNXT Inc. will tabulate the votes and act as inspectors of election.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the voting power of the outstanding shares entitled to vote at the Annual Meeting are present in person or represented by proxy. On April 25, 2025, there were 24,363,119 shares of common stock, outstanding and entitled to vote.

Abstentions and broker non-votes will not be counted towards the quorum requirement. If there is no quorum, either the chairperson of the Annual Meeting or the holders of a majority of the voting power of the shares present at the Annual Meeting or represented by proxy and entitled to vote (excluding abstentions and broker non-votes) may adjourn the Annual Meeting to another date.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Proxy Statement contains certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, relating to future events. Such statements are only predictions and involve risks and uncertainties, resulting in the possibility that the actual events or performance will differ materially from such predictions. For a nonexclusive list of major factors which could cause the actual results to differ materially from the predicted results in the forward-looking statements, please refer to the "Risk Factors" in Part I. Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and in our subsequent periodic reports on Form 10-Q and Form 8-K.

PROPOSAL 1: ELECTION OF DIRECTORS

Under our amended and restated certificate of incorporation (the Certificate of Incorporation) and amended and restated bylaws (the Bylaws), the Board is divided into three classes, with only one class of directors being elected in each year and each class, Class I, Class II and Class III, serving a three-year term. Each Class I director has a term that expires at this Annual Meeting, each Class II director has a term that expires at the Company's 2026 annual meeting of stockholders and each Class III director has a term that expires at the Company's 2027 annual meeting of stockholders, or in each case until their respective successors are duly elected and qualified, or until their earlier death, resignation, or removal.

There are currently nine members of the Board. There are three Class I directors whose term of office expires at the Annual Meeting: Daniel Baker, Ph.D., Laura Bessen, M.D. and Yong-Jun Huh. Upon the recommendation of the Nominating and Corporate Governance Committee, the Board has considered and nominated the incumbent Class I director listed below, who has not previously been elected by our stockholders, for election to the Board at the Annual Meeting. Proxies may not be voted for a greater number of persons than the number of nominees named in this Proxy Statement.

We have no reason to believe that the nominee will be unavailable or, if elected, will decline to serve. In the event that the nominee should become unavailable for election due to any presently unforeseen reason, proxies will be voted for a substitute as designated by the Board, or alternatively, the Board may leave a vacancy on the Board or reduce the size of the Board.

Nominees for Election to the Board of Directors

Our Board of Directors

The biography of our nominee for election to the Board as a Class I director, and all other directors are set forth below, including the offices held, other business directorships and the class and term of the director nominee and each director. Each of the biographies highlights specific experience, qualifications, attributes, and skills that led us to conclude that such person should serve as a director. We believe that, as a whole, our Board possesses the requisite skills and characteristics, leadership traits, work ethic, and independence to provide effective oversight. No director or executive officer is related by blood, marriage, or adoption to any other director or executive officer. No arrangements or understandings exist between any director and any other person pursuant to which such person was selected as a director or nominee.

All of the Company's incumbent directors have previously been elected by our stockholders, other than Daniel Baker, Ph.D., who was appointed by our Board on January 28, 2025, and Alison Moore, Ph.D., who was appointed by the Board on October 21, 2024. Dr. Baker was identified as a potential director nominee by a member of our Board, and Dr. Moore was identified as a potential director nominee by a member of management.

Class I Director Nominee for Election at the Annual Meeting

Director Biographies

Daniel Baker, Ph.D.

Director

Director Since: January 2025
Age: 74

Current Committee Memberships: Clinical Strategy Committee

Effective following the Annual Meeting, Dr. Baker will also serve on the Compensation Committee and Nominating and Corporate Governance Committee as Chair.

Dr. Baker has served as the interim Chief Development Officer of Cue Biopharma, Inc. since November 2024. Previously, Dr. Baker served as Chief Executive Officer, founder and member of the board of directors of Kira Biotech Pty Ltd, a biotechnology company advancing novel drugs targeting immune system disorders from April 2019 to December 2024. Dr. Baker also has 19 years of experience from 2000 to 2019 at Johnson & Johnson (Janssen/Centocor), most recently as the Vice President of Immunology R&D. During his tenure at Johnson & Johnson, he led the clinical development of Remicade, Simponi and Stelara, as well as other major clinical drug programs. Dr. Baker also previously served as Executive Director on the Board of Galapagos Therapeutics from April 2022 to October 2024. He holds a B.A. in Biology from Gettysburg College and an M.D. from the University of Pennsylvania. Dr. Baker completed his medical residency at Hershey Medical Center and fellowship in Rheumatology at the University of Pennsylvania, followed by a research fellowship in Rheumatology at Mass General Hospital. He continued on as part of the faculty of the University of Pennsylvania for 18 years before taking on industry roles.

Skills and Qualifications

Our Board believes that Dr. Baker's extensive executive-level business experience and research and clinical development experience in the pharmaceutical industry qualifies him to serve on our Board.

Class II Directors Continuing in Office Until Our 2026 Annual Meeting

Brian Daniels, M.D.

Chairperson

Director Since: June 2020
Age: 66

Committee Memberships: Audit Committee, Clinical Strategy Committee, Compensation Committee Chair, Nominating and Corporate Governance Committee and Philanthropic Committee

Dr. Daniels has served as a Partner at 5AM Venture Management LLC, a life-science focused venture capital firm, since August 2018, which he joined as a Venture Partner in October 2014. Previously, Dr. Daniels served as Senior Vice President, Global Development and Medical Affairs at BMS from 2004 to 2014 and Vice President, Immunology at BMS from 2000 to 2004. Dr. Daniels served as a member of the board of directors of Ideaya Biosciences, Inc. from June 2018 to January 2019, Novo Nordisk A/S from March 2016 to March 2021, Cabaletta from October 2018 to June 2021 and CSL Ltd. since December 2024. Dr. Daniels received his B.S. and M.S. degrees from Massachusetts Institute of Technology and his M.D. from Washington University in St. Louis. He completed his residency in internal medicine at New York Hospital and a fellowship in rheumatology and immunology at University of California, San Francisco.

Skills and Qualifications

Our Board believes that Dr. Daniels' expertise and leadership experience in the venture capital industry and in the life sciences industry qualify him to serve on our Board.

Diego Miralles, M.D.

Director

Director Since: May 2024 *Committee Memberships*: Clinical Strategy Committee Chair

Age: 62

Dr. Miralles has served as the Chief Executive Officer at AZURNA Therapeutics, Inc., a private pharmaceutical development company, since January 2024. From December 2020 to September 2022, Dr. Miralles served as Chief Executive Officer at Laronde Inc., an early-stage biotechnology company. Dr. Miralles also served as Chief Executive Officer at Vividion, from August 2017 to September 2020. Dr. Miralles has served as a member of the board of directors at Rady Children's Institute for Genomic Medicine since 2008, served as a member of the board of directors at NeuBase Therapeutics, Inc., a public biopharmaceutical company, from April 2019 to April 2021, has served as a member of the board of directors of St. Vincent de Paul Village, Inc. (dba Father Joe's Villages), a 501(c)3 charitable organization, and has served as a member of the board of directors at Contineum Therapeutics, Inc., a public biopharmaceutical company, from March 2025. Dr. Miralles received his M.D. degree from the University of Buenos Aires.

Skills and Qualifications

Our Board believes that Dr. Miralles's executive-level management experience in the life sciences industry qualifies him to serve on our Board.

Laura Stoppel, Ph.D.

Director

Director Since: June 2020 *Committee Memberships*: Clinical Strategy Committee and Nominating and Corporate Governance Committee Chair

Age: 39

Effective following the Annual Meeting, Dr. Stoppel will also serve on the Audit Committee and will no longer serve on the Nominating and Corporate Governance Committee.

Dr. Stoppel is a Principal at RA Capital Management, L.P., a multi-stage investment manager where she has worked since 2016. Dr. Stoppel has served as a member of the board of directors of Acumen Pharmaceuticals, Inc. since November 2020 and has served as a member of the board of directors of a number of private companies. Dr. Stoppel earned her B.A. in Biology and Psychology from Harvard University and her Ph.D. in Neuroscience from the Massachusetts Institute of Technology.

Skills and Qualifications

Our Board believes that Dr. Stoppel's education, expertise and experience in the finance and life sciences industries qualify her to serve on our Board.

Class III Directors Continuing in Office Until Our 2027 Annual Meeting

Fred Aslan, M.D.

President, Chief Executive Officer, and Director

Director Since: January 2021 *Committee Memberships*: None
Age: 50

Dr. Aslan has served as our President and Chief Executive Officer since January 2021. Prior to his employment with us as our Chief Executive Officer, Dr. Aslan provided consulting services to us in December 2020. From September 2018 to December 2020, Dr. Aslan served as President and Chief Business Officer of Vividion Therapeutics, Inc. (Vividion), a private company focused on developing a range of small molecule therapies for oncology and immunology indications, where he was responsible for business development, finance, alliance and product management, and operations. From January 2011 to August 2018, Dr. Aslan was Founder and Chief Executive Officer of Adavium Medical, Ltd., a private Brazilian medical device and in vitro diagnostics company. From June 2006 to August 2013, he was a Vice President at Venrock, a venture capital firm. While at Venrock, Dr. Aslan was a co-founder and served as a board member at Receptos Pharmaceuticals, Inc. Prior to that, Dr. Aslan was Director of Corporate Development and Head of Investor Relations at Curagen Corporation, an oncology-focused biotechnology company, and a consultant to healthcare clients at Boston Consulting Group. Dr. Aslan received a B.S. in Biology from Duke University, and M.D. from Yale University, and an M.B.A. from Harvard Business School.

Skills and Qualifications

Our Board believes that Dr. Aslan's extensive scientific, business and executive-level management experience in the biotechnology industry qualify him to serve on our Board.

Elizabeth Hougen

Director

Director Since: April 2021 *Committee Memberships*: Audit Committee Chair
Age: 63

Ms. Hougen has served as Executive Vice President and Chief Financial Officer at Ionis Pharmaceuticals, Inc. (Ionis), a public biotechnology company, since April 2020. Previously, Ms. Hougen held various roles at Ionis, including serving as Senior Vice President, Finance and Chief Financial Officer, from January 2013 to March 2020, Vice President, Finance and Chief Accounting Officer, from January 2007 to December 2012, and Vice President, Finance from May 2000 to January 2007. Prior to joining Ionis in 2000, Ms. Hougen was Executive Director, Finance and Chief Financial Officer for Molecular Biosystems, Inc., a public biotechnology company. Ms. Hougen received her B.A. in Business from Franklin & Marshall College and her M.B.A. from the University of San Diego.

Skills and Qualifications

Our Board believes that Ms. Hougen's extensive business and executive-level management experience in the biotechnology industry qualifies her to serve on our Board.

Alison Moore, Ph.D.

Director

Director Since: October 2024
Age: 58

Committee Memberships: Technical Operations Committee

Dr. Moore currently serves as Chief Technical Officer of Codexis Inc, an enzyme engineering company, since October 2024. Previously, Dr. Moore served as Chief Technical Officer and Executive Vice President of Operations at Allogene Therapeutics, Inc., a public biotechnology company, from June 2018 to May 2023. From 1996 to 2018, Dr. Moore served various roles at Amgen, a public pharmaceutical company. These roles included, mostly recently, Senior Vice President of Process Development from August 2014 to May 2018. Dr. Moore also has experience at Genentech, Inc. as a Director in Chemistry, Manufacturing and Controls, Regulatory Affairs from 2005 to 2006. Dr. Moore has served as a member of the technical advisory board of National Resilience, Inc., a private biotechnology company since 2021. Dr. Moore served on the board of directors at Codexis, Inc. from June 2020 to September 2024, where she served as a member of its science and technology committee of the board and as chair of its compensation committee of the board. Dr. Moore previously served as an executive board member for the Alliance for Regenerative Medicine, an international advocacy organization from January 2022 to October 2023. Dr. Moore received her Ph.D. in Cell Biology from Manchester University, England and her bachelor's degree in Pharmacology from Manchester University, England.

Skills and Qualifications

Our Board believes that Dr. Moore's significant experience as an executive of biotechnology pharmaceutical companies and prior experience as a director of a public biotechnology company qualifies her to serve on our Board.

The Board of Directors and Certain Governance Matters

Director Nomination Process and Qualifications

We believe that an effective board of directors should be made up of individuals who collectively provide an appropriate balance of diverse occupational and personal backgrounds and perspectives and who have a range of skills and expertise sufficient to provide guidance and oversight with respect to the Company's strategy and operations. Our Board and our Nominating and Corporate Governance Committee seek individuals with backgrounds and qualities that, when combined with those of our other directors, enhance our Board's effectiveness and result in the Board having a balance of knowledge, experience, and capability. Our Nominating and Corporate Governance Committee considers candidates who are recommended by its members, by other Board members, by stockholders, and by management, as well as those identified by third-party search firms retained to assist in identifying and evaluating possible candidates.

In assessing potential candidates, our Board and Nominating and Corporate Governance Committee will consider, among other factors, whether the candidate possesses relevant expertise to offer advice and guidance to management, has sufficient time to devote to the affairs of the Company, demonstrates excellence in the candidate's field; has the ability to exercise sound business judgment and is committed to represent the long-term interests of the Company's stockholders.

Nominations by Stockholders

Our Nominating and Corporate Governance Committee will evaluate director candidates recommended by stockholders in the same manner in which the Nominating and Corporate Governance Committee evaluates any other director candidate.

Any recommendation submitted to the Company should be in writing and should include any supporting material the stockholder considers appropriate in support of that recommendation but must include information that would be required under the "advance notice" provisions of the Company's bylaws and rules of the SEC to be included in a proxy statement soliciting proxies for the election of such candidate. Stockholders wishing to propose a candidate for consideration may do so by submitting the above information to the attention of the Nominating and Corporate Governance Committee of the Company c/o Artiva Biotherapeutics, Inc. at 5505 Morehouse Drive, Suite 100, San Diego, California 92121 Attn: Corporate Secretary and such director nominations will be presented to the Board for its consideration. Stockholders must also satisfy the notification, timeliness, consent, and information requirements set forth in our bylaws. These requirements are also described under the section entitled "*Stockholder Proposals for the 2025 Annual Meeting of Stockholders*".

Board Diversity

Our board values a range of perspectives, backgrounds, and experiences to support effective decision-making and corporate oversight. With the assistance of the Nominating and Corporate Governance Committee, our Board regularly reviews its composition, including factors such as professional expertise, industry experience, and diversity of backgrounds.

We believe that our current directors possess diverse professional experiences, skills and backgrounds, in addition to, among other characteristics, high standards of personal and professional ethics and valuable knowledge of our business and our industry.

Director Independence and Independence Determinations

Our Board will consist of a majority of independent directors in accordance with applicable Nasdaq listing standards. Under Nasdaq listing standards, a director is not independent unless the Board affirmatively determines that such director does not have a direct or indirect material relationship with the Company or any of its subsidiaries. Members of the Audit Committee and Compensation Committee are subject to the additional independence requirements of applicable SEC rules and Nasdaq listing standards.

Our Nominating and Corporate Governance Committee undertook its annual review of director independence and made a recommendation to our Board regarding director independence. As a result of this review, our Board affirmatively determined that Dr. Baker, Dr. Daniels, Ms. Hougen, Dr. Moore, and Dr. Stoppel are "independent" in accordance with Nasdaq listing standards applicable to boards of directors. In addition, our Board has affirmatively determined that Dr. Daniels, Ms. Hougen and Dr. Stoppel are "independent" in accordance with the Nasdaq listing standards and SEC rules applicable to boards of directors in general and audit committee members in particular, and that that Dr. Baker and Dr. Daniels are "independent" in accordance with the Nasdaq listing standards and SEC rules applicable to boards of directors in general and compensation committee members in particular.

In assessing directors' independence, our Board took into account certain transactions, relationships, and arrangements involving some of the directors and concluded that such transactions, relationships, and arrangements did not impair the independence of the director. For Dr. Stoppel, the Board considered that during 2024, Dr. Stoppel was employed by an organization that did business with the Company. The amount received by the Company or such other organization in each of the last three fiscal years did not exceed the greater of $120,000 or 1% of either our or such organization's consolidated gross revenues.

Board Leadership Structure

Our Board maintains the flexibility to determine whether the roles of Chair and CEO should be combined or separated, based on what it believes is in the best interests of the Company at a given point in time. The Board believes that this flexibility is in the best interest of the Company and that a one-size-fits-all approach to corporate governance, with a mandated independent Chair, would not result in better governance or oversight.

At this time, our Board is led by Brian Daniels, M.D., an independent, non-executive Chair. Our Board believes that it is in the best interest of the Company and its stockholders for Dr. Daniels to continue to serve as Chair of the Board. Dr. Daniels possesses significant knowledge and experience in our industry and a deep understanding of our strategic objectives, all of which will continue to benefit the Company during the year ahead. The Company believes that separation of the positions of the Chair and CEO reinforces the independence of the Board in its oversight of the business and affairs of the Company. In addition, the Company believes that having an independent Chair creates an environment that is more conducive to the Board's objective evaluation and oversight of management's performance, increasing management accountability, and improving the ability of the Board to monitor whether management's actions are in the best interests of the Company and its stockholders, including with respect to evaluating whether steps management is taking to manage risks are appropriate for the Company. Dr. Daniels's responsibility is to ensure that our Board functions properly and to work with our President and CEO to set the Board's agenda. Accordingly, he has substantial ability to shape the work of the Board. We expect him to facilitate communications among our directors and between the Board and senior management. While Dr. Daniels provides independent leadership, he also works closely with our CEO to ensure that our directors receive the information that they need to perform their responsibilities, including discussing and providing critical review of the matters that come before the Board and assessing management's performance. As a result, we believe that such separation can enhance the effectiveness of our Board as a whole. We believe that the leadership structure of our Board is appropriate and enhances its ability to effectively carry out its roles and responsibilities on behalf of our stockholders.

Board's Role in Risk Oversight

While senior management has primary responsibility for managing risk, the Board has responsibility for risk oversight with specific risk areas delegated to relevant Board committees who report on their deliberations to the full Board. The specific risk areas of focus for the Board and each of its committees are summarized below.

Full Board	• Oversee the Company's risk governance framework, including an enterprise-wide culture that supports appropriate risk awareness and the identification, escalation, and appropriate management of risk
	• Integrity, ethics, and compliance with its Business Code of Ethics and Conduct
	• General strategic and commercial risks
	• M&A transactions, including execution and integration, and the M&A competitive landscape
	• Legal risks such as those arising from litigation, environmental, and intellectual property matters
Audit Committee	• Oversee and coordinate with the Company's internal and external auditors
	• Accounting, controls and financial disclosure
	• Cybersecurity risk, including our information security framework, threat assessment, response readiness and training efforts
	• Tax and liquidity management
Compensation Committee	• Compensation structure and programs
	• CEO succession planning
	• DE&I initiatives
	• Recruitment and retention of talent

Nominating and Corporate Governance Committee	• Workplace culture • Workplace health, safety and well-being • Governance structures and processes • Board organization, independence and structure • Board succession and effectiveness • Oversee the Company's ESG initiatives

Board and Committee Meetings and Attendance

During 2024, the Board met four times. The Audit Committee held four meetings, the Compensation Committee held four meetings, and the Nominating and Corporate Governance Committee held one meeting in 2024. No member of the Board attended fewer than 75% of the aggregate of the total number of meetings of the Board (held during the period for which he or she was a director) and the total number of meetings held by all committees of the Board on which such director served (held during the period that such director served).

Although we do not have a formal policy regarding attendance by Board members at annual meetings of stockholders, we encourage our directors to attend such meetings.

Board Committees

Our Board has established six standing committees—the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee, the Clinical Strategy Committee, the Philanthropic Committee and the Technical Operations Committee. Current copies of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee charters are posted on the "Governance" section of our website located at investors.artivabio.com, each of which have been approved by our Board.

Below is a description of each of the committees, including their primary responsibilities and current committee members (as of the date of this Proxy Statement).

AUDIT COMMITTEE

Primary Responsibilities	Current Committee Members
We have adopted a committee charter that details the primary responsibilities of the Audit Committee, including: • evaluating the performance, independence and qualifications of our independent auditors and determining whether to retain our existing independent auditors or engage new independent auditors; • reviewing and approving the engagement of our independent auditors to perform audit services and any permissible non-audit service • monitoring the rotation of partners of our independent auditors on our engagement team as required by law;	Elizabeth Hougen (Chair) Brian Daniels, M.D. Laura Bessen, Ph.D.

Primary Responsibilities	Current Committee Members
• prior to engagement of any independent auditor, and at least annually thereafter, reviewing relationships that may reasonably be thought to bear on their independence, and assessing and otherwise taking the appropriate action to oversee the independence of our independent auditor; • reviewing our annual and quarterly financial statements and reports, including the disclosures contained under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations," and discussing the statements and reports with our independent auditors and management; • reviewing, with our independent auditors and management, significant issues that arise regarding accounting principles and financial statement presentation and matters concerning the scope, adequacy and effectiveness of our financial controls; • reviewing with management and our independent auditors any earnings announcements and other public announcements regarding material developments; • establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters and other matters; • preparing the report that the SEC requires in our annual proxy statement; • reviewing and recommending updates to our insider trading policy; • reviewing and providing oversight of any related-person transactions in accordance with our related-person transaction policy and reviewing and monitoring compliance with legal and regulatory responsibilities, including our code of business conduct and ethics; • reviewing our major financial, information security and cybersecurity risk exposures, including the guidelines and policies to govern the process by which risk assessment and risk management are implemented; • reviewing and making recommendations to the full Board regarding directors and officers indemnification and insurance matters; • reviewing on a periodic basis our investment policy and related-person transactions policy; and • reviewing and evaluating on an annual basis the performance of the audit committee and the audit committee charter.	

Primary Responsibilities	Current Committee Members

Financial Expertise and Independence

All members of the Audit Committee are "independent" in accordance with the Nasdaq listing standards and SEC rules applicable to boards of directors in general and audit committee members in particular. The Board has determined that Ms. Hougen qualifies as an "audit committee financial expert" as defined by the applicable SEC rules and that each member of the Audit Committee is "financially sophisticated".

Report

The Report of the Audit Committee is set forth beginning on page 25 of this proxy statement.

COMPENSATION COMMITTEE

Primary Responsibilities	Current Committee Members
We have adopted a committee charter that details the primary responsibilities of the Compensation Committee, including: • reviewing, modifying and approving (or if it deems appropriate, making recommendations to the full Board regarding) our overall compensation strategy and policies; • reviewing and approving or, in the case of our chief executive officer's compensation, making recommendations to the full Board regarding the compensation and other terms of employment of our executive officers; • reviewing and approving (or if it deems it appropriate, making recommendations to the full Board regarding) performance goals and objectives relevant to the compensation of our executive officers and assessing their performance against these goals and objectives; • reviewing and approving (or if it deems it appropriate, making recommendations to the full Board regarding) the equity incentive plans, compensation plans and similar programs advisable for us, as well as modifying, amending or terminating existing plans and programs; • evaluating risks associated with our compensation policies and practices and assessing whether risks arising from our compensation policies and practices for our employees are reasonably likely to have a material adverse effect on us; • modifying and overseeing the compensation clawback or similar policies;	Brian Daniels, M.D. (Chair) Laura Bessen, Ph.D.

Primary Responsibilities	Current Committee Members

- reviewing and making recommendations to the full Board regarding the type and amount of compensation to be paid or awarded to our non-employee board members;
- establishing policies with respect to votes by our stockholders to approve executive compensation as required by Section 14A of the Exchange Act and determining our recommendations regarding the frequency of advisory votes on executive compensation, to the extent required by law;
- reviewing and assessing the independence of compensation consultants, legal counsel and other advisors as required by Section 10C of the Exchange Act;
- administering our equity incentive plans;
- establishing policies with respect to equity compensation arrangements;
- reviewing the competitiveness of our executive compensation programs and evaluating the effectiveness of our compensation policy and strategy in achieving expected benefits to us;
- considering questions of possible conflicts of interest of directors as such questions arise;
- reviewing and making recommendations to the full Board regarding the terms of any employment agreements, severance arrangements, change in control protections and any other compensatory arrangements for our executive officers;
- reviewing with management and approving our disclosures under the caption "Compensation Discussion and Analysis" in our periodic reports or proxy statements to be filed with the SEC, to the extent such caption is included in any such report or proxy statement;
- reviewing with management and making recommendations to the full Board regarding the plans for succession of our chief executive officer and other key executives;
- preparing the report that the SEC requires in our annual proxy statement; and
- reviewing and assessing on an annual basis the performance of the compensation committee and the compensation committee charter.

Independence

All members of the Compensation Committee are "independent" in accordance with the Nasdaq listing standards and SEC rules applicable to boards of directors in general and compensation committees in particular. In addition, all members of the Compensation Committee qualify as "non-employee directors" for purposes of Rule 16b-3 under the Exchange Act.

Primary Responsibilities	Current Committee Members

Role of Executive Officers and Compensation Consultant

See page 38 of this Proxy Statement for a discussion of the role of our executive officers and compensation consultant in determining executive compensation.

NOMINATING AND CORPORATE GOVERNANCE COMMITTEE

Primary Responsibilities	Current Committee Members
We have adopted a committee charter that details the primary responsibilities of the Nominating and Corporate Governance Committee, including: • identifying, reviewing and evaluating candidates to serve on our Board consistent with criteria approved by our Board; • determining the minimum qualifications for service on our Board; • evaluating director performance on the board and applicable committees of the board and determining whether continued service on our board is appropriate; • evaluating, nominating and recommending individuals for membership on our Board; • evaluating nominations by stockholders of candidates for election to our Board; • considering and assessing the independence of members of our Board; • reviewing and recommending updates to the list of executive officers who are subject to the reporting requirements of Section 16 of the Exchange Act; • developing a set of corporate governance policies and principles, periodically reviewing and assessing these policies and principles and their application and recommending to our Board any changes to such policies and principles; • overseeing our environmental, social and governance strategies, targets, policies, performance and reporting; and • reviewing and assessing on an annual basis the performance of the nominating and corporate governance committee and the nominating and corporate governance committee charter.	Laura Stoppel, Ph.D. (Chair) Brian Daniels, M.D.

Primary Responsibilities	Current Committee Members

Independence

All members of the Nominating and Corporate Governance Committee are "independent" in accordance with Nasdaq listing standards.

CLINICAL STRATEGY COMMITTEE

Primary Responsibilities	Current Committee Members
The primary responsibilities of the Clinical Strategy Committee include evaluating and providing periodic assessments to our Board regarding our clinical development strategies.	Diego Miralles, M.D. (Chair) Daniel Baker, Ph.D. Laura Bessen, M.D. Brian Daniels, M.D. Laura Stoppel, Ph.D.

PHILANTHROPIC COMMITTEE

Primary Responsibilities	Current Committee Members
The primary responsibilities of the Philanthropic Committee overseeing and administering our Pledge 1% program.	Brian Daniels, M.D.

TECHNICAL OPERATIONS COMMITTEE

Primary Responsibilities	Current Committee Members
The primary responsibilities of the Technical Operations Committee include evaluating our operations and manufacturing and providing routine assessments to our Board regarding the same.	Alison Moore, Ph.D.

Executive Sessions

Executive sessions, which are meetings at which only independent directors are present, are regularly scheduled throughout the year, typically at the time of each regular Board meeting and as frequently as such independent directors deem appropriate.

Board's Oversight of Strategy

Our Board is deeply engaged and involved in overseeing our long-range strategy, including evaluating key market opportunities, and competitive developments. This also includes aspects of our environmental, social and governance (ESG) initiatives that relate to our strategy. Our Board's oversight of risk is another integral component of the Board's oversight and engagement on strategic matters. Strategy-related matters are regularly discussed at board meetings and, when relevant, at committee meetings. We also dedicate at least one board meeting every year to an even more intensive review and discussion of our strategic plan. Matters of strategy also inform committee-level discussions of many issues, including enterprise risk. Engagement of the Board on these issues and other matters of strategic importance continues in between meetings, including through updates to the Board on significant items and discussions between the CEO and our Chair on a periodic basis. Each director is expected to and does bring to bear their own talents, insights, and experiences to these strategy discussions.

Cybersecurity and Data Privacy Oversight

The Audit Committee is responsible for oversight of our cybersecurity risk, including oversight and mitigation of risks from cybersecurity threats.

Our cybersecurity risk assessment and management processes are implemented and maintained by certain members of management, including our information security and legal functions. Our head of information technology is responsible for integrating cybersecurity risk considerations into our overall risk management strategy, communicating key priorities to relevant personnel, approving budgets, helping prepare for cybersecurity incidents, approving cybersecurity processes, reviewing security assessments and other security-related reports, and retaining assessors, consultants, auditors, or third parties in connection with our cybersecurity program. We design and assess our program based on the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF). This means that we use the NIST CSF as a guide to help us identify, assess, and manage cybersecurity risks relevant to our business. It does not, however, mean that we meet any technical standards, specifications, or requirements.

Our cybersecurity incident response policy and plans are designed to escalate certain cybersecurity incidents to members of management depending on the circumstances. The Director of Information Technology (IT) works with our incident response team, which consists of members of IT, legal, compliance, human resources, and others as applicable, to help mitigate and remediate cybersecurity incidents of which they are notified. In addition, our incident response policy and plans include reporting to the Audit Committee for certain cybersecurity incidents.

The Audit Committee receives periodic reports from management concerning our significant cybersecurity threats and risk and the processes we have implemented to address them. The Audit Committee also has access to various reports, summaries or presentations related to cybersecurity threats, risk and mitigation. As we become more dependent on information technologies to conduct our operations, cyber incidents, including deliberate attacks and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication. These threats 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. Because the techniques used to obtain unauthorized access, disable, or degrade service or sabotage systems change frequently and often are not recognized until launched against a target, we and our partners may be unable to anticipate these techniques or to implement adequate preventative measures. Further, we do not have any control over the operations of the facilities or technology of our cloud and service providers, including any third-party vendors that collect, process and store personal data on our behalf. Our systems, servers, and platforms and those of our service providers may be vulnerable to computer viruses or physical or electronic break-ins that our or their security measures may not detect. Individuals able to circumvent such security measures may misappropriate our confidential or proprietary information, disrupt our operations, damage our computers, or otherwise impair our reputation and business. We may need to expend significant resources and make significant investment to protect against security breaches or to mitigate the impact of any such breaches. There can be no assurance that we or our third-party providers will be successful in preventing cyber attacks or successfully mitigating their effects. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, and the further development and commercialization of our future product candidates could be delayed.

Communications with the Board

Our Board welcomes input and suggestions from all interested parties, including stockholders. Anyone may communicate with a member or members of our Board, including the Chair of the Board, Chair of the Audit, Compensation, or Nominating and Corporate Governance Committees, or to the non-management or independent directors, by sending a written communication to the attention of the Company's Corporate Secretary by mail at 5505 Morehouse Drive, Suite 100, San Diego, California 92121. Each communication must set forth: (i) the name and address of the stockholder on whose behalf the communication is sent; and (ii) the number and class of shares of the Company that are owned beneficially by such stockholder as of the date of the communication.

Communications addressed to the Board or to a Board member are distributed to the Board or to any individual director or directors as appropriate. Any such communication is distributed on a periodic basis to the director or directors named therein unless such communication is considered, either presumptively or in the reasonable judgment of the Company's Corporate Secretary, to be improper for submission to the intended recipient or recipients. Examples of communications that would presumptively be deemed improper for submission include, without limitation, solicitations, communications that raise grievances that are personal to the sender, communications that relate to the pricing of the Company's products or services, communications that do not relate directly or indirectly to the Company and communications that are frivolous in nature.

Code of Business Conduct and Ethics

We have adopted an amended Code of Business Conduct and Ethics, which is applicable to all of our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or person performing similar functions. The Code of Business Conduct and Ethics provides a framework for sound ethical business decisions and sets forth our expectations on a number of topics, including conflicts of interest, compliance with laws, use of our assets and business ethics. Our Code of Business Conduct and Ethics is posted in the "Governance" section of our website located at investors.artivabio.com. If the Company ever were to amend or waive any provision of its Code of Business Conduct and Ethics that applies to the Company's principal executive officer, principal financial officer, principal accounting officer or any person performing similar functions, the Company intends to satisfy its disclosure obligations, if any, with respect to any such waiver or amendment by posting such information on its website set forth above rather than by filing a Current Report on Form 8-K. In the case of a waiver for an executive officer or a director, the disclosure required under applicable Nasdaq listing standards also will be made available on our website.

Insider Trading Policy

We have adopted an Insider Trading Policy governing the purchase, sale, and/or other dispositions of the Company's securities by directors, officers and employees that is designed to promote compliance with insider trading laws, rules and regulations, as well as procedures designed to further the foregoing purposes. A copy of our insider trading policy is filed as an exhibit to our Annual Report on Form 10-K for our fiscal year ended 2024. In addition, it is the Company's intent to comply with applicable laws and regulations relating to insider trading.

Hedging and Pledging Policy

Our Insider Trading Policy prohibits directors, officers, consultants and other employees from engaging in derivatives securities or hedging transactions, including prepaid variable forward contracts, equity swaps, collars and exchange funds, or otherwise engage in transactions that hedge or offset, or are designed to hedge or offset any decrease in the market value of our securities and the risks associated with holding our common stock. Our Insider Trading Policy also prohibits trading in publicly-traded options, such as puts and calls, and other derivative securities with respect to our securities (other than stock options and other compensatory equity awards issued by us), as well holding our common stock in margin accounts. Additionally, our Insider Trading Policy prohibits pledging securities as collateral for a loan without prior approval from our Board and pre-clearance from the Chief Legal Officer.

PROPOSAL 2: RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board has appointed KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2025, and has further directed that management submit the selection of its independent registered public accounting firm for ratification by the stockholders at the annual meeting and recommended that stockholders ratify such selection. KPMG LLP has audited our financial statements since 2020. Representatives of KPMG LLP are expected to be present at the Annual Meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither our Bylaws nor other governing documents or law require stockholder ratification of the appointment of KPMG LLP as our independent registered public accounting firm. However, the Audit Committee of the Board is submitting the selection of KPMG LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the appointment, the Audit Committee of the Board will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee of the Board in its discretion may direct the appointment of different independent auditors at any time during the year if they determine that such a change would be in the best interests of us and our stockholders.

Principal Accountant Fees and Services

The following table represents aggregate fees billed to Artiva Biotherapeutics, Inc. for the fiscal years ended 2024 and 2023 by KMPG, LLP, our principal accountant.

	Fiscal Year Ended	
	2024	2023
	(in thousands)	
Audit Fees[1]	$1,404,135	$697,750
All Other Fees	—	—
Total Fees	$1,404,135	$697,750

(1) "Audit Fees" consist of fees in connection with the audit of our annual financial statements, including the audited financial statements as well as other financial statements presented in our Registration Statement on Form S-1 filed with the SEC in connection with our initial public offering, the audited financial statements presented in our Annual Report on Form 10-K, for the reviews of our financial statements included in our Form 10-Q filings for each fiscal quarter, and services that are normally provided by our independent registered public accounting firm in connection with statutory and regulatory filings or engagements for those fiscal years. Included in the fiscal year 2024 Audit Fees are fees billed in connection with our initial public offering.

All fees incurred subsequent to our initial public offering in July 2024 were pre-approved by our Audit Committee.

Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by our independent registered public accounting firm, KPMG LLP. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members, but the decision must be reported to the full Audit Committee at its next scheduled meeting.

The Audit Committee has determined that the rendering of services other than audit services by KPMG LLP is compatible with maintaining the principal accountant's independence.

Audit Committee Report

The Audit Committee consists solely of independent directors, as required by and in compliance with SEC rules and regulations and the Nasdaq listing standards. The Audit Committee operates pursuant to a written charter adopted by the Board.

The Audit Committee is responsible for assisting the Board in its oversight responsibilities related to accounting policies, internal controls, financial reporting, and legal and regulatory compliance. Management of the Company has the primary responsibility for the Company's financial reporting processes, proper application of accounting principles, and internal controls as well as the preparation of its financial statements. The Company's independent registered public accounting firm is responsible for performing an audit of the Company's financial statements and expressing an opinion as to the conformity of such financial statements with accounting principles generally accepted in the United States (U.S. GAAP).

The Audit Committee has reviewed and discussed the Company's audited financial statements as of and for the year ended December 31, 2024, with management and the independent registered public accounting firm. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board (PCAOB) and the SEC. In addition, the Audit Committee has received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence and has discussed with the independent registered public accounting firm its independence.

Based on the review and discussions described above, the Audit Committee recommended to the Board that the Company's audited financial statements be included in its Annual Report on Form 10-K for the year ended December 31, 2024, for filing with the SEC.

THE AUDIT COMMITTEE

Elizabeth Hougen, (Chair)

Brian Daniels, M.D.

Laura Bessen, M.D.

PROPOSAL 3: APPROVAL OF AMENDMENT TO THE COMPANY'S 2024 EQUITY INCENTIVE PLAN

On April 16, 2025, our Board, upon the recommendation of the Compensation Committee, amended the Company's 2024 Equity Incentive Plan (the 2024 Plan), subject to shareholder approval, to increase the aggregate number of shares of common stock authorized for issuance under the 2024 Plan by 1,214,580 shares to an aggregate of 7,001,185. We refer to the 2024 Plan, as so amended, as the "Amended 2024 Plan" throughout this Proxy Statement. References in this Proposal 3 to our Board include the Compensation Committee of our Board, where applicable.

A description of the material terms of the Amended 2024 Plan are summarized below. The Amended 2024 Plan contains the following material changes from the 2024 Plan:

- ***Increase Share Reserve***. Subject to adjustment for certain changes in our capitalization, the maximum number of shares of our common stock that may be issued under the Amended 2024 Plan will be 7,001,185 shares, which is an increase of 1,214,580 shares over the current maximum number of shares of our common stock that may be issued under the 2024 Plan.
- ***Increase ISO Limit.*** Subject to adjustment for certain changes in our capitalization, the maximum number of shares of our common stock that may be issued upon the exercise of incentive stock options under the Amended 2024 Plan will be 21,003,555, which is an increase of 3,643,740 shares over the current maximum under the 2024 Plan.

Approval of the Amended 2024 Plan will also allow us to continue to provide our employees with the opportunity to acquire an ownership interest in the Company through their participation in the Amended 2024 Plan, thereby encouraging them to remain in our service and more closely aligning their interests with those of our stockholders.

If this Proposal 3 is approved by our stockholders, an additional 1,214,580 shares of our common stock will be available for issuance under the Amended 2024 Plan. As of April 25, 2025, a total of 2,026,931 shares of our common stock remained available for issuance under the Amended 2024 Plan, excluding future automatic annual increases. We do not maintain any other equity incentive plans. As of April 25, 2025, a total of 24,363,119 shares of our common stock were outstanding.

Equity Awards Are an Integral Component of Our Compensation Program

Equity awards have been historically and, we believe, will continue to be an integral component of our overall compensation program for our employees, directors, and consultants. Approval of the Amended 2024 Plan will allow us to continue to grant equity awards at levels we determine to be appropriate in order to secure and retain the services of employees, directors, and consultants and to provide incentives for such persons to exert maximum efforts for the Company's success and ultimately increase stockholder value. The Amended 2024 Plan allows the Company to utilize a broad array of equity incentives with flexibility in designing such incentives, including traditional option grants, stock appreciation rights, restricted stock awards, restricted stock unit awards and performance awards.

The following table provides certain additional information regarding our use of equity awards as of April 25, 2025:

	As of April 25, 2025 (Record Date)
Total number of shares of Common Stock subject to outstanding stock options	2,284,095
Weighted-average exercise price of outstanding stock options	$ 7.46
Weighted-average remaining term in years of outstanding stock options	7.6 years
Total number of shares of Common Stock subject to outstanding full value awards	1,420,648
Total number of shares of Common Stock available for grant under the 2024 Plan	2,026,931
Total number of shares of Common Stock available for grant under other equity incentive plans	—
Total number of shares of Common Stock outstanding	24,363,119
Per-share closing price of Common Stock as reported on the Nasdaq Stock Market LLC	$ 2.47

The Size of Our Share Reserve Request Is Reasonable

In connection with our initial public offering, we underestimated the dilutive impact of the capital raised and thus the appropriate initial share reserve under our 2024 Plan. If this Proposal 3 is approved by our stockholders, then subject to adjustment for certain changes in our capitalization, an additional 1,214,580 shares of our common stock will be available for issuance under the Amended 2024 Plan, which would put us near the desired percentage of outstanding shares for an initial share reserve in connection with an initial public offering. In addition to the initial share reserve, as further described below under the section entitled "—Description of the Amended 2024 Plan—Authorized Shares," the share reserve is subject to annual increases each January 1 for the first ten years commencing on January 1, 2025, of up to 5% of shares of our common stock outstanding (or a lesser number determined by our Board).

Our Board believes this pool size is necessary to provide sufficient reserved shares for a level of grants that will attract, retain, and motivate employees and other participants.

We Manage Our Equity Incentive Award Use Carefully

We continue to believe that equity awards are a vital part of our overall compensation program. Our compensation philosophy reflects broad-based eligibility for equity incentive awards, and we grant awards to substantially all of our employees. However, we recognize that equity awards dilute existing stockholders, and, therefore, we must responsibly manage the growth of our equity compensation program. We are committed to effectively monitoring our equity compensation share reserve, including our "burn rate," to ensure that we maximize stockholders' value by granting the appropriate number of equity incentive awards necessary to attract, reward, and retain employees.

The approval of the Amended 2024 Plan will allow us to continue to grant equity awards at levels determined appropriate by our Board or its delegate. The Amended 2024 Plan allows us to utilize multiple types of equity incentives in order to secure and retain the services of our employees, consultants and directors, and to provide long-term incentives that align the interests of our employees, consultants and directors with the interests of our stockholders.

Description of the Amended 2024 Plan

A summary description of the material features of the Amended 2024 Plan is set forth below. The following summary does not purport to be a complete description of all the provisions of the Amended 2024 Plan and is qualified by reference to the Amended 2024 Plan, the form of which is attached to this Proxy Statement as Appendix A and incorporated by reference in its entirety. Stockholders should refer to the Amended 2024 Plan for more complete and detailed information about the terms and conditions of the Amended 2024 Plan.

Eligibility

Any individual who is an employee of us or any of our affiliates, or any person who provides services to us or our affiliates, including members of our Board, is eligible to receive awards under the Amended 2024 Plan at the discretion of the plan administrator.

As of April 25, 2025, we (including our affiliates) had approximately 98 employees, nine directors and 27 consultants.

Awards

The Amended 2024 Plan provides for the grant of incentive stock options (ISOs) within the meaning of Section 422 of the Internal Revenue Code of 1986 (the Code) to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options (NSOs), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of awards to employees, directors and consultants, including employees and consultants of our affiliates.

Authorized Shares

Subject to adjustments for certain changes in our capitalization, the maximum number of shares of our common stock that may be issued under the Amended 2024 Plan is 7,001,185 shares, which is the sum of: (i) 1,214,580 shares that are subject to approval by our stockholders under this Proposal 3; (ii) 2,630,000 shares initially reserved under the 2024 Plan, (iii) 115,436 shares available for the grant of new awards under the Artiva Biotherapeutics, Inc. Amended and Restated 2020 Equity Incentive Plan, as amended (the 2020 Plan); (iv) 1,214,580 shares that were added pursuant to the annual automatic share increase on January 1, 2025, and (v) 1,826,589 shares of our common stock subject to outstanding stock awards granted under our 2020 Plan that, on or after the 2024 Plan becomes effective, expire or otherwise terminate prior to exercise or settlement; are not issued because the stock award is settled in cash; are forfeited or repurchased because of the failure to vest; or are reacquired or withheld to satisfy a tax withholding obligation or the purchase or exercise price, if any, as such shares become available from time to time. In addition, the number of shares of our common stock reserved for issuance under our Amended 2024 Plan will automatically increase on January 1 of each year, starting on January 1, 2025, through and including January 1, 2034, in an amount equal to (1) 5% of the total number of shares of our capital stock outstanding on the last day of the preceding calendar year, or (2) a lesser number of shares of our common stock determined by our Board prior to the date of the increase. Contingent upon approval of this Proposal 3, the maximum number of shares that may be issued upon the exercise of ISOs under our Amended 2024 Plan is 21,003,555 shares.

Shares subject to awards granted under the Amended 2024 Plan that expire or terminate without being exercised or otherwise issued in full or that are paid out in cash rather than in shares do not reduce the number of shares available for issuance under the Amended 2024 Plan. Shares withheld under an award to satisfy the exercise, strike or purchase price of an award or to satisfy a tax withholding obligation do not reduce the number of shares available for issuance under the Amended 2024 Plan. If any shares of our common stock issued pursuant to an award are forfeited back to or repurchased or reacquired by us (i) because of the failure to vest, (ii) to satisfy the exercise, strike or purchase price or (iii) to satisfy a tax withholding obligation in connection with an award, the shares that are forfeited, repurchased or reacquired will revert to and again become available for issuance under the Amended 2024 Plan.

Non-Employee Director Compensation Limit

The aggregate value of all compensation granted or paid to any non-employee director with respect to any fiscal year, including awards granted and cash fees paid to such non-employee director, will not exceed (i) $750,000 in total value or (ii) if such non-employee director is first appointed or elected to our Board during such fiscal year, $1 million in total value, in each case, calculating the value of any equity awards based on the grant date fair value of such equity awards for financial reporting purposes and excluding distributions from a deferred compensation program.

Plan Administration

The Amended 2024 Plan will be administered by our Board, which may in turn delegate some or all of the administration of the Amended 2024 Plan to a committee or committees composed of members of our Board. Our Board has delegated concurrent authority to administer the Amended 2024 Plan to our Compensation Committee, but may, at any time, revest in itself some or all of the power delegated to our Compensation Committee. Our Board and Compensation Committee are each considered to be a "plan administrator" for purposes of this Proposal 3.

Subject to the terms of the Amended 2024 Plan, the plan administrator may determine the recipients, the types of awards to be granted, the number of shares of our common stock subject to or the cash value of awards, and the terms and conditions of awards granted under the Amended 2024 Plan, including the period of their exercisability and vesting. The plan administrator also has the authority to provide for accelerated exercisability and vesting of awards. Subject to the limitations set forth below, the plan administrator also determines the fair market value applicable to an award and the exercise or strike price of stock options and stock appreciation rights granted under the Amended 2024 Plan. Under the Amended 2024 Plan, our plan administrator also generally has the authority to effect, without the approval of stockholders but with the consent of any participant whose award is materially impaired by such action, (i) the reduction of the exercise, purchase, or strike price of any outstanding option or stock appreciation right; (ii) the cancellation of any outstanding option or stock appreciation right and the grant in substitution therefore of other awards, cash, or other consideration; or (iii) any other action that is treated as a repricing under generally accepted accounting principles.

The plan administrator may also delegate to one or more persons or bodies the authority to do one or more of the following to the extent permitted by applicable law: (i) designate recipients (other than officers) of awards, provided that no person or body may be delegated authority to grant a stock award to themself; (ii) determine the number of shares subject to such award; and (iii) determine certain terms of such awards.

Stock Options

ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the Amended 2024 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of a share of our common stock on the date of grant. Options granted under the Amended 2024 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the Amended 2024 Plan, up to a maximum of 10 years. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with us or any of our affiliates ceases for any reason other than disability, death, or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. This period may be extended in the event that exercise of the option is prohibited by applicable securities laws. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with us or any of our affiliates ceases due to death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 18 months following the date of death. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with us or any of our affiliates ceases due to disability, the optionholder may generally exercise any vested options for a period of 12 months following the cessation of service. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of our common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (i) cash, check, bank draft or money order, (ii) a broker-assisted cashless exercise, (iii) the tender of shares of our common stock previously owned by the optionholder, (iv) a net exercise of the option if it is an NSO or (v) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options and stock appreciation rights generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer, an option may be transferred pursuant to a domestic relations order.

Tax Limitations on ISOs

The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an award holder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our parent or subsidiary corporations unless (i) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant and (ii) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Unit Awards

Restricted stock unit awards are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law, including but not limited to, cash, check, bank draft or money order, or services rendered to us. A restricted stock unit award may be settled by cash, delivery of shares of our common stock, a combination of cash and shares of our common stock as determined by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement or by the plan administrator, restricted stock unit awards that have not vested will be forfeited once the participant's continuous service ends for any reason.

Restricted Stock Awards

Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for any form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law, including but not limited to, cash, check, bank draft or money order, or services rendered to us. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ends for any reason, we may receive any or all of the shares of our common stock held by the participant that have not vested as of the date the participant terminates service with us through a forfeiture condition or a repurchase right.

Stock Appreciation Rights

Stock appreciation rights are granted under stock appreciation right agreements adopted by the plan administrator. The plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of a share of our common stock on the date of grant. A stock appreciation right granted under the Amended 2024 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator. Stock appreciation rights may be settled in cash or shares of our common stock or in any other form of payment, as determined by the plan administrator and specified in the stock appreciation right agreement.

The plan administrator determines the term of stock appreciation rights granted under the Amended 2024 Plan, up to a maximum of 10 years. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability, or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. This period may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with us or any of our affiliates ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Performance Awards

The Amended 2024 Plan permits the grant of performance awards that may be settled in stock, cash or other property. Performance awards may be structured so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. Performance awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, our common stock.

The performance goals may be based on any measure of performance selected by the plan administrator. The performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates or segments and may be either absolute or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the plan administrator when the performance award is granted, the plan administrator will appropriately make adjustments in the method of calculating the attainment of performance goals for a performance period as follows: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects; (iii) to exclude the effects of changes to generally accepted accounting principles; (iv) to exclude the effects of any statutory adjustments to corporate tax rates; (v) to exclude the

effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (vi) to exclude the dilutive effects of acquisitions or joint ventures; (vii) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (viii) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (ix) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (x) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (xi) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, our Board may establish or provide for other adjustment items in the award agreement at the time the award is granted or in such other document setting forth the performance goals at the time the performance goals are established.

Other Awards

The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the award (or cash equivalent) and all other terms and conditions of such awards.

Changes to Capital Structure

In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split or recapitalization, appropriate adjustments will be made to (i) the class and maximum number of shares reserved for issuance under the Amended 2024 Plan, (ii) the class of shares used to determine the number of shares by which the share reserve may increase automatically each year, (iii) the class and maximum number of shares that may be issued on the exercise of ISOs and (iv) the class and number of shares and exercise price, strike price or purchase price, if applicable, of all outstanding awards.

Corporate Transactions

The following applies to awards under the Amended 2024 Plan in the event of a corporate transaction (as defined in the Amended 2024 Plan), unless otherwise provided in a participant's award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a corporate transaction, any awards outstanding under the Amended 2024 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the award may be assigned to our successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such awards, then (i) with respect to any such awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such awards will be accelerated in full (or, in the case of performance awards with multiple vesting levels depending on the level of performance, vesting will accelerate at 100% of the target level) to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by us with respect to such awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by us with respect to such awards will not terminate and may continue to be exercised notwithstanding the corporate transaction.

In the event an award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such award may not exercise such award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of our common stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable.

Under the Amended 2024 Plan, a corporate transaction is generally defined as the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of at least 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, or (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control

Awards granted under the Amended 2024 Plan may be subject to acceleration of vesting and exercisability upon or after a change in control as may be provided in the applicable stock award agreement or in any other written agreement between us or any affiliate and the participant, but in the absence of such provision, no such acceleration will automatically occur.

Under the Amended 2024 Plan, a change in control is generally defined as: (1) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding stock; (2) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity) in substantially the same proportions as their ownership immediately prior to such transaction; (3) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction; or (4) when a majority of our Board becomes comprised of individuals who were not serving on our Board on the date the 2024 Plan was adopted by the Board, or the incumbent board, or whose nomination, appointment, or election was not approved by a majority of the incumbent board still in office.

Plan Amendment or Termination

Our Board has the authority to amend, suspend, or terminate the Amended 2024 Plan at any time, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require stockholder approval. No ISOs may be granted after the tenth anniversary of the date our Board first approved the 2024 Plan. No awards may be granted under the Amended 2024 Plan while it is suspended or after it is terminated.

U.S. Federal Income Tax Consequences

The following is a summary of the principal U.S. federal income tax consequences to participants and us with respect to participation in the Amended 2024 Plan. This summary is not intended to be exhaustive and does not discuss the income tax laws of any local, state or foreign jurisdiction in which a participant may reside. The information is based upon current U.S. federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any participant may depend on such participant's particular situation, each participant should consult the participant's tax adviser regarding the federal, state, local and other tax consequences of the grant or exercise of an award or the disposition of stock acquired under the Amended 2024 Plan. The Amended 2024 Plan is not qualified under the provisions of Section 401(a) of the Code and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974, as amended. Our ability to realize the benefit of any tax deductions described below depends on our generation of taxable income as well as the requirement of reasonableness and the satisfaction of our tax reporting obligations.

Nonstatutory Stock Options

Generally, there is no taxation upon the grant of an NSO. Upon exercise, a participant will recognize ordinary income equal to the excess, if any, of the fair market value of the underlying stock on the date of exercise of the stock option over the exercise price. If the participant is employed by us or one of our affiliates, that income will be subject to withholding taxes. The participant's tax basis in those shares will be equal to their fair market value on the date of exercise of the stock option, and the participant's capital gain holding period for those shares will begin on the day after they are transferred to the participant. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant.

Incentive Stock Options

The Amended 2024 Plan provides for the grant of stock options that are intended to qualify as "incentive stock options," as defined in Section 422 of the Code. Under the Code, a participant generally is not subject to ordinary income tax upon the grant or exercise of an ISO. If the participant holds a share received upon exercise of an ISO for more than two years from the date the stock option was granted and more than one year from the date the stock option was exercised, which is referred to as the required holding period, the difference, if any, between the amount realized on a sale or other taxable disposition of that share and the participant's tax basis in that share will be long-term capital gain or loss. If, however, a participant disposes of a share acquired upon exercise of an ISO before the end of the required holding period, which is referred to as a disqualifying disposition, the participant generally will recognize ordinary income in the year of the disqualifying disposition equal to the excess, if any, of the fair market value of the share on the date of exercise of the stock option over the exercise price. However, if the sales proceeds are less than the fair market value of the share on the date of exercise of the stock option, the amount of ordinary income recognized by the participant will not exceed the gain, if any, realized on the sale. If the amount realized on a disqualifying disposition exceeds the fair market value of the share on the date of exercise of the stock option, that excess will be short-term or long-term capital gain, depending on whether the holding period for the share exceeds one year. For purposes of the alternative minimum tax, the amount by which the fair market value of a share of stock acquired upon exercise of an ISO exceeds the exercise price of the stock option generally will be an adjustment included in the participant's alternative minimum taxable income for the year in which the stock option is exercised. If, however, there is a disqualifying disposition of the share in the year in which the stock option is exercised, there will be no adjustment for alternative minimum tax purposes with respect to that share. In computing alternative minimum taxable income, the tax basis of a share acquired upon exercise of an ISO is increased by the amount of the adjustment taken into account with respect to that share for alternative minimum tax purposes in the year the stock option is exercised. We are not allowed a tax deduction with respect to the grant or exercise of an ISO or the disposition of a share acquired upon exercise of an ISO after the required holding period. If there is a disqualifying disposition of a share, however, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant, subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and provided that either the employee includes that amount in income or we timely satisfy our reporting requirements with respect to that amount.

Restricted Stock Awards

Generally, the recipient of a restricted stock award will recognize ordinary income at the time the stock is received equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. If, however, the stock is subject to restrictions constituting a substantial risk of forfeiture when it is received (for example, if the employee is required to work for a period of time in order to have the right to transfer or sell the stock), the recipient generally will not recognize income until the restrictions constituting a substantial risk of forfeiture lapse, at which time the recipient will recognize ordinary income equal to the excess, if any, of the fair market value of the stock on the date it becomes vested over any amount paid by the recipient in exchange for the stock. A recipient may, however, file an election with the Internal Revenue Service, within 30 days following the date of grant, to recognize ordinary income, as of the date of grant, equal to the excess, if any, of the fair market value of the stock on the date the award is granted over any amount paid by the recipient for the stock. The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock award will be the amount paid for such shares plus any ordinary income recognized either when the stock is received or when the restrictions constituting a substantial risk of forfeiture lapse. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock award.

Restricted Stock Unit Awards

Generally, the recipient of a restricted stock unit award will recognize ordinary income at the time the stock is delivered equal to the excess, if any, of (i) the fair market value of the stock received over any amount paid by the recipient in exchange for the stock or (ii) the amount of cash paid to the participant. The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock unit award will be the amount paid for such shares plus any ordinary income recognized when the stock is delivered, and the participant's capital gain holding period for those shares will begin on the day after they are transferred to the participant. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock unit award.

Stock Appreciation Rights

Generally, the recipient of a stock appreciation right will recognize ordinary income equal to the fair market value of the stock or cash received upon such exercise. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock appreciation right.

Tax Consequences to the Company

Compensation of Covered Employees

Our ability to obtain a deduction for amounts paid under the Amended 2024 Plan could be limited by Section 162(m) of the Code. Section 162(m) of the Code limits our ability to deduct compensation, for U.S. federal income tax purposes, paid during any year to a "covered employee" (within the meaning of Section 162(m) of the Code) in excess of $1 million.

Golden Parachute Payments

Our ability (or the ability of one of our subsidiaries) to obtain a deduction for future payments under the Amended 2024 Plan could also be limited by the golden parachute rules of Section 280G of the Code, which prevent the deductibility of certain "excess parachute payments" made in connection with a change in control of an employer-corporation.

New Plan Benefits under Amended 2024 Plan

The following table sets forth certain information regarding future benefits under the Amended 2024 Plan.

Name and Position	Number of Shares
Fred Aslan, M.D., President and Chief Executive Officer	(1)
Jennifer Bush, Chief Operating Officer	(1)
Neha Krishnamohan, Chief Financial Officer	(1)
All current executive officers as a group	(1)
All current directors who are not executive officers as a group	(2)
All employees, including all current officers who are not executive officers, as a group	(1)

(1) Awards granted under the Amended 2024 Plan to our executive officers and other employees are discretionary and are not subject to set benefits or amounts under the terms of the Amended 2024 Plan, and our Board and Compensation Committee have not granted any awards under the Amended 2024 Plan subject to stockholder approval of this Proposal 3. Accordingly, the benefits or amounts that will be received by or allocated to our executive officers and other employees under the 2024 Plan are not determinable.

(2) Awards granted under the Amended 2024 Plan to our non-employee directors are discretionary and are not subject to set benefits or amounts under the terms of the Amended 2024 Plan, and our Board and Compensation Committee have not granted any awards under the Amended 2024 Plan subject to stockholder approval of this Proposal 3. However, pursuant to our current non-employee director compensation policy, and based on the current composition of our Board, on the date of each annual meeting of our stockholders, the aggregate number of shares of our common stock subject to awards that will automatically be granted to all of our current directors who are not executive officers as a group will be 110,000 shares (which consists of a stock option to purchase 13,750 shares of our common stock for each of our current non-employee directors), assuming each such individual will be continuing as a non-employee director following such date. On and after the date of the Annual Meeting, any such stock options will be granted under the Amended 2024 Plan if this Proposal 3 is approved by our stockholders. For additional information regarding our current non-employee director compensation policy, please see "Director Compensation" below.

2024 Plan Benefits

The following table sets forth, for each of the individuals and various groups indicated, the total number of shares of our common stock subject to awards that have been granted under the 2024 Plan since its original effectiveness and through April 25, 2025 (even if not currently outstanding).

Name and Position	Options	RSUs
Fred Aslan, M.D., President and Chief Executive Officer	869,136	416,665
Jennifer Bush, Chief Operating Officer	107,676	136,650
Neha Krishnamohan, Chief Financial Officer	102,598	110,000
All Current Executive Officers as a Group	1,444,396	921,665
All Current Non-Employee Directors as a Group	115,186	—
All Current Employees as a Group (including all current non-executive officers)	1,541,960	654,064
Each Nominee for Director:		
Daniel Baker, Ph.D.	27,500	—
Each Associate of any Director, Executive Officer or Nominee	—	—
Each Other Current and Former 5% Holder or Future 5% Recipient	—	—

As of April 25, 2025, the closing sales price of a share of our common stock on the Nasdaq Global Market was $2.47.

Registration with the SEC

If this Proposal 3 is approved by our stockholders, the Company will file a Registration Statement on Form S-8 with the SEC with respect to the shares of the Company's common stock to be registered pursuant to the Amended 2024 Plan, as soon as reasonably practicable following stockholder approval.

THE BOARD RECOMMENDS
A VOTE "FOR" APPROVAL OF THE ARTIVA BIOTHERAPEUTICS, INC. 2024 EQUITY INCENTIVE PLAN, AS AMENDED
(PROPOSAL 3)

EXECUTIVE OFFICERS

The following table sets forth certain information with respect to our executive officers as of April 25, 2025.

Name	Age	Position(s)
Fred Aslan, M.D.	50	President, Chief Executive Officer and Director
Subhashis Banerjee, M.D.	68	Chief Medical Officer
Jennifer Bush	50	Chief Operating Officer, Chief Legal Officer, Corporate Secretary and Compliance Officer
Christopher P. Horan	58	Chief Technical Operations Officer
Neha Krishnamohan	38	Chief Financial Officer and Executive Vice President of Corporate Development
Heather Raymon, Ph.D.	60	Senior Vice President of Research and Early Development

Fred Aslan, M.D. Biographical information for Dr. Aslan is included above with the director biographies under the caption "*Class III Directors Continuing in Office Until Our 2028 Annual Meeting*".

Subhashis Banerjee, M.D. Dr. Banerjee joined us as our Chief Medical Officer in April 2025. Previously, Dr. Banerjee served as Senior Vice President at VYNE Therapeutics Inc., a public clinical-stage biopharmaceutical company (VYNE), from July 2024 through April 2025. Prior to VYNE, Dr. Banerjee served as Vice President & Disease Area Head, Rheumatology and Dermatology at Bristol Myers Squibb Company (BMS), a public biopharmaceutical company, from June 2013 through July 2024. During his tenure at BMS, Dr. Banerjee served as the global lead for mid- to late-stage clinical development of SOTYKTU® (deucravacitinib), ORENCIA® (abatacept) and clazakizumab (anti-IL-6 antibody) for the treatment of a variety of immunological conditions. Dr. Banerjee also served as a global clinical program lead at Eli Lilly and Company, a public pharmaceutical company, from September 2009 to May 2013. From April 2005 to April 2009, Dr. Banerjee served as Director at Pfizer Inc., a public pharmaceutical company, where he supported the clinical development of XELJANZ® (tofacitinib). Earlier in his career, Dr. Banerjee served as Senior Principal Scientist at AbbVie from June 1993 to March 2005. Dr. Banerjee received his MBBS and M.D. degrees from Christian Medical College in Vellore, India, and he completed his residency in internal medicine at St. Vincent Hospital in Worcester, Massachusetts.

Jennifer Bush. Ms. Bush has served as our Chief Operating Officer since April 2024, and as our Executive Vice President, Chief Legal Officer, Corporate Secretary and Compliance Officer since February 2021 and was previously our Executive Vice President, General Counsel and Secretary since September 2020. Previously, Ms. Bush served as Senior Vice President, General Counsel, Head of Human Resources and Regulatory Affairs at Organovo, Inc., a publicly held biotechnology company, from September 2014 to August 2020. Prior to Organovo, Inc., Ms. Bush served as Associate General Counsel & Global Privacy Officer at Broadcom Corporation, a publicly held semiconductor and infrastructure software company, from October 2010 to August 2014 and as Associate General Counsel at DivX, Inc., a private digital entertainment company, from February 2010 to October 2010. Earlier in her career, Ms. Bush was a Principal at Fish & Richardson P.C. and an Associate at Irell & Manella LLP. Ms. Bush received her A.B. in History from Princeton University and her J.D. from Yale Law School. She subsequently served as a Law Clerk to the Honorable Stanley Marcus, of the U.S. Court of Appeals for the 11th Circuit.

Christopher P. Horan. Mr. Horan joined us as our Chief Technical Operations Officer in December 2021. Previously, Mr. Horan served as Chief Technical Operations Officer at Sanbio Company Limited, a private biopharmaceutical company, since July 2020. From April 2018 to May 2020, Mr. Horan served as Chief Technical Operations Officer at Dermira, Inc. (Dermira), a then-private biotechnology company. Prior to Dermira, Mr. Horan served as Senior Vice President for global product and supply chain management at Genentech, Inc., a commercial-stage biotechnology company, from August 2004 to March 2018, and as Director/Business Partner and in other roles at Merck & Company, Inc. from 1988 to 2004. Mr. Horan received a B.E. from Stevens Institute of Technology.

Neha Krishnamohan. Ms. Krishnamohan joined us as our Chief Financial Officer and Executive Vice President of Corporate Development in April 2024. Previously, Ms. Krishnamohan served as Chief Financial Officer and Executive Vice President of Corporate Development at Kinnate Biopharma Inc., a clinical stage precision oncology company from June 2021 until its acquisition by XOMA Corporation in April 2024. From July 2008 to June 2021,

Ms. Krishnamohan worked at Goldman Sachs & Co. LLC, where she served most recently as Vice President, Healthcare Investment Banking from January 2015 to June 2021 and was an Associate in the Healthcare Investment Banking Group from August 2011 to December 2014. Ms. Krishnamohan currently serves on the board of directors of Arcutis Biotherapeutics, Inc., a public biopharmaceutical company. Ms. Krishnamohan received a B.S.E. with a double major in Biomedical Engineering and Economics from Duke University.

Heather Raymon, Ph.D. Dr. Raymon served as our Senior Vice President, Research and Early Development since January 2023 and previously served as our Vice President, Early Development and Program Management from October 2020 through December 2022. Previously, Dr. Raymon served as Executive Director, Early Development Program Lead at BMS, a public pharmaceutical company, from November 2019 to October 2020. Prior to BMS, Dr. Raymon served as Senior Director and then Executive Director of Global Project Leadership, Research and Early Development at Celgene Corporation, a public pharmaceutical company prior to its acquisition by BMS in 2019, from January 2016 to November 2019, and as Head of Pharmacology, Research and Early Development from 2001 to 2015. Dr. Raymon received her B.S. in biology from the State University of New York at Albany, her Ph.D. in pharmacology and toxicology from the University of California, Irvine and was a postdoctoral fellow at the Salk Institute for Biological Studies and the University of California, San Diego.

Each executive officer serves at the discretion of our Board and holds office until the executive officer's successor is duly elected and qualified or until the executive officer's earlier resignation or removal.

EXECUTIVE AND DIRECTOR COMPENSATION

The following tables and accompanying narrative disclosure set forth information about the compensation provided to our named executive officers during the years ended December 31, 2024 and 2023. These executive officers, who include the individuals who served as our principal executive officer in 2024 and the two most highly compensated executive officers (other than our principal executive officer) who were serving as executive officers at the end of the fiscal year ended December 31, 2024, were:

- Fred Aslan, M.D., President and Chief Executive Officer;
- Jennifer Bush, Chief Operating Officer, Chief Legal Officer, Corporate Secretary and Compliance Officer; and
- Neha Krishnamohan, Chief Financial Officer and Executive Vice President of Corporate Development.

We refer to these individuals as our named executive officers.

Summary Compensation Table

The following table shows for the fiscal years ended December 31, 2024 and 2023, compensation awarded to or paid to, or earned by, the named executive officers.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)(1)	Option Awards ($)(2)	Non-Equity Incentive Plan Compensation ($)(3)	Total ($)
Fred Aslan, M.D.	2024	621,583		2,599,980	4,264,463	341,528	7,827,554
President and Chief Executive Officer	2023	584,400	—	—	190,463	332,670	1,107,533
Jennifer Bush	2024	478,194		537,000	292,439	197,972	1,505,605
Chief Operating Officer, Chief Legal Officer, Corporate Secretary and Compliance Officer	2023	445,600	—	—	95,513	184,478	725,591
Neha Krishnamohan							
Chief Financial Officer and Executive Vice President of Corporate Development	2024(4)	340,879		537,000	1,157,100	141,123	2,176,102

(1) The amounts reported here do not reflect the actual economic value realized by our named executive officers. In accordance with SEC rules, this column represents the grant date fair value of shares underlying restricted stock unit awards, calculated in accordance with ASC 718. Assumptions used in the calculation of the grant date fair value of the restricted stock units are set forth in Note 2, "Stock-Based Compensation" to our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024.

(2) The amounts reported here do not reflect the actual economic value realized by our named executive officers. In accordance with SEC rules, this column represents the grant date fair value of shares underlying stock options, calculated in accordance with ASC 718. Assumptions used in the calculation of the grant date fair value of the stock options are set forth in Note 2, "Stock-Based Compensation" to our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024.

(3) The amounts disclosed represent performance bonuses earned in 2024 and paid in early 2025. For additional information, please see the subsection titled "—Annual Performance-Based Bonus Opportunity."

(4) Ms. Krishnamohan joined as our Chief Financial Officer in April 2024.

Annual Base Salary

The 2024 annual base salaries for our named executive officers are provided below:

Name	2024 Base Salary ($)
Fred Aslan, M.D.	607,776
Jennifer Bush	463,424
Neha Krishnamohan	480,000

In September 2024, the Compensation Committee and the Board approved increases in the base salaries of our named executive officers to $638,600, $496,400 and $498,200 for Dr. Aslan, Ms. Bush and Ms. Krishnamohan, respectively, effective as of July 19, 2024, the first day of trading after our IPO.

In February 2025, the Compensation Committee approved annual base salaries, to be effective January 1, 2025, of $665,000, $520,000, and $520,000 for Dr. Aslan, Ms. Bush and Ms. Krishnamohan, respectively.

Annual Performance-Based Bonus Opportunity

We seek to motivate and reward our executives for achievements relative to our corporate goals and expectations for each fiscal year. In 2024, each of our named executive officers was eligible to receive an annual performance bonus based on the achievement of performance goals as determined by our Board or an authorized committee thereof. Each named executive officer has a target bonus represented as a percentage of base salary (a "target bonus percentage") each of which is set forth below. In 2024, our named executive officers were entitled to the following target bonus percentages:

Name	2024 Target Bonus
Fred Aslan, M.D.	55%
Jennifer Bush	40%
Neha Krishnamohan	40%

The annual corporate performance goals are generally tied to achievement of research, clinical, and regulatory milestones related to our clinical development programs. The Compensation Committee and our Board reviews the Company's achievement of the corporate goals in their totality, taking into account the Company's overall performance for the year.

For each of Dr. Aslan, Ms. Bush and Ms. Krishnamohan, 2024 annual performance bonuses were based on achievement of our corporate goals. The corporate goals established and achieved for 2024 included various development activities and objectives related to clinical trials, regulatory submission objectives, conference presentations, manufacturing capacity, and capital raising objectives. Our Compensation Committee and our Board (in the case of Dr. Aslan) determined that corporate goals were achieved at 90% with a discretionary individual multiplier of 111%, 115%, and 115% for each of Dr. Aslan, Ms. Bush and Ms. Krishnamohan, respectively. This resulted in the payment of 2024 annual performance bonuses of $341,528 to Dr. Aslan, $197,972 to Ms. Bush and $141,123 to Ms. Krishnamohan.

Equity Incentive Plan Compensation

From time to time, we grant equity awards in the form of stock options and restricted stock unit (RSU) awards to our named executive officers, which are generally subject to vesting based on each named executive officer's continued service with us. Each of our named executive officers currently holds outstanding options to purchase shares of our common stock and RSU awards that were granted under our equity incentive plans, as set forth in the table below titled "*—Outstanding Equity Awards at Fiscal Year-End*."

In July 2024, our Board approved a stock option of 319,331 shares of common stock and a RSU grant of 216,665 shares of common stock to Dr. Aslan, equal to approximately 1.5% of the number of shares of our common stock that were outstanding upon the closing of the IPO, to satisfy our obligation to issue Dr. Aslan an additional IPO equity award as set forth in Dr. Aslan's offer letter. The stock option has an exercise price of $12.00 per share, and one-fourth of the shares shall vest on the first anniversary of the IPO, and thereafter in a series of 36 successive equal monthly installments, subject to Dr. Aslan's continuous service with us as of each such vesting date. One-fourth of the shares subject to the RSU shall vest on August 15, 2025, and the remainder of the shares subject to the RSU shall vest at a rate of 1/12th of the balance on each of the following quarterly vest dates of February 15, May 15, August 15, and November 15 over the subsequent three years, subject to Dr. Aslan's continuous service with us as of each such vesting date.

In September 2024, the Compensation Committee granted RSUs under our 2024 Plan for 50,000 shares each to Ms. Bush and Ms. Krishnamohan. One-fourth of the shares subject to the RSUs shall vest on August 15, 2025, and the remainder of the shares subject to the RSUs shall vest at a rate of 1/12th of the balance on each of the following quarterly vest dates of February 15, May 15, August 15 and November 15 over the subsequent three years, subject to continuous service with us as of each such vesting date. If a Change in Control (as defined in the 2024 Plan) occurs and upon or within three months prior to, or 12 months after, the effective time of such Change in Control, and continuous service terminates due to an involuntary termination (not including death or Disability) without Cause (as defined in the 2024 Plan) or Recipient voluntary terminates with Good Reason (as defined in the 2024 Plan), the vesting and exercisability of the RSUs shall be accelerated in full.

In February 2025, the Compensation Committee granted RSUs under our 2024 Plan for 86,650 and 60,000 shares to Ms. Bush and Ms. Krishnamohan, respectively. Additionally, in March 2025, our Board granted an RSU under our 2024 Plan for 200,000 shares to Dr. Aslan. The shares subject to the RSUs shall vest in a series of 16 successive equal installments on each of the following quarterly vesting dates of February 15, May 15, August 15, and November 15 over four years, with the first such installment vesting on May 15, 2025, subject to the named executive officers' continuous service as of each such vesting date. If a Change in Control occurs and upon three months prior to, or 12 months after, the effective time of such Change in Control, the named executive officers' continuous service terminates due to an involuntary termination (not including death or disability) without Cause or the named executive officers voluntarily terminate with Good Reason, the vesting and exercisability of the named executive officers' RSUs, respectively, will accelerate in full.

All stock options are granted with an exercise price per share that is no less than the fair market value of our common stock on the date of grant of such award. Following our IPO, our awards generally vest over a four-year period and may be subject to acceleration of vesting and exercisability (if applicable) under certain termination and change in control events, as described in more detail under the section titled "*—Potential Payments Upon Termination or Change in Control*."

Outstanding Equity Awards at Fiscal Year End

The following table presents information regarding outstanding equity awards held by our named executive officers as of December 31, 2024. All awards were granted pursuant to the 2024 Plan.

		OPTION AWARDS (1)				STOCK AWARDS (1)	
Name	Grant Date(1)	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price per share ($)	Option expiration date	Number of shares or units of stock that have not vested (#)	Market value of shares of units of stock that have not vested ($)(2)
Fred Aslan, M.D.	12/18/2020(3)	49,318	2,145	5.00	12/17/2030	—	—
	12/18/2020(4)	251,958	5,361	5.00	12/17/2030	—	—
	2/24/2021(3)	96,384	4.172	5.00	2/23/2031	—	—
	1/24/2024(5)	6,059	20,390	5.18	1/23/2034	—	—
	5/2/2024(6)	—	113,998	13.47	5/1/2034	—	—
	7/11/2024(6)	—	319,331	12.00	7/10/2034	—	—
	7/11/2024(7)	—	—	—	—	216,655	2,599,980
Jennifer Bush	2/24/2021(3)	39,327	1,710	5.00	2/23/2031	—	—
	5/24/2023(8)	3,609	5,510	5.00	5/23/2033	—	—
	1/24/2024(5)	3,254	10,948	5.18	1/23/2034	—	—
	5/2/2024(6)	—	20,519	13.47	5/1/2034	—	—
	9/12/2024(7)	—	—	—	—	50,000	537,000
Neha Krishnamohan	5/2/2024(6)	—	102,598	13.47	5/1/2034	—	—
	9/12/2024(7)	—	—	—	—	50,000	537,000

(1) All of the equity awards that were granted prior to our IPO were granted under our 2020 Plan. All of the equity awards granted after our IPO were granted under our 2024 Plan. All of the option awards were granted with a per share exercise price equal to the fair value of one share of our common stock on the date of grant, as determined in good faith by our Board.

(2) The amount is calculated using a value of $10.08 per share, which was the closing price of our common stock on the Nasdaq Global Market on December 31, the last trading day of fiscal year 2024.

(3) One-fourth of the shares subject to the option award vested on January 1, 2022, and thereafter 1/48th of the shares subject to the option award vest on each monthly anniversary thereof, subject to continuous service with us through each such vesting date.

(4) One-fourth of the shares subject to the option award vested on February 22, 2022, and thereafter 1/48th of the shares subject to the option award vest on each monthly anniversary thereof, subject to continuous service with us through each such vesting date.

(5) The shares subject to the option award vest in 48 equal monthly installments measured from January 1, 2024, subject to continuous service with us through each such vesting date.

(6) One-fourth of the shares subject to the option award shall vest on the first anniversary of our IPO, and thereafter, 1/48 of the shares subject to the option award vest on each monthly anniversary thereof, subject to continuous service with us through each such vesting date.

(7) One-fourth of the shares subject to the restricted stock unit shall vest on August 15, 2025, and the remainder of the shares subject to the restricted stock unit shall vest at a rate of 1/12th of the balance on each of the following quarterly vest dates of February 15, May 15, August 15 and November 15 over the subsequent three years, subject to continuous service with us as of each such vesting date. If a Change in Control (as defined in the 2024 Plan) occurs and upon or within three months prior to, or 12 months after, the effective time of such Change in Control, and continuous service terminates due to an involuntary termination (not including death or Disability) without Cause (as defined in the 2024 Plan) or Recipient voluntary terminates with Good Reason (as defined in the 2024 Plan), the vesting and exercisability of the RSUs shall be accelerated in full.

(8) The shares subject to the option award vest in 48 equal monthly installments measured from May 24, 2023, subject to continuous service with us through each such vesting date.

Employment Arrangements with our Named Executive Officers

We have entered into offer letter agreements with each of our named executive officers which are described below. For a discussion of the severance pay and other benefits available in connection with a termination of employment and/or a change in control under the arrangements with our named executive officers, please see "*— Potential Payments Upon Termination or Change in Control*" below. In addition, each of our named executive officers is eligible to participate in the employee benefit plans generally available to our employees.

Dr. Aslan. We entered into an offer letter with Dr. Aslan on December 14, 2020, which was subsequently amended in April 2021, which governs the terms of his employment with us. Pursuant to his offer letter, Dr. Aslan was originally entitled to an initial base salary of $480,000, which was most recently increased in January 2025 by the board to $665,000, effective as of January 1, 2025. Pursuant to the terms of his amended offer letter, Dr. Aslan was also eligible to receive an annual discretionary bonus at a target amount of 50% of his then current annual base salary, which the Compensation Committee of the Board increased to a target amount of 55% effective as of January 1, 2022 based on the achievement of performance targets and metrics, as determined by our Board. In addition, pursuant to the offer letter, Dr. Aslan was granted (i) an option to purchase 257,319 shares of our common stock (the Initial Option Grant), and (ii) an option to purchase 51,463 shares of our common stock (the Performance Option), the terms of which are set forth in the Outstanding Equity Awards table. In addition to the Initial Option Grant and Performance Option, at the closing of any future private preferred stock equity rounds of financing by the company prior to an initial public offering of our common stock on a national securities exchange, subject to board approval, Dr. Aslan's offer letter provides for additional options (or restricted stock awards) to enable Dr. Aslan to maintain a 5% equity interest in our company (collectively with the Initial Option Grant and the Performance Option, the Initial Options). In addition to the Initial Options, upon the consummation of an initial public offering of our stock on a national securities exchange, subject to board approval, Dr. Aslan's offer letter provides for an additional option (or restricted stock awards) to enable him to maintain on a fully diluted basis a 4.5% equity interest in the company (the IPO Grant). In July 2024, our Board approved a stock option and a restricted stock unit grant to Dr. Aslan to satisfy our obligation to issue the IPO Grant, as described above under "*—Equity-Based Incentive Awards*." Dr. Aslan's offer letter also provides for severance benefits upon an involuntary termination, as described below under "*—Potential Payments upon Termination or* Change in Control."

Ms. Bush. We entered into an offer letter with Ms. Bush effective as of August 2020, which was subsequently amended in April 2021, which governs the terms of her employment with us. Pursuant to her offer letter, Ms. Bush was entitled to an initial annual base salary of $350,000, which was most recently increased in January 2025 by the Compensation Committee of the Board to $520,000, effective as of January 1, 2025. Ms. Bush was also eligible to receive an annual discretionary bonus at a target amount of 30% of her annual base salary, which the Compensation Committee of the Board increased to a target amount of 40% effective as of January 1, 2022, based on the achievement of individual and corporate performance targets and metrics, as determined by our Board. In addition, pursuant to her offer letter, Ms. Bush was granted an option to purchase 22,799 shares of our common stock, the terms of which are set forth in the Outstanding Equity Awards table. Ms. Bush's offer letter also provides for severance benefits upon an involuntary termination, as described below under "*—Potential Payments upon Termination or Change in Control*."

Ms. Krishnamohan. We entered into an offer letter with Ms. Krishnamohan effective as of April 2024 which governs the terms of her employment with us. Pursuant to her offer letter, Ms. Krishnamohan was entitled to an initial annual base salary of $480,000, which was most recently increased in January 2025 by the Compensation Committee of the Board to $520,000, effective as of January 1, 2025. Ms. Krishnamohan was also eligible to receive an annual discretionary bonus at a target amount of 40% of her annual base salary, based on the achievement of individual and corporate performance targets and metrics, as determined by our Board. In addition, pursuant to her offer letter, Ms. Krishnamohan was granted an option to purchase 102,598 shares of our common stock, the terms of which are set forth in the Outstanding Equity Awards table. Ms. Krishnamohan's offer letter also provides for severance benefits upon an involuntary termination, as described below under "*—Potential Payments upon Termination or Change in Control*."

Potential Payments upon Termination or Change in Control

Regardless of the manner in which a named executive officer's service terminates, each named executive officer is entitled to receive amounts previously earned during their term of service, including unpaid salary and cash out of unused vacation. In addition, our named executive officers are entitled to certain severance benefits under their executive employment agreements or offer letters, subject to their execution of a release of claims, return of all company property, compliance with post-termination obligations and resignation from all positions with us.

Pursuant to the terms of Dr. Aslan's offer letter, as amended, if we terminate his employment without cause (other than as a result of death or disability) or he resigns for good reason (each, as defined in his amended offer letter), Dr. Aslan will be entitled to receive, subject to his execution and non-revocation of a general release in favor of us, (i) continued payment of his then-current base salary for 12 months, (ii) premiums for COBRA continuation coverage for up to 12 months, and (iii) accelerated vesting of all outstanding and unvested service-based equity awards as if he had completed an additional six months of service with the Company. In addition, if Dr. Aslan is terminated without cause (other than as a result of death or disability) or resigns for good reason, in each case within three months prior to, or 12 months after a change of control (each, as defined in his amended offer letter) then Dr. Aslan will be entitled to receive (1) continued payment of his then-current base salary for 18 months, (2) premiums for COBRA continuation of coverage for up to 18 months, (3) accelerated vesting of all outstanding and unvested service-based equity awards, and (4) his full target annual bonus for the fiscal year in which his employment is terminated.

Pursuant to the terms of Ms. Bush's offer letter, as amended, if we terminate her employment without cause (other than as a result of death or disability) or if Ms. Bush resigns for good reason (each as defined in her amended offer letter), Ms. Bush will be entitled to receive, subject to her execution and non-revocation of a general release in favor of us, (i) continued payment of her then-current base salary for nine months, (ii) premiums for COBRA continuation coverage for up to nine months, and (iii) accelerated vesting of all outstanding and unvested service-based equity awards as if she had completed an additional three months of service with the Company. In addition, if Ms. Bush is terminated without cause (other than as a result of death or disability) or resigns for good reason, in each case within three months prior to, or 12 months after a change of control (each, as defined in the amended offer letter) then Ms. Bush will be entitled to receive (1) continued payment of her then-current base salary for 12 months, (2) premiums for COBRA continuation of coverage for up to 12 months, (3) her full target annual bonus for the fiscal year in which her employment is terminated, and (4) accelerated vesting of all outstanding and unvested service-based equity awards.

Pursuant to the terms of Ms. Krishnamohan's offer letter, if we terminate her employment without cause (other than as a result of death or disability) or if Ms. Krishnamohan resigns for good reason (each as defined in her offer letter), Ms. Krishnamohan will be entitled to receive, subject to her execution and non-revocation of a general release in favor of us, (i) continued payment of her then-current base salary for nine months, (ii) premiums for COBRA continuation coverage for up to nine months, and (iii) accelerated vesting of all outstanding and unvested service-based equity awards as if she had completed an additional three months of service with the Company. In addition, if Ms. Krishnamohan is terminated without cause (other than as a result of death or disability) or resigns for good reason, in each case within three months prior to, or 12 months after a change of control (each, as defined in the offer letter) then Ms. Krishnamohan will be entitled to receive (1) continued payment of her then-current base salary for 12 months, (2) premiums for COBRA continuation of coverage for up to 12 months, (3) her full target annual bonus for the fiscal year in which her employment is terminated, and (4) accelerated vesting of all outstanding and unvested service-based equity awards.

Additionally, on April 2023, we amended certain outstanding options, including options held by Dr. Aslan, Ms. Bush and Ms. Krishnamohan, to extend the post-termination exercise period for all options held by our named executive officers, such that if the named executive officer remained an employee of the Company through December 31, 2024, the exercise period for options vested as of the date of termination of such named executive officer's employment will be extended until the date that is three years from the termination; provided that, in the event a "conflict" arises during the extended exercise period, the extended exercise period will terminate on the date that is ninety (90) days from the occurrence of the "conflict." A "conflict" will be deemed to have occurred if such named executive officer manages, operates, joins, controls or participates in the ownership, management, operation or control of, or is connected to as an employee, shareholder, director, manager, member, consultant, adviser, volunteer, partner or otherwise, whether for compensation or not, any entity that engages in the research, development, manufacturing, production, marketing or sale of cellular immunotherapies (i) utilizing natural killer cells, or (ii) a non-NK cell therapy being developed for lymphomas (including Hodgkin's and non-Hodgkin's lymphoma). This extended post-termination exercise period also applies to any options granted to each named executive officer following April 2023 that are vested and outstanding as of such named executive officer's termination. We believe that this extension of the post-termination exercise period provides a retention incentive for our named executive officers.

Each of our named executive officers holds stock options and RSU awards granted under the 2020 Plan or 2024 Plan, as the case may be, that were granted subject to the general terms of the 2020 Plan or 2024 Plan, as applicable, and the relevant form of award agreement. The specific vesting terms of each named executive officer's stock options and RSU awards (including any acceleration provisions) are described above under "— Outstanding Equity Awards at Fiscal Year-End."

Health and Welfare and Retirement Benefits; Perquisites

All of our current named executive officers are eligible to participate in our employee benefit plans, including our medical, dental, vision, disability and life insurance plans, in each case on the same basis as all of our other employees. We generally do not provide perquisites or personal benefits to our named executive officers, except in limited circumstances.

401(k) Plan

Our named executive officers are eligible to participate in a defined contribution retirement plan that provides eligible employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees may defer eligible compensation on a pre-tax or after-tax (Roth) basis, up to the statutorily prescribed annual limits on contributions under the Internal Revenue Code of 1986, as amended (the Code). Contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. The 401(k) plan is intended to be qualified under Section 401(a) of the Code with the 401(k) plan's related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan (except for Roth contributions) and earnings on those contributions are not taxable to the employees until distributed from the 401(k) plan. Our Board may elect to adopt qualified or nonqualified benefit plans in the future, if it determines that doing so is in our best interests.

Nonqualified Deferred Compensation

We do not maintain nonqualified defined contribution plans or other nonqualified deferred compensation plans. Our Board may elect to provide our officers and other employees with nonqualified defined contribution or other nonqualified deferred compensation benefits in the future, if it determines that doing so is in our best interests.

Clawbacks

As a public company, if we are required to restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws as a result of misconduct, the CEO and Chief Financial Officer may be legally required to reimburse our Company for any bonus or other incentive-based or equity-based compensation they receive in accordance with the provisions of section 304 of the Sarbanes-Oxley Act of 2002, as amended. Additionally, we have implemented a Dodd-Frank Act-compliant clawback policy, as required by SEC rules.

Equity Compensation Plan Information

The following table provides information as of December 31, 2024, with respect to the shares of our common stock that may be issued under our existing equity compensation plans.

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options and Rights	Weighted Average Exercise Price of Outstanding Options (2)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans(3)
Equity Compensation Plans Approved by Stockholders	2,745,574(1)	$ 7.72	2,032,868
Equity Compensation Plans Not Approved by Stockholders	—	$ —	—
Total	2,745,574	$ 7.72	2,032,868

(1) Includes 2,216,215 shares subject to outstanding stock options and 529,359 shares subject to outstanding RSUs under our 2024 Plan and 2020 Plan.

(2) The weighted-average exercise price is calculated based solely on the exercise prices of the outstanding stock options and does not reflect the shares that will be issued upon the vesting of outstanding awards of RSUs, which have no exercise price.

(3) The amount includes (i) 1,820,868 shares available for issuance under the 2024 Plan, which plan permits the grant of incentive and nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, and performance awards; and (ii) 212,000 shares available for issuance under the 2024 Employee Stock Purchase Plan (ESPP). The 2024 Plan and ESPP each contained an "evergreen" provision, pursuant to which on January 1st of each year we automatically added 5% and 1% of our shares of common stock outstanding on the preceding December 31st to the shares reserved for issuance, respectively, provided that our Compensation Committee may authorize a lesser number in each case. No shares are available for issuance under the 2020 Plan. In addition, pursuant to a "pour over" provision in our 2024 Plan, options that are cancelled, expired or terminated under the 2020 Plan are added to the number of shares reserved for issuance under the 2024 Plan.

Equity Incentive Plans

The principal features of our equity incentive plans are summarized below. These summaries are qualified in their entirety by reference to the actual text of the applicable plan, each of which is filed as an exhibit to the registration statement of which this prospectus is a part.

2024 Equity Incentive Plan

For a description of the 2024 Equity Incentive Plan, please see the section entitled "Proposal 3: Approval of Amendment to the Company's 2024 Equity Incentive Plan—Description of the Amended 2024 Plan".

2020 Equity Incentive Plan

Our Board and stockholders adopted the 2020 Plan in June 2020. No further awards may be granted under the 2020 Plan, and all outstanding awards granted under the 2020 Plan that are repurchased, forfeited, expire or are cancelled will become available for grant under the 2024 Plan in accordance with its terms.

Authorized Shares. Subject to certain capitalization adjustments, the maximum number of shares of common stock that may be issued pursuant to stock awards under the 2020 Plan will not exceed 1,798,800 shares. Shares subject to stock awards granted under our 2020 Plan that expire, are forfeited or otherwise terminate without being exercised in full do not reduce the number of shares available for issuance under our 2020 Plan. Additionally, shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award become available for future grant under our 2020 Plan.

Plan Administration. Our Board, or a duly authorized committee of our Board to which the board delegates its administrative authority, will administer our 2020 Plan and is referred to as the "plan administrator" herein. Under our 2020 Plan, the plan administrator has the authority to, among other things, determine who will be granted stock awards, to determine the terms and conditions of each stock award (including the number of shares subject to the stock award, when the stock award will vest and, as applicable, become exercisable), to accelerate the time(s) at which a stock award may vest or be exercised, and to construe and interpret the terms of our 2020 Plan and stock awards granted thereunder.

Under the 2020 Plan, the plan administrator also generally has the authority to effect, with the consent of any adversely affected participant, (A) the reduction of the exercise, purchase, or strike price of any outstanding award; (B) the cancellation of any outstanding award and the grant in substitution therefor of other awards, cash, or other consideration; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

Stock Options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2020 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant (or 110% of the fair market value for certain major stockholders). Options granted under the 2020 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the 2020 Plan, up to a maximum of 10 years (or five years, for certain major stockholders). The plan administrator shall determine the effect on a stock award of the disability, death, retirement, authorized leave of absence, or any other change or purported change in a holder's status.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft, electronic funds transfer or money order payable to us, (2) subject to company and/or Board consent and provided that at the time of exercise the common stock is publicly traded, a broker-assisted cashless exercise, (3) subject to company and/or Board consent and provided that at the time of exercise the common stock is publicly traded, the tender of shares of our common stock previously owned by the optionholder, (4) subject to company and/or Board consent at the time of exercise, a net exercise of the option if it is an NSO, (5) a deferred payment arrangement, or (6) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator (i) an option may be transferred pursuant to a domestic relations order, official marital settlement agreement, or other divorce or separation instrument and (ii) an optionholder may designate a beneficiary who may exercise the option following the optionholder's death.

Changes to Capital Structure. In the event of a "capitalization adjustment," the Board, in its discretion, will make appropriate and proportionate adjustments to (1) the class(es) and maximum number of shares reserved for issuance under the 2020 Plan, (2) the class(es) and maximum number of shares that may be issued on the exercise of ISOs, and (3) the class(es) and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards. For purposes of the 2020 Plan, "capitalization adjustment" generally means any change that is made in (or other events occurring with respect to) our common stock subject to the 2020 Plan or any award without the receipt of consideration by us through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination or exchange of shares, change in corporate structure, or other similar equity restructuring transaction (within the meaning of Statement of Financial Accounting Standards Board ASC Topic 718).

Corporate Transactions. Our 2020 Plan provides that in the event of a "corporate transaction," unless otherwise provided in an award agreement or other written agreement between us and the award holder or unless otherwise expressly provided by our Board at the time of grant of a stock award, our Board may take one or more of the following actions with respect to such stock awards:

- arrange for the assumption, continuation, or substitution of a stock award by a surviving or acquiring corporation;
- arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring corporation;
- accelerate the vesting, in whole or in part, of the stock award and provide for its termination if not exercised (if applicable) at or before the effective time of the transaction;
- arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us;
- cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised before the effective time of the transaction, in exchange for such cash consideration (including no consideration) as our Board, in its sole discretion, may consider appropriate; and
- make a payment equal to the excess, if any, of (A) the value of the property the participant would have received on exercise of the award immediately before the effective time of the transaction, over (B) any exercise price payable by the participant in connection with the exercise.

The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to treat all participants in the same manner.

Under the 2020 Plan, a "corporate transaction" is generally defined as the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events: (1) a sale of all or substantially all of our assets or similar transaction, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction or similar transaction, or (4) a merger, consolidation or similar transaction where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control. A stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in an applicable award agreement or other written agreement, but in the absence of such provision, no such acceleration will occur. We have a form of option grant agreement outstanding that provides for full acceleration of vesting in the event of either a termination without cause or a resignation for good reason upon or within three months prior to, or 12 months after, the effective time of a change in control. Under the 2020 Plan, a "change in control" is generally defined as (1) certain acquisitions by a person or company of more than 50% of the combined voting power of our then outstanding stock, (2) a merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity) in substantially the same proportions as their ownership immediately prior to such transaction, or (3) a sale, lease, exclusive license or other disposition of all or substantially all of our consolidated assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction.

Plan Amendment or Termination. Our Board has the authority to amend, suspend, or terminate our 2020 Plan, provided that such action does not impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. Unless terminated sooner, the 2020 Plan will automatically terminate on June 23, 2030. No stock awards may be granted under our 2020 Plan while it is suspended or after it is terminated. Once the 2024 Plan is effective, no further grants will be made under the 2020 Plan.

2024 Employee Stock Purchase Plan

Our Board adopted our 2024 Employee Stock Purchase Plan (ESPP) in July 2024 and our stockholders approved our ESPP in July 2024 and became effective following our IPO. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. Our ESPP is designed to allow eligible U.S. employees to purchase our common stock in a manner that may qualify for favorable tax treatment under Section 423 of the Code.

Share Reserve. The ESPP authorized the issuance of 212,000 shares of our common stock pursuant to purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance will automatically increase on January 1 of each year, from January 1, 2025, through and including January 1, 2034, by the lesser of (1) 1% of the total number of shares of our common stock outstanding on the last day of the preceding calendar year, and (2) 424,000 shares of our common stock; provided, that prior to the date of any such increase, our Board may determine that such increase will be less than the amount set forth in clauses (1) and (2).

Administration. The compensation committee administers the ESPP. The ESPP is implemented through a series of offerings under which eligible employees are granted rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to a specified percentage of their earnings (as set forth in, and as defined in, the offering memorandum our Board or compensation committee may adopt from time to time with respect to offerings under our ESPP) for the purchase of our common stock under the ESPP. Unless otherwise determined by our Board, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share equal to the lower of (a) 85% of the fair market value of a share of our common stock on the first trading date of an offering or (b) 85% of the fair market value of a share of our common stock on the date of purchase.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by our Board, including: (1) being customarily employed for more than 20 hours per week; (2) being customarily employed for more than five months per calendar year; or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed two years). No employee may purchase shares under the ESPP at a rate in excess of $25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our outstanding capital stock measured by vote or value pursuant to Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or similar transaction, the Board will make appropriate adjustments to (1) the number of shares reserved under the ESPP, (2) the maximum number of shares by which the share reserve may increase automatically each year, (3) the number of shares and purchase price of all outstanding purchase rights and (4) the number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of a corporate transaction (as defined in the ESPP), any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within 10 business days prior to such corporate transaction, and such purchase rights will terminate immediately after such purchase.

Under the ESPP, a corporate transaction is generally the consummation of: (1) a sale of all or substantially all of our assets; (2) the sale or disposition of more than 50% of our outstanding securities; (3) a merger or consolidation where we do not survive the transaction; and (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

ESPP Amendments, Termination. Our Board has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our ESPP, as required by applicable law or listing requirements.

Policies and Practices Related to the Grant of Certain Equity Awards Close in Time to the Release of Material Nonpublic Information

From time to time, the Company grants stock options to its employees, including the named executive officers. Per the Company's Equity Grant Policy, (i) new hire and promotion equity incentive grants shall be granted on the first Friday that is a trading day of the calendar month following the later of the employee's effective date of hire or promotion, as applicable or (ii) the date the award is approved by the Board, the Compensation Committee or the Chief Executive Officer. Also, non-employee directors receive automatic grants of initial and annual stock option awards, at the time of a director's initial appointment or election to the board and at the time of each annual meeting of the Company's stockholders, respectively, pursuant to the Non-Employee Director Compensation Policy, as further described under the heading, "Non-Employee Director Compensation—Non-Employee Director Compensation Policy" below. Option grants are made on the regular, predetermined grant dates pursuant to the Company's Equity Grant Delegation Policy and the Non-Employee Director Compensation Policy regardless of whether there is any material nonpublic information (MNPI) about the Company on such dates, and such grant dates are not specifically timed in relation to the Company's disclosure of MNPI. The Company has not timed the release of MNPI for the purpose of affecting the value of executive compensation.

Non-Employee Director Compensation

The following table shows for the fiscal year ended December 31, 2024, certain information with respect to the compensation of our non-employee directors:

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)[1][2]	All Other Compensation ($)	Total ($)
Laura Bessen, M.D.	40,677	37,705	—	78,382
Brian Daniels, M.D.	42,741	—	—	42,741
Elizabeth Hougen	49,595	37,705	—	87,300
Yong-Jun Huh	—	—	—	—
Linda Kozick[3]	12,363	37,705	—	50,068
Diego Miralles. M.D.	10,824	108,144	160,000[6]	278,968
Alison Moore, M.D.	10,824	207,993	9,000[7]	227,817
James Park[4]	—	—	—	—
Edith A. Perez, M.D. [3]	24,363	37,705	—	62,068
Laura Stoppel, Ph.D.[5]	22,614	—	—	22,614
Yvonne Yamanaka, Ph.D. [4]	—	—	—	—

(1) The aggregate number of shares subject to outstanding stock options held by each director listed in the table above as of December 31, 2024 was as follows: 17,098 shares of common stock by each of Ms. Hougen and Dr. Bessen, 25,900 shares of common stock by Dr. Miralles, 27,500 shares of common stock by Ms. Moore, 9,499 shares of common stock held by Ms. Perez, and 13,679 shares of common stock held by Ms. Kozick.

(2) The amounts reported here do not reflect the actual economic value realized by our directors. In accordance with SEC rules, this column represents the grant date fair value of shares underlying restricted stock units, calculated in accordance with ASC 718.

(3) Ms. Kozick and Dr. Perez resigned from our Board in May 2024 and their 2024 option awards were cancelled upon their resignation and none of the options had vested.

(4) In connection with our IPO, Mr. Park and Dr. Yamanaka resigned from our Board in July 2024.

(5) Pursuant to an agreement between Dr. Stoppel and RA Capital Management, L.P. (RA Capital), cash amounts payable to Dr. Stoppel were paid to RA Capital.
(6) Amount represents $160,000 paid in connection with the Miralles Consulting Agreement (as defined below). For a description of the Miralles Consulting Agreement, please see description below.
(7) Amount represents $9,000 paid in connection with the Moore Consulting Agreement (as defined below). For a description of the Moore Consulting Agreement, please see description below.

Dr. Aslan, our President and Chief Executive Officer does not receive any additional compensation for his service on the Board. Dr. Aslan's compensation as a named executive officer is set forth above under "*—Summary Compensation Table*".

In November 2023, we entered into a consulting agreement with Dr. Miralles (Miralles Consulting Agreement), who joined our Board in May 2024, pursuant to which Dr. Miralles agreed to provide consulting services to us regarding strategic and business development activities. As compensation for such consulting services, and in accordance with the terms of the consulting agreement, (i) we paid Dr. Miralles $16,000 per month for his services and (ii) granted him an option to purchase 12,995 shares of Common Stock under our 2020 Plan in January 2024 vesting in equal monthly installments over six months with an exercise price of $5.18 per share. In addition, in March 2024, Dr. Miralles was granted an option to purchase 12,995 shares of Common Stock under our 2020 Plan, vesting in equal monthly installments over six months beginning in May 2024 with an exercise price of $5.18 per share. The Miralles Consulting Agreement terminated in connection with our IPO.

In March 2024, we entered into a consulting agreement with Dr. Moore (Moore Consulting Agreement), who joined our Board in October 2024, pursuant to which Dr. Moore agreed to provide consulting services to us regarding strategic, technical and operational input for our manufacturing programs. As compensation for such consulting services, and in accordance with the terms of the consulting agreement, we paid Dr. Moore an hourly fee for her services, for a total of $9,513. The Moore Consulting Agreement terminated in connection with her appointment to our Board.

Non-employee directors also receive an annual cash retainer of $6,000 ($15,000 for the Chair) for service on the Clinical Strategy Committee and $15,000 for service on the Technical Operations Committee.

Non-Employee Director Compensation Policy

Our Board adopted a non-employee director compensation policy that became effective in July 2024. This compensation policy provides that each such non-employee director will receive the following compensation for service on our Board:

- an annual cash retainer of $40,000 for eligible directors;
- an additional annual cash retainer of $30,000 for service as lead independent chair of the board;
- additional cash retainers of $7,500 for service as a non-chair member of the Audit Committee, $6,000 for service as a non-chair member of the Compensation Committee, and $5,000 for service as a non-chair member of the Nominating and Corporate Governance Committee;
- additional cash retainers of $15,000 for service as the chair of the Audit Committee, $12,000 for service as the chair of the Compensation Committee, and $10,000 for service as the chair of the Nominating and Corporate Governance Committee, respectively (in lieu of the committee member retainer above);
- an initial option grant to purchase 27,500 shares of our common stock, of which one-third of the shares will vest following the grant date thereof with the remaining shares vesting in 24 equal monthly installments; and
- an annual option grant to purchase 13,750 shares of our common stock, vesting on the earlier of (i) the one-year anniversary of the date of grant and (ii) the day of the next annual meeting.

Pursuant to the non-employee director compensation policy, the compensation described above is subject to the limits on non-employee director compensation set forth in the 2024 Plan. Each of the option grants described above will be granted under our 2024 Plan, the terms of which are described in more detail below under "*Executive and Director Compensation-Equity Incentive Plans-2024 Equity Incentive Plan*".

We will also continue to reimburse each non-employee director for ordinary, necessary, and reasonable out-of-pocket travel expenses to cover in-person attendance at and participation in Board and committee meetings.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of our common stock as of March 31, 2025, by: (i) each director; (ii) each of the executive officers named in the Summary Compensation Table; (iii) our executive officers and directors as a group; and (iv) all those known by us to be beneficial owners of more than five percent of our common stock. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, we believe that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 24,363,119 shares of common stock outstanding on March 31, 2025, adjusted as required by rules promulgated by the SEC, and shares of common stock such person or entity has the right to acquire within 60 days of March 31, 2025. Unless otherwise indicated, the address for the following stockholders is c/o Artiva Biotherapeutics, Inc., 5505 Morehouse Drive San Diego, California 92121.

	Common Stock	
Beneficial Owner	**Shares**	**%**
5% Stockholders		
Entities affiliated with RA Capital Healthcare Fund, L.P. (1)	9,853,302	40.4
Entities affiliated with GC Corp.(2)	4,567,412	18.7
Entities affiliated with 5AM Ventures(3)	2,353,304	9.7
Entities affiliated with Venrock Healthcare Capital Partners III, L.P. (4)	1,609,569	6.6
Entities affiliated with venBio Global Strategic Fund III, L.P.(5)	1,519,971	6.2
BlackRock, Inc.(6)	1,245,511	5.1
Named Executive Officers and Directors		
Fred Aslan, M.D. (7)	430,671	1.7
Jennifer Bush(8)	78,537	*
Neha Krishnamohan(9)	31,536	*
Daniel Baker, M.D. (10)	12,221	*
Laura Bessen, M.D. (11)	13,679	*
Brian Daniels, M.D. (15)	-	*
Elizabeth Hougen (12)	13,679	*
Yong-Jun Huh(2)	4,567,412	18.7
Diego Miralles, M.D. (13)	25,990	*
Alison Moore, Ph.D. (14)	14,513	*
Laura Stoppel, Ph.D. (15)	-	*
All executive officers and directors as a group (14 persons)(16)	5,376,015	21.4

* Less than one percent

(1) Consists of (i) 8,693,579 shares of common stock held by RA Capital Healthcare Fund, L.P. (RA Capital Healthcare), (ii) 264,571 shares of common stock held by RA Capital Nexus Fund, L.P. (Nexus Fund), (iii) 826,832 shares of common stock held by RA Capital Nexus Fund III (Nexus Fund III) and (iv) 68,320 shares of common stock held by a separately managed account (Account). RA Capital Healthcare Fund GP, LLC is the general partner of the Fund, RA Capital Nexus Fund GP, LLC is the general partner of the Nexus Fund and RA Capital Nexus Fund III GP, LLC is the general partner of the Nexus Fund III. The general partner of RA Capital is RA Capital Management GP, LLC, of which Peter Kolchinsky and Rajeev Shah are the controlling persons. RA Capital serves as investment adviser for each of RA Capital Healthcare, the Nexus Fund, the Nexus Fund III and the Account and may be deemed a beneficial owner of any of our securities held by RA Capital Healthcare, the Nexus Fund, the Nexus Fund III or the Account. Each of RA Capital Healthcare, the Nexus Fund and the Nexus Fund III has delegated to RA Capital the sole power to vote and the sole power to dispose of all securities held in its portfolio, including the shares of our common stock.

Because each of RA Capital Healthcare, the Nexus Fund and the Nexus Fund III has divested itself of voting and investment power over our securities that it holds and may not revoke that delegation on less than 61 days' notice, each of RA Capital Healthcare, the Nexus Fund and the Nexus Fund III disclaims beneficial ownership of the securities. As managers of RA Capital, Dr. Kolchinsky and Mr. Shah may be deemed beneficial owners of any of our securities beneficially owned by RA Capital. RA Capital, Dr. Kolchinsky, and Mr. Shah disclaim beneficial ownership. The address of the RA Capital entities is 200 Berkeley Street, 18th Floor, Boston, Massachusetts 02116. This information is based on its Schedule 13D/A filed with the SEC on September 3, 2024.

(2) Consists of (i) 3,306,900 shares of common stock held by GC Corp. and (ii) 1,260,512 shares of common stock held by GC Cell Corporation. Mr. Yong-Jun Huh, a member of our Board, serves as Chief Executive Officer of GC Corp. GC Corp., a public Korean holdings company, is the parent company of GC Cell Corporation and is ultimately controlled by its board of directors, consisting of Mr. Yong-Jun Huh, Huh II-Sup, Park Yong-Tae and Kim Seok-Hwa. Each of these individual directors of GC Corp. may be deemed to share voting and investment power over the shares held by GC Corp. and GC Cell Corporation and each disclaims beneficial ownership of all shares held by such entities, except to the extent of any pecuniary interest therein. The address of each of the above persons and entities is 107 Ihyeon-ro, 30beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea (16924). This information is based on its Schedule 13D filed with the SEC on July 29, 2024.

(3) Consists of (i) 1,171,250 shares of common stock held by 5AM Ventures VI, L.P. ("Ventures VI") and (ii) 1,182,054 shares of common stock held by 5AM Opportunities II, L.P. ("Opportunities II"). Dr. Brian Daniels, the Chairperson of our Board, is a Partner at 5AM Venture Management, LLC, which is an affiliate of Ventures VI and Opportunities II. Neither Brian Daniels nor 5AM Venture Management, LLC have voting or investment power over shares held by Ventures VI and Opportunities II. 5AM Partners VI, LLC ("Partners VI") is the general partner of Ventures VI and 5AM Opportunities II (GP), LLC ("Opportunities II GP") is the general partner of Opportunities II. Andrew J. Schwab and Dr. Kush M. Parmar are the managing members of each Partners VI and Opportunities II (GP) and may be deemed to have shared voting and investment power over the shares held by Ventures VI and Opportunities II. Each of Ventures VI, Opportunities II (GP), Mr. Schwab, and Dr. Parmar disclaims beneficial ownership of such shares except to the extent of its or his respective pecuniary interest therein. The address for 5AM Ventures and Dr. Daniels is 4 Embarcadero Center, Suite 3110, San Francisco, California 94111.

(4) Consists of (i) 227,672 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 22,762 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 1,359,135 shares held by Venrock Healthcare Capital Partners EG, L.P. VHCP Management III, LLC is the general partner of Venrock Healthcare Capital Partners III, L.P. and the manager of VHCP Co-Investment Holdings III, LLC. VHCP Management EG, LLC is the general partner of Venrock Healthcare Capital Partners EG, L.P. Nimish Shah and Bong Koh are the voting members of VHCP Management III, LLC and VHCP Management EG, LLC and may be deemed to have voting and dispositive power with respect to these securities. This information is based on its Schedule 13G filed with the SEC on August 1, 2024.

(5) venBio Global Strategic GP III, L.P., a Cayman Islands partnership (General Partner III), is the sole general partner of venBio Global Strategic Fund III, L.P., a Cayman Islands partnership (Fund III). venBio Global Strategic GP III, Ltd., a Cayman Islands company (GP Ltd. III, and together with General Partner III and Fund III, the venBio Funds), is the sole general partner of the General Partner III. Aaron Royston, Robert Adelman and Corey Goodman (together, the Directors), each citizens of the United States, are each a director of the GP Ltd. III and may be deemed to share voting and dispositive power over the shares held by the venBio Funds. The address of each of the above persons and entities is 1700 Owens Street, Suite 595, San Francisco California 94158. This information is based on its Schedule 13G/A filed with the SEC on November 14, 2024.

(6) BlackRock, Inc. has the voting power over 1,245,511 shares and sole dispositive power over 1,245,511 shares. The address for BlackRock, Inc. is 550 Hudson Yards New York, NY 10001. The information is based on a Schedule 13G filed with the SEC on April 23, 2025.

(7) Consists of (ii) 418,171 shares of common stock subject to options held by Dr. Aslan that are exercisable within 60 days of March 31, 2025, and (ii) 12,500 shares of common stock Dr. Aslan has the right to acquire within 60 days of March 31, 2025, pursuant to the settlement of RSUs.

(8) Consists of (i) 22,799 shares of common stock, (ii) 50,323 shares of common stock subject to options held by Ms. Bush that are exercisable within 60 days of March 31, 2025, and (iii) 5,415 shares of common stock Ms. Bush has the right to acquire within 60 days of March 31, 2025, pursuant to the settlement of RSUs.

(9) Consists of (i) 27,786 shares of common stock subject to options held by Ms. Krishnamohan that are exercisable within 60 days of March 31, 2025, and (ii) 3,750 shares of common stock Ms. Krishnamohan has the right to acquire within 60 days of March 31, 2025, pursuant to the settlement of RSUs.

(10) Consists of 12,221 shares of common stock subject to options held by Dr. Baker that are exercisable within 60 days of March 31, 2025.

(11) Consists of 13,679 shares of common stock subject to options held by Dr. Bessen that are exercisable within 60 days of March 31, 2025.

(12) Consists of 13,679 shares of common stock subject to options held by Ms. Hougen that are exercisable within 60 days of March 31, 2025.

(13) Consists of 25,990 shares of common stock subject to options held by Dr. Miralles that are exercisable within 60 days of March 31, 2025.

(14) Consists of 14,513 shares of common stock subject to options held by Dr. Moore that are exercisable within 60 days of March 31, 2025

(15) Consists of 0 shares of common stock held by Drs. Daniels and Stoppel.

(16) Consists of (i) the shares listed in notes (2) and (7) through (14) above, (ii) 0 shares of common stock, (iii) 181,943 shares of commons stock subject to options held by our executive officers that are exercisable within 60 days of March 31, 2025, (iv) 5,834 shares of common stock our executive officers have the right to acquire within 60 days of March 31, 2025, pursuant to the settlement of RSUs.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

Policies and Procedures for Related Person Transactions

Our Board has adopted a written related person transaction policy setting forth the policies and procedures for the identification, review, consideration and approval, ratification or rejection of related person transactions. This policy covers, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act of 1933, as amended, any transaction, arrangement, or relationship, or any series of similar transactions, arrangements, or relationships, in which we and a related person were or will be participants and the amount involved exceeds, or is expected to exceed the lesser of, $120,000 or 1% of the average of our total assets at year-end for the last two completed fiscal years, and a related person has a direct or indirect interest deemed to be material by the Audit Committee. In reviewing and approving any such transactions, our Audit Committee will consider all relevant facts and circumstances as appropriate, including, but not limited to (a) the risks, costs, and benefits to the Company, (b) the impact on a director's independence in the event the related person is a director, immediate family member of a director, or an entity with which a director is affiliated, (c) the terms of the transaction, (d) the availability of other sources for comparable services or products and (e) the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

Certain Related Person Transactions

The following includes a summary of transactions since January 1, 2023, to which we have been a party, in which the amount involved in the transaction exceeded the lesser of $120,000 or 1% of the average of our total assets as of December 31, 2023 and 2024, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital stock at the time of such transaction, or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under the section "*Executive and Director Compensation*" and the subsection "*Executive and Director Compensation—Non-Employee Director Compensation*":

Employment Arrangements, Consulting Agreements and Indemnification Agreements

We have entered into employment agreements with certain of our executive officers. For more information regarding these agreements with our named executive officers, see "*Executive and Director Compensation—Employment Arrangements with our Named Executive Officers*." For more information, see the section titled "*Executive and Director Compensation—Non-Employee Director Compensation*."

Equity Awards Granted to Executive Officers and Directors

We have granted equity awards to our executive officers, as more fully described in the section titled "*Executive and Director Compensation*" and the subsection "*Executive and Director Compensation—Non-Employee Director Compensation*".

Simple Agreements for Future Equity

In September 2023 and November 2023, we entered into Simple Agreements for Future Equity (the SAFE financing) with various investors, pursuant to which we received an aggregate of approximately $24.4 million.

The participants in the SAFE financing included the following holders of more than 5% of our capital stock, or entities affiliated with them:

PARTICIPANTS	AGGREGATE CONSIDERATION
GC Corp. and its affiliate (1)	$ 5,614,424
5AM Ventures VI, L.P. and its affiliate (2)	$ 4,709,212
venBio Global Strategic Fund III, L.P. (3)	$ 4,709,212
RA Capital Healthcare Fund, L.P. and its affiliate (4)	$ 4,709,212
Venrock Healthcare Capital Partners EG, L.P. and its affiliate (5)	$ 3,689,300

(1) Consists of (i) $3,000,000 received from GC Corp. and (ii) $2,614,424 received from GC Cell. James Park and Yong-Jun Huh, each a member of our Board at the time of the SAFE financing, are affiliated with the GC Cell and GC Corp., respectively, at the time of the financing, which collectively held more than 5% of our capital stock at the time of the SAFE financing.

(2) Consists of (i) $1,152,254 received from 5AM Ventures VI, L.P. and (ii) $3,556,958 received from 5AM Opportunities II, L.P. Brian Daniels, M.D., the Chairperson of our Board at the time of the SAFE financing, is affiliated with 5AM Ventures VI, L.P., which held more than 5% of our capital stock at the time of the SAFE financing.

(3) Yvonne Yamanaka, Ph.D., a member of our Board at the time of the SAFE financing, is affiliated with venBio Global Strategic Fund III, L.P., which held more than 5% of our capital stock at the time of the SAFE financing.

(4) Consists of (i) $3,296,448 received from RA Capital Healthcare Fund, L.P. and (ii) $1,412,764 received from RA Capital Nexus Fund III, L.P. Laura Stoppel, Ph.D., a member of our Board at the time of the SAFE financing, is affiliated with RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund, L.P. and Blackwell Partners LLC—Series A, which collectively held more than 5% of our capital stock at the time of the SAFE financing.

(5) Consists of (i) $2,622,354 received from Venrock Healthcare Capital Partners EG, L.P., (ii) $969,917 received from Venrock Healthcare Capital Partners III, L.P. and (iii) $97,029 received from VHCP Co-Investment Holdings III, LLC.

License and Manufacturing Agreements

Master Manufacturing Agreement

In March 2020, we entered into a Master Agreement for Manufacturing Services (the Manufacturing Agreement) with GC Cell. GC Cell and its affiliates were owners of more than 5% of our outstanding capital stock at the time of execution of the Manufacturing Agreement. In addition, Yu-Kyeong Hwang, Ph.D. and Yong-Jun Huh, each a member of our Board as of the time of execution of the Manufacturing Agreement, were affiliated with GC Cell or its affiliates.

Under the Manufacturing Agreement, we granted GC Cell a limited non-exclusive, non-transferable, non-sublicensable, revocable, royalty-free license to our pre-existing intellectual property that is necessary and useful to manufacture products for us. Any intellectual property generated in the course of the manufacturing will be owned by us. GC Cell granted us a limited worldwide, royalty-free, fully paid, non-exclusive license, including the right to sublicense through multiple tiers, to GC Cell background technology and improvements thereof used to manufacture products under the agreement. These licenses survive termination of the Manufacturing Agreement. We incurred $2.9 million and $3.7 million in connection with the Manufacturing Agreement for the years ended December 31, 2024 and 2023, respectively.

AB-201 Selected Product License Agreement

In October 2020, we entered into the AB-201 Agreement with GC Cell, as amended in February 2022 and September 2023. GC Cell and its affiliates were owners of more than 5% of our outstanding capital stock at the time of execution of the AB-201 Agreement. In addition, Yu-Kyeong Hwang, Ph.D. and Yong-Jun Huh, each a member of our Board as of the time of execution of the AB-201 Agreement, and James Park, a member of our Board as of the time of execution of the September 2023 amendment to the AB-201 Agreement were affiliated with GC Cell or its affiliates.

Under the AB-201 Agreement, we paid a one-time, upfront fee of $0.3 million as reimbursement of certain costs previously incurred by GC Cell relating to AB-201. We are obligated to (i) pay tiered royalties in the mid to high single-digit percentage range on annual net sales of any licensed AB-201 products and (ii) make milestone payments to GC Cell of (i) up to $25.0 million upon the first achievement of certain development milestones, and (ii) up to $55.0 million upon the first achievement of certain sales milestones. GC Cell is also obligated to pay us a royalty at a rate equal to 50.0% of the royalty payable by us for such product in the Artiva Territory on net sales outside the Artiva Territory of any licensed AB-201 product, the manufacture, use or sale of which is claimed by or uses any jointly owned intellectual property. GC Cell is further obligated to pay us a low single-digit royalty on net sales outside the Artiva Territory of any licensed AB-201 product, as well as up to $1.8 million upon the first achievement of certain development milestones.

License and development support-related revenue recognized in the statements of operations and comprehensive loss, related to GC Cell's development support activities under the Amended AB-201 Agreement, was $0.3 million and $0.6 million during the years ended December 31, 2024 and 2023, respectively.

Service Agreements

The Company entered into services agreements with Blackbird and Carnot, each as defined below. Each entity is controlled by RA Capital. RA Capital and its affiliates were owners of more than 5% of our outstanding capital stock at the time of execution of each services agreement. In addition, Laura Stoppel, Ph.D., is a member of our Board and served on our Board at the time of execution of each of the services agreements, is affiliated with RA Capital or its affiliates.

Blackbird Services Agreement

In June 2024, we entered into a services agreement (the Blackbird Services Agreement) with Blackbird Clinical, Inc. (Blackbird). Under the terms of the Blackbird Services Agreement, Blackbird provides consulting services in connection with our clinical trials, including study strategy, clinical operations and patient operations. We incurred $0.3 million of research and development expenses in connection with the consulting services from Blackbird for the year ended December 31, 2024.

Carnot Services Agreement

In November 2024, we entered into a services agreement (the Carnot Services Agreement) with Carnot Pharma, LLC (Carnot). Under the terms of the Carnot Services Agreement, Carnot provides consulting services in connection with our clinical trials, including clinical operations and patient advocacy in support of our AlloNK autoimmune programs. We incurred $15 thousand of research and development expenses in connection with the consulting services from Carnot for the year ended December 31, 2024.

Indemnification Agreements

We have entered, and intend to continue to enter, into separate indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our amended and restated bylaws. These agreements, among other things, require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of our directors or executive officers or as a director or executive officer of any other company or enterprise to which the person provides services at our request. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may decline in value to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

OTHER INFORMATION FOR STOCKHOLDERS

Stockholder Proposals for the 2026 Annual Meeting of Stockholders

Stockholders of the Company may submit proposals that they believe should be voted upon at the Company's annual meeting of Stockholders or nominate persons for election to the Board.

Pursuant to Rule 14a-8 under the Exchange Act, stockholder proposals meeting certain requirements may be eligible for inclusion in the Company's proxy statement for the Company's 2026 Annual Meeting of Stockholders. To be eligible for inclusion in the Company's 2026 proxy statement, any such stockholder proposals must be submitted in writing to the Secretary of the Company no later than December 29, 2025, in addition to complying with certain rules and regulations promulgated by the SEC. The submission of a stockholder proposal does not guarantee that it will be included in the Company's proxy statement.

Pursuant to our policy regarding stockholder recommendations of director nominees, Company stockholders who wish to recommend individuals for consideration by the Committee to become nominees for election to the Board at an annual meeting of stockholders must do so by delivering a written recommendation to the Committee c/o Artiva Biotherapeutics, Inc., 5505 Morehouse Drive, Suite 100, San Diego, CA 92121, Attn: Corporate Secretary. Each submission must set forth:

- the name and address of the Company's stockholder on whose behalf the submission is made;
- the number and class of Company shares that are owned beneficially by such stockholder as of the date of the submission;
- the full name of the proposed candidate;
- a description of the proposed candidate's business experience for at least the previous five years;
- complete biographical information for the proposed candidate; and
- a description of the proposed candidate's qualifications as a director.

Each submission must be accompanied by the written consent of the proposed candidate to be named as a nominee and to serve as a director if elected.

In accordance with the "advance notice" provisions of our bylaws, stockholders seeking to present a stockholder proposal or nomination at the Company's 2026 Annual Meeting of Stockholders, without having it included in the Company's proxy statement, must timely submit notice of such proposal or nomination. To be timely, a stockholder's notice must be received by the Secretary at the principal executive offices of the Company not later than the close of business on the 90th day nor earlier than the close of business on the 120th day before the first anniversary of the 2025 Annual Meeting of Stockholders, unless the date of the 2026 Annual Meeting of Stockholders is advanced by more than 30 days or delayed by more than 70 days from the anniversary of the 2025 Annual Meeting of Stockholders. For the Company's 2026 Annual Meeting of Stockholders, this means that any such proposal or nomination must be submitted no earlier than February 24, 2026 and no later than March 26, 2026. If the date of the 2026 Annual Meeting of Stockholders is advanced by more than 30 days or delayed by more than 70 days from the anniversary of the 2025 Annual Meeting of Stockholders, the stockholder must submit any such proposal or nomination no earlier than the close of business on the 120th day prior to the 2026 Annual Meeting of Stockholders and not later than the close of business on the later of the 90th day prior to the 2026 Annual Meeting of Stockholders, or the 10th day following the day on which public announcement of the date of the 2026 Annual Meeting of Stockholders is first made by the Company.

In addition to satisfying the deadlines in the "advance notice" provisions of our bylaws, a stockholder who intends to solicit proxies in support of nominees submitted under these "advance notice" provisions, to comply with the universal proxy rules, stockholders who intend to solicit proxies in support of director nominees other than Company's nominees must include in their notice the information required by Rule 14a-19 under the Exchange Act.

Notices of any proposals or nominations for the Company's 2026 Annual Meeting of Stockholders should be sent to the Secretary of the Company at 5505 Morehouse Drive, Suite 100, San Diego, California 92121. A courtesy copy should also be submitted by email to ir@artivabio.com.

Householding of Proxy Materials

SEC rules permit companies and intermediaries such as brokers to satisfy delivery requirements for proxy statements and notices with respect to two or more stockholders sharing the same address by delivering a single proxy statement or a single notice addressed to those stockholders. This process, which is commonly referred to as "householding", provides cost savings for companies. Some brokers household proxy materials, delivering a single proxy statement or notice to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding materials to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement or notice, or if you are receiving duplicate copies of these materials and wish to have householding apply, please notify your broker.

Additional Filings

We make available, free of charge on our website, all of our filings that are made electronically with the SEC, including Forms 10-K, 10-Q and 8-K. To access these filings, go to our website investors.artivabio.com and click on "SEC Filings" under the "Financials" heading. Copies of our Annual Report on Form 10-K for the year ended December 31, 2024, including financial statements and schedules thereto, filed with the SEC, are also available without charge to stockholders by contacting Artiva Biotherapeutics, Inc. by mail at 5505 Morehouse Drive, Suite 100, San Diego, California 92121, by telephone at (858)-267-4467, or by email at ir@artivabio.com.

Other Matters

Our Board does not know of any other matters to be brought before the meeting. If other matters are presented, the proxy holders have discretionary authority to vote all proxies in accordance with their best judgement. Discretionary authority for them to do so is provided for in the proxy card and other forms of proxy.

By Order of the Board of Directors

/s/ *Fred Aslan*
Fred Aslan, M.D.
President and Chief Executive Officer
April 28, 2025

APPENDIX A

ARTIVA BIOTHERAPEUTICS, INC.
2024 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: JULY 11, 2024
APPROVED BY THE STOCKHOLDERS: JULY 11, 2024
AMENDED BY THE BOARD OF DIRECTORS: APRIL 17, 2025
APPROVED BY THE STOCKHOLDERS: _____, 2025

1. GENERAL.

(a) Successor to and Continuation of Prior Plan. The Plan is the successor to and continuation of the Prior Plan. As of the Effective Date, (i) no additional awards may be granted under the Prior Plan; (ii) any Returning Shares will become available for issuance pursuant to Awards granted under this Plan; and (iii) all outstanding awards granted under the Prior Plan will remain subject to the terms of the Prior Plan (except to the extent such outstanding awards result in Returning Shares that become available for issuance pursuant to Awards granted under this Plan). All Awards granted under this Plan will be subject to the terms of this Plan.

(b) Plan Purpose. The Company, by means of the Plan, seeks to secure and retain the services of Employees, Directors and Consultants, to provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and to provide a means by which such persons may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Awards.

(c) Available Awards. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) SARs; (iv) Restricted Stock Awards; (v) RSU Awards; (vi) Performance Awards; and (vii) Other Awards.

(d) Adoption Date; Effective Date. The Plan will come into existence on the Adoption Date, but no Award may be granted prior to the Effective Date.

2. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve. Subject to adjustment in accordance with Section 3(c) and any adjustments as necessary to implement any Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Awards will not exceed 7,001,185 shares (the "**Share Reserve**"), which is the sum of: (i) 1,214,580 shares that were approved at the Company's 2025 Annual Meeting of Stockholders; plus (ii) 2,630,000 shares initially reserved under the Plan; plus (iii) up to 115,436 shares available for issuance under the Prior Plan as of the Effective Date; plus 1,214,580 shares that were added pursuant to the annual automatic share increase on January 1, 2025; plus (v) up to 1,826,589 Returning Shares, as such shares become available from time to time. In addition, subject to any adjustments as necessary to implement any Capitalization Adjustments, such aggregate number of shares of Common Stock will automatically increase on January 1 of each year for a period of ten years commencing on January 1, 2025 and ending on (and including) January 1, 2034, in an amount equal to 5% of the total number of shares of Capital Stock outstanding on December 31 of the preceding year; provided, however, that the Board may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of shares of Common Stock.

(b) Aggregate Incentive Stock Option Limit. Notwithstanding anything to the contrary in Section 2(a) and subject to any adjustments as necessary to implement any Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options is three times the Share Reserve.

(c) Share Reserve Operation.

(i) Limit Applies to Common Stock Issued Pursuant to Awards. For clarity, the Share Reserve is a limit on the number of shares of Common Stock that may be issued pursuant to Awards and does not limit the granting of Awards, except that the Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy its obligations to issue shares pursuant to such Awards. Shares may be issued in connection with a merger or acquisition as permitted by, as applicable, Nasdaq Listing Rule 5635(c), NYSE Listed Company Manual Section 303A.08, NYSE American Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(ii) Actions that Do Not Constitute Issuance of Common Stock and Do Not Reduce Share Reserve. The following actions do not result in an issuance of shares under the Plan and accordingly do not reduce the number of shares subject to the Share Reserve and available for issuance under the Plan: (1) the expiration or termination of any portion of an Award without the shares covered by such portion of the Award having been issued; (2) the settlement of any portion of an Award in cash (*i.e.*, the Participant receives cash rather than Common Stock); (3) the withholding of shares that would otherwise be issued by the Company to satisfy the exercise, strike or purchase price of an Award; or (4) the withholding of shares that would otherwise be issued by the Company to satisfy a tax withholding obligation in connection with an Award.

(iii) Reversion of Previously Issued Shares of Common Stock to Share Reserve. The following shares of Common Stock previously issued pursuant to an Award and accordingly initially deducted from the Share Reserve will be added back to the Share Reserve and again become available for issuance under the Plan: (1) any shares that are forfeited back to or repurchased by the Company because of a failure to meet a contingency or condition required for the vesting of such shares; (2) any shares that are reacquired by the Company to satisfy the exercise, strike or purchase price of an Award; and (3) any shares that are reacquired by the Company to satisfy a tax withholding obligation in connection with an Award.

3. ELIGIBILITY AND LIMITATIONS.

(a) Eligible Award Recipients. Subject to the terms of the Plan, Employees, Directors and Consultants are eligible to receive Awards.

(b) Specific Award Limitations.

(i) Limitations on Incentive Stock Option Recipients. Incentive Stock Options may be granted only to Employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and (f) of the Code).

(ii) Incentive Stock Option $100,000 Limitation. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(iii) Limitations on Incentive Stock Options Granted to Ten Percent Stockholders. A Ten Percent Stockholder may not be granted an Incentive Stock Option unless (1) the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant of such Option and (2) the Option is not exercisable after the expiration of five years from the date of grant of such Option.

(iv) Limitations on Nonstatutory Stock Options and SARs. Nonstatutory Stock Options and SARs may not be granted to Employees, Directors and Consultants unless the stock underlying such Awards is treated as "service recipient stock" under Section 409A or unless such Awards otherwise comply with the requirements of Section 409A.

(c) Aggregate Incentive Stock Option Limit. The aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options is the number of shares specified in Section 2(b).

(d) Non-Employee Director Compensation Limit. The aggregate value of all compensation granted or paid, as applicable, to any individual for service as a Non-Employee Director with respect to any fiscal year, including Awards granted and cash fees paid by the Company to such Non-Employee Director, will not exceed (1) $750,000 in total value or (2) in the event such Non-Employee Director is first appointed or elected to the Board during such fiscal year, $1,000,000 in total value, in each case, calculating the value of any equity awards based on the grant date fair value of such equity awards for financial reporting purposes. The limitations in this Section 4(d) shall apply commencing with the first fiscal year that begins following the Effective Date. Compensation will count towards this limit for the fiscal year in which it was granted or earned, and not later when distributed, in the event it is deferred.

4. Options and Stock Appreciation Rights.

Each Option and SAR will have such terms and conditions as determined by the Board. Each Option will be designated in writing as an Incentive Stock Option or Nonstatutory Stock Option at the time of grant; provided, however, that if an Option is not so designated, then such Option will be a Nonstatutory Stock Option, and the shares purchased upon exercise of each type

of Option will be separately accounted for. Each SAR will be denominated in shares of Common Stock equivalents. The terms and conditions of separate Options and SARs need not be identical; provided, however, that each Option Agreement and SAR Agreement will conform (through incorporation of provisions hereof by reference in the Award Agreement or otherwise) to the substance of each of the following provisions:

(a) Term. Subject to Section 3(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten years from the date of grant of such Award or such shorter period specified in the Award Agreement.

(b) Exercise or Strike Price. Subject to Section 3(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will not be less than 100% of the Fair Market Value on the date of grant of such Award. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value on the date of grant of such Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Sections 409A and, if applicable, 424(a) of the Code.

(c) Exercise Procedure and Payment of Exercise Price for Options. In order to exercise an Option, the Participant must provide notice of exercise to the Plan Administrator in accordance with the procedures specified in the Option Agreement or otherwise provided by the Company. The Board has the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to utilize a particular method of payment. The exercise price of an Option may be paid, to the extent permitted by Applicable Law and as determined by the Board, by one or more of the following methods of payment to the extent set forth in the Option Agreement:

(i) by cash or check, bank draft or money order payable to the Company;

(ii) pursuant to a "cashless exercise" program developed under Regulation T as promulgated by the U.S. Federal Reserve Board that, prior to the issuance of the Common Stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock that are already owned by the Participant free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the exercise price, provided that (1) at the time of exercise the Common Stock is publicly traded, (2) any remaining balance of the exercise price not satisfied by such delivery is paid by the Participant in cash or other permitted form of payment, (3) such delivery would not violate any Applicable Law or agreement restricting the redemption of the Common Stock, (4) any certificated shares are endorsed or accompanied by an executed assignment separate from certificate, and (5) such shares have been held by the Participant for any minimum period necessary to avoid adverse accounting treatment as a result of such delivery;

(iv) if the Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the exercise price, provided that (1) such shares used to pay the exercise price will not be exercisable thereafter and (2) any remaining balance of the exercise price not satisfied by such net exercise is paid by the Participant in cash or other permitted form of payment; or

(v) in any other form of consideration that may be acceptable to the Board and permissible under Applicable Law.

(d) Exercise Procedure and Payment of Appreciation Distribution for SARs. In order to exercise any SAR, the Participant must provide notice of exercise to the Plan Administrator in accordance with the SAR Agreement. The appreciation distribution payable to a Participant upon the exercise of a SAR will not be greater than an amount equal to the excess of (i) the aggregate Fair Market Value on the date of exercise of a number of shares of Common Stock equal to the number of Common Stock equivalents that are vested and being exercised under such SAR, over (ii) the strike price of such SAR. Such appreciation distribution may be paid to the Participant in the form of Common Stock or cash (or any combination of Common Stock and cash) or in any other form of payment, as determined by the Board and specified in the SAR Agreement.

(e) Transferability. Options and SARs may not be transferred to third party financial institutions for value. The Board may impose such additional limitations on the transferability of an Option or SAR as it determines. In the absence of any such determination by the Board, the following restrictions on the transferability of Options and SARs will apply, provided that except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration and *provided, further*, that if an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer:

(i) Restrictions on Transfer. An Option or SAR will not be transferable, except by will or by the laws of descent and distribution, and will be exercisable during the lifetime of the Participant only by the Participant; provided, however, that the Board may permit transfer of an Option or SAR in a manner that is not prohibited by applicable tax and securities laws upon the Participant's request, including to a trust if the Participant is considered to be the sole beneficial owner of such trust (as determined under Section 671 of the Code and applicable U.S. state law) while such Option or SAR is held in such trust, provided that the Participant and the trustee enter into a transfer and other agreements required by the Company.

(ii) Domestic Relations Orders. Notwithstanding the foregoing, subject to the execution of transfer documentation in a format acceptable to the Company and subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to a domestic relations order.

(f) Vesting. The Board may impose such restrictions on or conditions to the vesting and/or exercisability of an Option or SAR as determined by the Board. Except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, vesting of Options and SARs will cease upon termination of the Participant's Continuous Service.

(g) Termination of Continuous Service for Cause. Except as explicitly otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or and Affiliate, if a Participant's Continuous Service is terminated for Cause, the Participant's Options and SARs will terminate and be forfeited immediately upon such termination of Continuous Service, and the Participant will be prohibited from exercising any portion (including any vested portion) of such Awards on and after the date of such termination of Continuous Service and the Participant will have no further right, title or interest in such forfeited Award, the shares of Common Stock subject to the forfeited Award, or any consideration in respect of the forfeited Award.

(h) Post-Termination Exercise Period Following Termination of Continuous Service for Reasons Other than Cause. Subject to Section 4(i), if a Participant's Continuous Service terminates for any reason other than for Cause, the Participant may exercise his or her Option or SAR to the extent vested, but only within the following period of time or, if applicable, such other period of time provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate; provided, however, that in no event may such Award be exercised after the expiration of its maximum term (as set forth in Section 4(a)):

(i) three months following the date of such termination if such termination is a termination without Cause (other than any termination due to the Participant's Disability or death);

(ii) 12 months following the date of such termination if such termination is due to the Participant's Disability;

(iii) 18 months following the date of such termination if such termination is due to the Participant's death; or

(iv) 18 months following the date of the Participant's death if such death occurs following the date of such termination but during the period such Award is otherwise exercisable (as provided in (i) or (ii) above).

Following the date of such termination, to the extent the Participant does not exercise such Award within the applicable Post-Termination Exercise Period (or, if earlier, prior to the expiration of the maximum term of such Award), such unexercised portion of the Award will terminate, and the Participant will have no further right, title or interest in the terminated Award, the shares of Common Stock subject to the terminated Award, or any consideration in respect of the terminated Award.

(i) Restrictions on Exercise; Extension of Exercisability. A Participant may not exercise an Option or SAR at any time that the issuance of shares of Common Stock upon such exercise would violate Applicable Law. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates for any reason other than for Cause and, at any time during the last thirty days of the applicable Post-Termination Exercise Period: (i) the exercise of the Participant's Option or SAR would be prohibited solely because the issuance of shares of Common Stock upon

such exercise would violate Applicable Law, or (ii) the immediate sale of any shares of Common Stock issued upon such exercise would violate the Company's Trading Policy, then the applicable Post-Termination Exercise Period will be extended to the last day of the calendar month that commences following the date the Award would otherwise expire, with an additional extension of the exercise period to the last day of the next calendar month to apply if any of the foregoing restrictions apply at any time during such extended exercise period, generally without limitation as to the maximum permitted number of extensions); provided, however, that in no event may such Award be exercised after the expiration of its maximum term (as set forth in Section 4(a)).

(j) Non-Exempt Employees. No Option or SAR, whether or not vested, granted to an Employee who is a non-exempt employee for purposes of the U.S. Fair Labor Standards Act of 1938, as amended, will be first exercisable for any shares of Common Stock until at least six months following the date of grant of such Award. Notwithstanding the foregoing, in accordance with the provisions of the U.S. Worker Economic Opportunity Act, any vested portion of such Award may be exercised earlier than six months following the date of grant of such Award in the event of (i) such Participant's death or Disability, (ii) a Corporate Transaction in which such Award is not assumed, continued or substituted, (iii) a Change in Control, or (iv) such Participant's retirement (as such term may be defined in the Award Agreement or another applicable agreement or, in the absence of any such definition, in accordance with the Company's then current employment policies and guidelines). This Section 4(j) is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay.

(k) Whole Shares. Options and SARs may be exercised only with respect to whole shares of Common Stock or their equivalents.

5. Awards Other Than Options and Stock Appreciation Rights.

(a) Restricted Stock Awards and RSU Awards. Each Restricted Stock Award and RSU Award will have such terms and conditions as determined by the Board; provided, however, that each Restricted Stock Award Agreement and RSU Award Agreement will conform (through incorporation of the provisions hereof by reference in the Award Agreement or otherwise) to the substance of each of the following provisions:

(i) Form of Award.

(1) Restricted Stock Awards: To the extent consistent with the Company's Bylaws, at the Board's election, shares of Common Stock subject to a Restricted Stock Award may be (A) held in book entry form subject to the Company's instructions until such shares become vested or any other restrictions lapse, or (B) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. Unless otherwise determined by the Board, a Participant will have voting and other rights as a stockholder of the Company with respect to any shares subject to a Restricted Stock Award.

(2) RSU Awards: An RSU Award represents a Participant's right to be issued on a future date the number of shares of Common Stock that is equal to the number of restricted stock units subject to the RSU Award. As a holder of an RSU Award, a Participant is

an unsecured creditor of the Company with respect to the Company's unfunded obligation, if any, to issue shares of Common Stock in settlement of such Award and nothing contained in the Plan or any RSU Award Agreement, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between a Participant and the Company or an Affiliate or any other person. A Participant will not have voting or any other rights as a stockholder of the Company with respect to any RSU Award (unless and until shares are actually issued in settlement of a vested RSU Award).

(ii) Consideration. The Board shall determine the consideration, if any, payable by a Participant for Restricted Stock Awards and RSU Awards. Such consideration may include, but is not limited to, cash or check, bank draft or money order payable to the Company, or services rendered to be rendered to the Company or an Affiliate.

(iii) Vesting. The Board may impose such restrictions on or conditions to the vesting of a Restricted Stock Award or RSU Award as determined by the Board. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, vesting of Restricted Stock Awards and RSU Awards will cease upon termination of the Participant's Continuous Service.

(iv) Termination of Continuous Service. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates for any reason, (1) the Company may receive through a forfeiture condition or a repurchase right any or all of the shares of Common Stock held by the Participant under his or her Restricted Stock Award that have not vested as of the date of such termination as set forth in the Restricted Stock Award Agreement and the Participant will have no further right, title or interest in the Restricted Stock Award, the shares of Common Stock subject to the Restricted Stock Award, or any consideration in respect of the Restricted Stock Award and (2) any portion of his or her RSU Award that has not vested will be forfeited upon such termination and the Participant will have no further right, title or interest in the RSU Award, the shares of Common Stock issuable pursuant to the RSU Award, or any consideration in respect of the RSU Award.

(v) Dividends and Dividend Equivalents. Dividends or dividend equivalents may be paid or credited, as applicable, with respect to any shares of Common Stock subject to a Restricted Stock Award or RSU Award, as determined by the Board and specified in the Award Agreement.

(vi) Settlement of RSU Awards. An RSU Award may be settled by the issuance of shares of Common Stock or cash (or any combination thereof) or in any other form of payment, as determined by the Board and specified in the RSU Award Agreement. At the time of grant, the Board may determine to impose such restrictions or conditions that delay such delivery to a date following the vesting of the RSU Award.

(b) Performance Awards. With respect to any Performance Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, the other terms and conditions of such Award, and the measure of whether and to what degree such Performance Goals have been attained will be determined by the Board.

(c) Other Awards. Other forms of Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof, may be granted either alone or in addition to Awards provided for under Section 4 and the preceding provisions of this Section 5. Subject to the provisions of the Plan, the Board will have sole and complete discretion to determine the persons to whom and the time or times at which such Other Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Awards and all other terms and conditions of such Other Awards.

6. Adjustments upon Changes in Common Stock; Other Corporate Events.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board shall appropriately and proportionately adjust: (i) the class(es) and maximum number of shares of Common Stock subject to the Plan and the maximum number of shares by which the Share Reserve may annually increase pursuant to Section 2(a); (ii) the class(es) and maximum number of shares that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 2(a); and (iii) the class(es) and number of securities and exercise price, strike price or purchase price of Common Stock subject to outstanding Awards. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. Notwithstanding the foregoing, no fractional shares or rights for fractional shares of Common Stock shall be created in order to implement any Capitalization Adjustment. The Board shall determine an appropriate equivalent benefit, if any, for any fractional shares or rights to fractional shares that might be created by the adjustments referred to in the preceding provisions of this Section.

(b) Dissolution or Liquidation. Except as otherwise provided in the Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Awards (other than Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Award is providing Continuous Service, provided, however, that the Board may determine to cause some or all Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. The following provisions will apply to Awards in the event of a Corporate Transaction, except as set forth in Section 11, and unless otherwise provided in the instrument evidencing the Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of an Award.

(i) Awards May Be Assumed. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue any or all Awards outstanding under the Plan or may substitute similar awards for Awards outstanding under the Plan (including but not limited to, awards to

acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Awards may be assigned by the Company to the successor of the Company (or the successor's parent company, if any), in connection with such Corporate Transaction. A surviving corporation or acquiring corporation (or its parent) may choose to assume or continue only a portion of an Award or substitute a similar award for only a portion of an Award, or may choose to assume, continue or substitute the Awards held by some, but not all Participants. The terms of any assumption, continuation or substitution will be set by the Board.

(ii) Awards Held by Current Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Awards or substitute similar awards for such outstanding Awards, then with respect to Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction (referred to as the "***Current Participants***"), the vesting of such Awards (and, with respect to Options and Stock Appreciation Rights, the time when such Awards may be exercised) will be accelerated in full to a date prior to the effective time of such Corporate Transaction (contingent upon the effectiveness of the Corporate Transaction) as the Board determines (or, if the Board does not determine such a date, to the date that is five days prior to the effective time of the Corporate Transaction), and such Awards will terminate if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and any reacquisition or repurchase rights held by the Company with respect to such Awards will lapse (contingent upon the effectiveness of the Corporate Transaction). With respect to the vesting of Performance Awards that will accelerate upon the occurrence of a Corporate Transaction pursuant to this subsection (ii) and that have multiple vesting levels depending on the level of performance, unless otherwise provided in the Award Agreement, the vesting of such Performance Awards will accelerate at 100% of the target level upon the occurrence of the Corporate Transaction in which the Awards are not assumed, continued or substituted in accordance with Section 6(c)(i). With respect to the vesting of Awards that will accelerate upon the occurrence of a Corporate Transaction pursuant to this subsection (ii) and are settled in the form of a cash payment, such cash payment will be made no later than 30 days following the occurrence of the Corporate Transaction or such later date as required to comply with Section 409A of the Code.

(iii) Awards Held by Persons other than Current Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Awards or substitute similar awards for such outstanding Awards, then with respect to Awards that have not been assumed, continued or substituted and that are held by persons other than Current Participants, such Awards will terminate if not exercised (if applicable) prior to the occurrence of the Corporate Transaction; provided, however, that any reacquisition or repurchase rights held by the Company with respect to such Awards will not terminate and may continue to be exercised notwithstanding the Corporate Transaction.

(iv) Payment for Awards in Lieu of Exercise. Notwithstanding the foregoing, in the event an Award will terminate if not exercised prior to the effective time of a Corporate Transaction, the Board may provide, in its sole discretion, that the holder of such Award may not exercise such Award but will receive a payment, in such form as may be determined by the Board,

equal in value, at the effective time, to the excess, if any, of (1) the value of the property the Participant would have received upon the exercise of the Award (including, at the discretion of the Board, any unvested portion of such Award), over (2) any exercise price payable by such holder in connection with such exercise.

(d) Appointment of Stockholder Representative. As a condition to the receipt of an Award under this Plan, a Participant will be deemed to have agreed that the Award will be subject to the terms of any agreement governing a Corporate Transaction involving the Company, including, without limitation, a provision for the appointment of a stockholder representative that is authorized to act on the Participant's behalf with respect to any escrow, indemnities and any contingent consideration.

(e) No Restriction on Right to Undertake Transactions. The grant of any Award under the Plan and the issuance of shares pursuant to any Award does not affect or restrict in any way the right or power of the Company, the Board or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any Change in Control, any Corporate Transaction, any merger or consolidation of the Company, any issue of stock or of options, rights or options to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

7. ADMINISTRATION.

(a) Administration by Board. The Board will administer the Plan unless and until the Board delegates administration of the Plan to a Committee or Committees, as provided in subsection (c) below.

(b) Powers of Board. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine from time to time (1) which of the persons eligible under the Plan will be granted Awards; (2) when and how each Award will be granted; (3) what type or combination of types of Award will be granted; (4) the provisions of each Award granted (which need not be identical), including the time or times when a person will be permitted to receive an issuance of Common Stock or other payment pursuant to an Award; (5) the number of shares of Common Stock or cash equivalent with respect to which an Award will be granted to each such person; (6) the Fair Market Value applicable to an Award; and (7) the terms of any Performance Award that is not valued in whole or in part by reference to, or otherwise based on, the Common Stock, including the amount of cash payment or other property that may be earned and the timing of payment.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement, in a manner and to the extent it deems necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate the time at which an Award may first be exercised or the time during which an Award or any part thereof will vest, notwithstanding the provisions in the Award Agreement stating the time at which it may first be exercised or the time during which it will vest.

(v) To prohibit the exercise of any Option, SAR or other exercisable Award during a period of up to 30 days prior to the consummation of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of Common Stock or the share price of the Common Stock including any Corporate Transaction, for reasons of administrative convenience.

(vi) To suspend or terminate the Plan at any time. Suspension or termination of the Plan will not Materially Impair rights and obligations under any Award granted while the Plan is in effect except with the written consent of the affected Participant.

(vii) To amend the Plan in any respect the Board deems necessary or advisable; provided, however, that stockholder approval will be required for any amendment to the extent required by Applicable Law. Except as provided above, rights under any Award granted before amendment of the Plan will not be Materially Impaired by any amendment of the Plan unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

(viii) To submit any amendment to the Plan for stockholder approval.

(ix) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided however*, that, a Participant's rights under any Award will not be Materially Impaired by any such amendment unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

(x) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Awards.

(xi) To adopt such procedures and sub-plans as are necessary or appropriate to permit and facilitate participation in the Plan by, or take advantage of specific tax treatment for Awards granted to, Employees, Directors or Consultants who are non-U.S. nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement to ensure or facilitate compliance with the laws of the relevant non-U.S. jurisdiction).

(xii) To effect, at any time and from time to time, subject to the consent of any Participant whose Award is Materially Impaired by such action, (1) the reduction of the exercise price (or strike price) of any outstanding Option or SAR; (2) the cancellation of any outstanding Option or SAR and the grant in substitution therefor of (A) a new Option, SAR, Restricted Stock Award, RSU Award or Other Award, under the Plan or another equity plan of the Company, covering the same or a different number of shares of Common Stock, (B) cash and/or (C) other valuable consideration (as determined by the Board); or (3) any other action that is treated as a repricing under generally accepted accounting principles.

(c) Delegation to Committee.

(i) General. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to another Committee or a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. Each Committee may retain the authority to concurrently administer the Plan with the Committee or subcommittee to which it has delegated its authority hereunder and may, at any time, revest in such Committee some or all of the powers previously delegated. The Board may retain the authority to concurrently administer the Plan with any Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) Rule 16b-3 Compliance. To the extent an Award is intended to qualify for the exemption from Section 16(b) of the Exchange Act that is available under Rule 16b-3 of the Exchange Act, the Award will be granted by the Board or a Committee that consists solely of two or more Non-Employee Directors, as determined under Rule 16b-3(b)(3) of the Exchange Act and thereafter any action establishing or modifying the terms of the Award will be approved by the Board or a Committee meeting such requirements to the extent necessary for such exemption to remain available.

(d) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board or any Committee in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

(e) Delegation to Other Person or Body. The Board or any Committee may delegate to one or more persons or bodies the authority to do one or more of the following to the extent permitted by Applicable Law: (i) designate recipients, other than Officers, of Options and SARs (and, to the extent permitted by Applicable Law, other Awards), provided that no person or body may be delegated authority to grant an Award to themself; (ii) determine the number of shares subject to such Awards; and (iii) determine the terms of such Awards; provided, however, that the Board or Committee action regarding such delegation will fix the terms of such delegation in accordance with Applicable Law, including without limitation Sections 152 and 157 of the Delaware General Corporation Law. Unless provided otherwise in the Board or Committee action regarding such delegation, each Award granted pursuant to this section will be granted on the

applicable form of Award Agreement most recently approved for use by the Board or the Committee, with any modifications necessary to incorporate or reflect the terms of such Award. Notwithstanding anything to the contrary herein, neither the Board nor any Committee may delegate to any person or body (who is not a Director or that is not comprised solely of Directors, respectively) the authority to determine the Fair Market Value.

8. TAX WITHHOLDING.

(a) Withholding Authorization. As a condition to acceptance of any Award under the Plan, a Participant authorizes withholding from payroll and any other amounts payable to such Participant, and otherwise agrees to make adequate arrangements to satisfy the Tax-Related Items withholding obligations, if any, of the Company and/or an Affiliate that arise in connection with the grant, vesting, exercise or settlement of such Award, as applicable. Accordingly, a Participant may not be able to exercise an Award even though the Award is vested, and the Company shall have no obligation to issue shares of Common Stock subject to an Award, unless and until such obligations are satisfied.

(b) Satisfaction of Withholding Obligation. To the extent permitted by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any Tax-Related Items withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; (v) by allowing a Participant to effectuate a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the U.S. Federal Reserve Board; or (vi) by such other method as may be set forth in the Award Agreement.

(c) No Obligation to Notify or Minimize Taxes; No Liability to Claims. Except as required by Applicable Law, the Company has no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Award. Furthermore, the Company has no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award and will not be liable to any holder of an Award for any adverse tax consequences to such holder in connection with an Award. As a condition to accepting an Award under the Plan, each Participant (i) agrees to not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates related to tax liabilities arising from such Award or other Company compensation and (ii) acknowledges that such Participant was advised to consult with his or her own personal tax, financial and other legal advisors regarding the tax consequences of the Award and has either done so or knowingly and voluntarily declined to do so. Additionally, each Participant acknowledges any Option or SAR granted under the Plan is exempt from Section 409A only if the exercise or strike price is at least equal to the "fair market value" of the Common Stock on the date of grant as determined by the U.S. Internal Revenue Service and there is no other impermissible deferral of compensation associated with the Award. Additionally, as a condition to accepting an Option or SAR granted under the Plan, each Participant agrees to not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates in the event

that the U.S. Internal Revenue Service asserts that such exercise price or strike price is less than the "fair market value" of the Common Stock on the date of grant as subsequently determined by the U.S. Internal Revenue Service.

(d) Withholding Indemnification. The Company and/or its Affiliate may withhold or account for Tax-Related Items by considering statutory or other withholding rates, including minimum or maximum rates applicable in a Participant's jurisdiction. In the event of overwithholding, the Participant may receive a refund of any over-withheld amount in cash (with no entitlement to the equivalent in Common Stock) or, if not refunded, the Participant may seek a refund from the local tax authorities. In the event of underwithholding, the Participant may be required to pay any additional Tax-Related Items directly to the applicable tax authority or to the Company and/or its Affiliate. As a condition to accepting an Award under the Plan, in the event that the amount of the Company's and/or its Affiliate's withholding obligation in connection with such Award was greater than the amount actually withheld by the Company and/or its Affiliates, each Participant agrees to indemnify and hold the Company and/or its Affiliates harmless from any failure by the Company and/or its Affiliates to withhold the proper amount. Further, if the obligation for Tax-Related Items is satisfied by withholding in shares of Common Stock, for tax purposes, the Participant will be deemed to have been issued the full number of shares subject to the Award, notwithstanding that a number of the shares is held back solely for the purpose of paying the Tax-Related Items.

9. MISCELLANEOUS.

(a) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

(b) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Awards will constitute general funds of the Company.

(c) Corporate Action Constituting Grant of Awards. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action approving the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement or related grant documents as a result of a clerical error in the Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement or related grant documents.

(d) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Award unless and until (i) such Participant has satisfied all requirements for exercise of the Award pursuant to its terms, if applicable, and (ii) the issuance of the Common Stock subject to such Award is reflected in the records of the Company.

(e) No Employment or Other Service Rights. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or affect the right of the Company or an Affiliate to terminate at will (unless otherwise required under Applicable Law) and without regard to any future vesting opportunity that a Participant may have with respect to any Award (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the U.S. state or non-U.S. jurisdiction in which the Company or the Affiliate is incorporated, as the case may be. Further, nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award will constitute any promise or commitment by the Company or an Affiliate regarding the fact or nature of future positions, future work assignments, future compensation or any other term or condition of employment or service or confer any right or benefit under the Award or the Plan unless such right or benefit has specifically accrued under the terms of the Award Agreement and/or Plan.

(f) Change in Time Commitment. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board may determine, to the extent permitted by Applicable Law, to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(g) Execution of Additional Documents. As a condition to accepting an Award under the Plan, the Participant agrees to execute any additional documents or instruments necessary or desirable, as determined in the Plan Administrator's sole discretion, to carry out the purposes or intent of the Award, or facilitate compliance with securities and/or other regulatory requirements, in each case at the Plan Administrator's request.

(h) Electronic Delivery and Participation. Any reference herein or in an Award Agreement to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto) or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access). By accepting any Award the Participant consents to receive documents by electronic delivery and to participate in the Plan through any on-line electronic system established and maintained by the Plan Administrator or another third party selected by the Plan Administrator. The form of delivery of any Common Stock (e.g., a stock certificate or electronic entry evidencing such shares) shall be determined by the Company.

(i) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act or other Applicable Law and any clawback policy that the Company otherwise adopts, to the extent applicable and permissible under Applicable Law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including but not limited to a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a Participant's right to voluntarily terminate employment upon a "resignation for good reason," or for a "constructive termination" or any similar term under any plan of or agreement with the Company.

(j) Securities Law Compliance. A Participant will not be issued any shares in respect of an Award unless either (i) the shares are registered under the Securities Act; or (ii) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. Each Award also must comply with other Applicable Law governing the Award, and a Participant will not receive such shares if the Company determines that such receipt would not be in material compliance with Applicable Law.

(k) Transfer or Assignment of Awards; Issued Shares. Except as expressly provided in the Plan or the form of Award Agreement, Awards granted under the Plan may not be transferred or assigned by the Participant. After the vested shares subject to an Award have been issued, or in the case of a Restricted Stock Award and similar awards, after the issued shares have vested, the holder of such shares is free to assign, hypothecate, donate, encumber or otherwise dispose of any interest in such shares provided that any such actions are in compliance with the provisions herein, the terms of the Trading Policy and Applicable Law.

(l) Effect on Other Employee Benefit Plans. The value of any Award granted under the Plan, as determined upon grant, vesting or settlement, shall not be included as compensation, earnings, salaries, or other similar terms used when calculating any Participant's benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

(m) Deferrals. To the extent permitted by Applicable Law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may also establish programs and procedures for deferral elections to be made by Participants. Deferrals will be made in accordance with the requirements of Section 409A.

(n) Section 409A. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A, and, to the extent not so exempt, in compliance with the requirements of Section 409A. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A, the

Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A is a "specified employee" for purposes of Section 409A, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A without regard to alternative definitions thereunder) will be issued or paid before the date that is six months and one day following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A, and any amounts so deferred will be paid in a lump sum on the day after such six month period elapses, with the balance paid thereafter on the original schedule.

(o) Choice of Law. This Plan and any controversy arising out of or relating to this Plan shall be governed by, and construed in accordance with, the internal laws of the State of Delaware, without regard to conflict of law principles that would result in any application of any law other than the law of the State of Delaware.

10. Covenants of the Company.

The Company will seek to obtain from each regulatory commission or agency, as may be deemed to be necessary, having jurisdiction over the Plan such authority as may be required to grant Awards and to issue and sell shares of Common Stock upon exercise or vesting of the Awards; provided, however, that this undertaking will not require the Company to register under the Securities Act the Plan, any Award or any Common Stock issued or issuable pursuant to any such Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary or advisable for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise or vesting of such Awards unless and until such authority is obtained. A Participant is not eligible for the grant of an Award or the subsequent issuance of Common Stock pursuant to the Award if such grant or issuance would be in violation of any Applicable Law.

11. Additional Rules for Awards Subject to Section 409A.

(a) Application. Unless the provisions of this Section of the Plan are expressly superseded by the provisions in the form of Award Agreement, the provisions of this Section shall apply and shall supersede anything to the contrary set forth in the Award Agreement for a Non-Exempt Award.

(b) Non-Exempt Awards Subject to Non-Exempt Severance Arrangements. To the extent a Non-Exempt Award is subject to Section 409A due to application of a Non-Exempt Severance Arrangement, the following provisions of this subsection (b) apply.

(i) If the Non-Exempt Award vests in the ordinary course during the Participant's Continuous Service in accordance with the vesting schedule set forth in the Award Agreement, and does not accelerate vesting under the terms of a Non-Exempt Severance Arrangement, in no event will the shares be issued in respect of such Non-Exempt Award any later than the later of: (i) December 31st of the calendar year that includes the applicable vesting date, or (ii) the 60th day that follows the applicable vesting date.

(ii) If vesting of the Non-Exempt Award accelerates under the terms of a Non-Exempt Severance Arrangement in connection with the Participant's Separation from Service, and such vesting acceleration provisions were in effect as of the date of grant of the Non-Exempt Award and, therefore, are part of the terms of such Non-Exempt Award as of the date of grant, then the shares will be earlier issued in settlement of such Non-Exempt Award upon the Participant's Separation from Service in accordance with the terms of the Non-Exempt Severance Arrangement, but in no event later than the 60th day that follows the date of the Participant's Separation from Service. However, if at the time the shares would otherwise be issued the Participant is subject to the distribution limitations contained in Section 409A applicable to "specified employees," as defined in Section 409A(a)(2)(B)(i) of the Code, such shares shall not be issued before the date that is six months following the date of such Participant's Separation from Service, or, if earlier, the date of the Participant's death that occurs within such six-month period.

(iii) If vesting of a Non-Exempt Award accelerates under the terms of a Non-Exempt Severance Arrangement in connection with a Participant's Separation from Service, and such vesting acceleration provisions were not in effect as of the date of grant of the Non-Exempt Award and, therefore, are not a part of the terms of such Non-Exempt Award on the date of grant, then such acceleration of vesting of the Non-Exempt Award shall not accelerate the issuance date of the shares, but the shares shall instead be issued on the same schedule as set forth in the Grant Notice as if they had vested in the ordinary course during the Participant's Continuous Service, notwithstanding the vesting acceleration of the Non-Exempt Award. Such issuance schedule is intended to satisfy the requirements of payment on a specified date or pursuant to a fixed schedule, as provided under U.S. Treasury Regulations Section 1.409A-3(a)(4).

(c) Treatment of Non-Exempt Awards Upon a Corporate Transaction for Employees and Consultants. The provisions of this subsection (c) shall apply and shall supersede anything to the contrary set forth in the Plan with respect to the permitted treatment of any Non-Exempt Award in connection with a Corporate Transaction if the Participant was either an Employee or Consultant upon the applicable date of grant of the Non-Exempt Award.

(i) Vested Non-Exempt Awards. The following provisions shall apply to any Vested Non-Exempt Award in connection with a Corporate Transaction:

(1) If the Corporate Transaction is also a Section 409A Change in Control then the Acquiring Entity may not assume, continue or substitute the Vested Non-Exempt Award. Upon the Section 409A Change in Control the settlement of the Vested Non-Exempt Award will automatically be accelerated and the shares will be immediately issued in respect of the Vested Non-Exempt Award. Alternatively, the Company may instead provide that the Participant will receive a cash settlement equal to the Fair Market Value of the shares that would otherwise be issued to the Participant upon the Section 409A Change in Control.

(2) If the Corporate Transaction is not also a Section 409A Change in Control, then the Acquiring Entity must either assume, continue or substitute each Vested Non-Exempt Award. The shares to be issued in respect of the Vested Non-Exempt Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of the Fair Market Value of the shares made on the date of the Corporate Transaction.

(ii) Unvested Non-Exempt Awards. The following provisions shall apply to any Unvested Non-Exempt Award unless otherwise determined by the Board or as otherwise required by applicable law.

(1) In the event of a Corporate Transaction, the Acquiring Entity shall assume, continue or substitute any Unvested Non-Exempt Award. Unless otherwise determined by the Board, any Unvested Non-Exempt Award will remain subject to the same vesting and forfeiture restrictions that were applicable to the Award prior to the Corporate Transaction. The shares to be issued in respect of any Unvested Non-Exempt Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of Fair Market Value of the shares made on the date of the Corporate Transaction.

(2) If the Acquiring Entity will not assume, substitute or continue any Unvested Non-Exempt Award in connection with a Corporate Transaction, then such Award shall automatically terminate and be forfeited upon the Corporate Transaction with no consideration payable to any Participant in respect of such forfeited Unvested Non-Exempt Award. Notwithstanding the foregoing, to the extent permitted and in compliance with the requirements of Section 409A, the Board may in its discretion determine to elect to accelerate the vesting and settlement of the Unvested Non-Exempt Award upon the Corporate Transaction, or instead substitute a cash payment equal to the Fair Market Value of such shares that would otherwise be issued to the Participant, as further provided in subsection (e)(ii) below. In the absence of such discretionary election by the Board, any Unvested Non-Exempt Award shall be forfeited without payment of any consideration to the affected Participants if the Acquiring Entity will not assume, substitute or continue the Unvested Non-Exempt Awards in connection with the Corporate Transaction.

(3) The foregoing treatment shall apply with respect to all Unvested Non-Exempt Awards upon any Corporate Transaction, and regardless of whether or not such Corporate Transaction is also a Section 409A Change in Control.

(d) Treatment of Non-Exempt Awards Upon a Corporate Transaction for Non-Employee Directors. The following provisions of this subsection (d) shall apply and shall supersede anything to the contrary that may be set forth in the Plan with respect to the permitted treatment of a Non-Exempt Director Award in connection with a Corporate Transaction.

(i) If the Corporate Transaction is also a Section 409A Change in Control then the Acquiring Entity may not assume, continue or substitute the Non-Exempt Director Award. Upon the Section 409A Change in Control the vesting and settlement of any Non-Exempt Director Award will automatically be accelerated and the shares will be immediately issued to the Participant in respect of the Non-Exempt Director Award. Alternatively, the Company may provide that the Participant will instead receive a cash settlement equal to the Fair Market Value of the shares that would otherwise be issued to the Participant upon the Section 409A Change in Control pursuant to the preceding provision.

(ii) If the Corporate Transaction is not also a Section 409A Change in Control, then the Acquiring Entity must either assume, continue or substitute the Non-Exempt Director Award. Unless otherwise determined by the Board, the Non-Exempt Director Award will remain subject to the same vesting and forfeiture restrictions that were applicable to the Award prior to the Corporate Transaction. The shares to be issued in respect of the Non-Exempt Director Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of Fair Market Value made on the date of the Corporate Transaction.

(e) If the RSU Award is a Non-Exempt Award, then the provisions in this Section 11(e) shall apply and supersede anything to the contrary that may be set forth in the Plan or the Award Agreement with respect to the permitted treatment of such Non-Exempt Award:

(i) Any exercise by the Board of discretion to accelerate the vesting of a Non-Exempt Award shall not result in any acceleration of the scheduled issuance dates for the shares in respect of the Non-Exempt Award unless earlier issuance of the shares upon the applicable vesting dates would be in compliance with the requirements of Section 409A.

(ii) The Company explicitly reserves the right to earlier settle any Non-Exempt Award to the extent permitted and in compliance with the requirements of Section 409A, including pursuant to any of the exemptions available in U.S. Treasury Regulations Section 1.409A-3(j)(4)(ix).

(iii) To the extent the terms of any Non-Exempt Award provide that it will be settled upon a Change in Control or Corporate Transaction, to the extent it is required for compliance with the requirements of Section 409A, the Change in Control or Corporate Transaction event triggering settlement must also constitute a Section 409A Change in Control. To the extent the terms of a Non-Exempt Award provides that it will be settled upon a termination of employment or termination of Continuous Service, to the extent it is required for compliance with the requirements of Section 409A, the termination event triggering settlement must also

constitute a Separation From Service. However, if at the time the shares would otherwise be issued to a Participant in connection with a "separation from service" such Participant is subject to the distribution limitations contained in Section 409A applicable to "specified employees," as defined in Section 409A(a)(2)(B)(i) of the Code, such shares shall not be issued before the date that is six months following the date of the Participant's Separation From Service, or, if earlier, the date of the Participant's death that occurs within such six month period.

(iv) The provisions in this subsection (e) for delivery of the shares in respect of the settlement of an RSU Award that is a Non-Exempt Award are intended to comply with the requirements of Section 409A so that the delivery of the shares to the Participant in respect of such Non-Exempt Award will not trigger the additional tax imposed under Section 409A, and any ambiguities herein will be so interpreted.

12. SEVERABILITY.

If all or any part of the Plan or any Award Agreement is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity shall not invalidate any portion of the Plan or such Award Agreement not declared to be unlawful or invalid. Any Section of the Plan or any Award Agreement (or part of such a Section) so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

13. TERMINATION OF THE PLAN.

The Board may suspend or terminate the Plan at any time. No Incentive Stock Options may be granted after the tenth anniversary of the earlier of: (i) the Adoption Date, or (ii) the date the Plan is approved by the Company's stockholders. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

14. DEFINITIONS.

As used in the Plan, the following definitions apply to the capitalized terms indicated below:

(a) "***Acquiring Entity***" means the surviving or acquiring corporation (or its parent company) in connection with a Corporate Transaction.

(b) "***Adoption Date***" means the date the Plan is first approved by the Board or Compensation Committee, as applicable.

(c) "***Affiliate***" means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405 promulgated under the Securities Act. The Board may determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(d) "***Applicable Law***" means the Code and any applicable U.S. and non-U.S. securities, exchange control, tax, federal, state, material local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, listing rule, regulation,

judicial decision, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body (including under the authority of any applicable self-regulating organization such as the Nasdaq Stock Market, New York Stock Exchange, or the Financial Industry Regulatory Authority).

(e) "***Award***" means any right to receive Common Stock, cash or other property granted under the Plan (including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, an RSU Award, a SAR, a Performance Award or any Other Award).

(f) "***Award Agreement***" means a written or electronic agreement between the Company and a Participant evidencing the terms and conditions of an Award. The Award Agreement generally consists of the Grant Notice and the agreement containing the written summary of the general terms and conditions applicable to the Award and which is provided, including through electronic means, to a Participant along with the Grant Notice.

(g) "***Board***" means the Board of Directors of the Company (or its designee). Any decision or determination made by the Board shall be a decision or determination that is made in the sole discretion of the Board (or its designee), and such decision or determination shall be final and binding on all Participants.

(h) "***Capital Stock***" means each and every class of common stock of the Company, regardless of the number of votes per share

(i) *"**Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Award after the Adoption Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(j) "***Cause***" will have the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) such Participant's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) such Participant's attempted commission of, or participation in, a fraud or act of dishonesty against the Company, or any of its employees or directors; (iii) such Participant's intentional, material violation of any contract or agreement between the Participant and the Company, the Company's employment policies, or of any statutory or other duty owed to the Company; (iv) such Participant's unauthorized use or disclosure of the Company's confidential information or trade secrets; or (v) such Participant's gross misconduct. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause will be made by the Company, in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was

terminated with or without Cause for the purposes of outstanding Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(k) "***Change in Control***" or "***Change of Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, or (C) solely because the level of Ownership held by any Exchange Act Person (the "*Subject Person*") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the Acquiring Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the Acquiring Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(iv) individuals who, on the Adoption Date, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; provided, however, that if the appointment or election (or nomination for election) of any

new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing or any other provision of this Plan, (A) the term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply, and (C) with respect to any nonqualified deferred compensation that becomes payable on account of the Change in Control, the transaction or event described in clause (i), (ii), (iii), or (iv) also constitutes a Section 409A Change in Control if required in order for the payment not to violate Section 409A of the Code.

(l) "***Code***" means the U.S. Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(m) "***Committee***" means the Compensation Committee and any other committee of one or more Directors to whom authority has been delegated by the Board or Compensation Committee in accordance with the Plan.

(n) "***Common Stock***" means, as of the IPO Date, the common stock of the Company.

(o) "***Company***" means Artiva Biotherapeutics, Inc., a Delaware corporation.

(p) "***Compensation Committee***" means the Compensation Committee of the Board.

(q) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(r) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service; provided, however, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will

not constitute an interruption of Continuous Service. To the extent permitted by Applicable Law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Company or an Affiliate, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in an Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by Applicable Law. In addition, to the extent required for exemption from or compliance with Section 409A, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "separation from service" as defined under U.S. Treasury Regulation Section 1.409A-1(h) (without regard to any alternative definition thereunder).

(s) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least 50% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

Notwithstanding the foregoing or any other provision of this Plan, (A) the term Corporate Transaction shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, (B) the definition of Corporate Transaction (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Corporate Transaction or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply, and (C) with respect to any nonqualified deferred compensation that becomes payable on account of the Corporate Transaction, the transaction or event described in clause (i), (ii), (iii), or (iv) also constitutes a Section 409A Change in Control if required in order for the payment not to violate Section 409A of the Code.

(t) "***Director***" means a member of the Board.

(u) "***determine***" or "***determined***" means as determined by the Board or the Committee (or its designee) in its sole discretion.

(v) "***Disability***" means, with respect to a Participant, such Participant is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months, as provided in Section 22(e)(3) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(w) "***Effective Date***" means the IPO Date, provided that this Plan is approved by the Company's stockholders prior to the IPO Date.

(x) "***Employee***" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(y) "***Employer***" means the Company or the Affiliate that employs the Participant.

(z) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(aa) "***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(bb) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities.

(cc) "***Fair Market Value***" means, as of any date, unless otherwise determined by the Board, the value of the Common Stock (as determined on a per share or aggregate basis, as applicable) determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value will be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) If there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, or if otherwise determined by the Board, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(dd) "***Good Reason***" has the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term and, in the absence of such agreement, means any of the following actions taken by the Company or a successor corporation or entity, with respect to a Participant, without the consent of such Participant (unless such action is taken in response to conduct by such Participant that constitutes Cause): (1) material reduction of the Participant's base compensation, other than a reduction that applies generally to all employees of an approximately similar level (e.g., executives, vice presidents, director positions); (2) material reduction in such Participant's authority, duties or responsibilities; provided, however, that a change in job position (including a change in title) will not be deemed a "material reduction" unless the Participant's new authority, duties or responsibilities are materially reduced from the prior authority, duties or responsibilities; (3) failure or refusal of a successor to the Company to materially assume the Company's obligations under each material agreement between such Participant and the Company in the event of a Change in Control; or (4) relocation of such Participant's principal place of employment that results in an increase in the Participant's one-way driving distance by more than 50 miles from such Participant's then-current principal residence. In order to resign for Good Reason, a Participant must provide written notice of the event giving rise to Good Reason to the Company within 90 days after the condition arises, allow the Company 30 days to cure such condition, and if the Company fails to cure the condition within such period, the Participant's resignation from all positions such Participant then holds with the Company must be effective not later than 90 days after the end of the Company's cure period.

(ee) "***Governmental Body***" means any: (i) nation, state, commonwealth, , province, territory, county, municipality, district or other jurisdiction of any nature; (ii) U.S. or non-U.S. federal, state, local, municipal, or other government; (iii) governmental or regulatory body, or quasi-governmental body of any nature (including any governmental division, department, administrative agency or bureau, commission, authority, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or Entity and any court or other tribunal, and for the avoidance of doubt, any Tax authority) or other body exercising similar powers or authority; or (iv) self-regulatory organization (including the Nasdaq Stock Market, New York Stock Exchange, and the Financial Industry Regulatory Authority).

(ff) "***Grant Notice***" means the notice provided to a Participant that he or she has been granted an Award under the Plan and which includes the name of the Participant, the type of Award, the date of grant of the Award, number of shares of Common Stock subject to the Award or potential cash payment right, (if any), the vesting schedule for the Award (if any) and other key terms applicable to the Award.

(gg) "***Incentive Stock Option***" means an option granted pursuant to Section 4 of the Plan that is intended to be, and qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(hh) "***IPO Date***" means the date of the underwriting agreement between the Company and the underwriter(s) managing the initial public offering of the Common Stock, pursuant to which the Common Stock is priced for the initial public offering.

(ii) "***Materially Impair***" means any amendment to the terms of the Award that materially adversely affects the Participant's rights under the Award. A Participant's rights under an Award will not be deemed to have been Materially Impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. For example, the following types of amendments to the terms of an Award do not Materially Impair the Participant's rights under the Award: (i) imposition of reasonable restrictions on the minimum number of shares subject to an Option or SAR that may be exercised; (ii) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (iii) to change the terms of an Incentive Stock Option in a manner that disqualifies, impairs or otherwise affects the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (iv) to clarify the manner of exemption from, or to bring the Award into compliance with or qualify it for an exemption from, Section 409A; or (v) to comply with other Applicable Laws.

(jj) "***Non-Employee Director***" means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("***Regulation S-K***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(kk) "***Non-Exempt Award***" means any Award that is subject to, and not exempt from, Section 409A, including as the result of (i) a deferral of the issuance of the shares subject to the Award which is elected by the Participant or imposed by the Company, or (ii) the terms of any Non-Exempt Severance Arrangement.

(ll) "***Non-Exempt Director Award***" means a Non-Exempt Award granted to a Participant who was a Director but not an Employee on the applicable grant date.

(mm) "***Non-Exempt Severance Arrangement***" means a severance arrangement or other agreement between the Participant and the Company that provides for acceleration of vesting of an Award and issuance of the shares in respect of such Award upon the Participant's termination of employment or separation from service (as such term is defined in Section 409A(a)(2)(A)(i) of the Code (and without regard to any alternative definition thereunder)) ("***Separation from Service***") and such severance benefit does not satisfy the requirements for an exemption from application of Section 409A provided under U.S. Treasury Regulations Section 1.409A-1(b)(4), 1.409A-1(b)(9) or otherwise.

(nn) "***Nonstatutory Stock Option***" means any option granted pursuant to Section 4 of the Plan that does not qualify as an Incentive Stock Option.

(oo) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(pp) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(qq) "***Option Agreement***" means a written or electronic agreement between the Company and the Optionholder evidencing the terms and conditions of the Option grant. The Option Agreement includes the Grant Notice for the Option and the agreement containing the written summary of the general terms and conditions applicable to the Option and which is provided, including through electronic means, to a Participant along with the Grant Notice. Each Option Agreement will be subject to the terms and conditions of the Plan.

(rr) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ss) "***Other Award***" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 5(c).

(tt) "***Other Award Agreement***" means a written or electronic agreement between the Company and a holder of an Other Award evidencing the terms and conditions of an Other Award grant. Each Other Award Agreement will be subject to the terms and conditions of the Plan.

(uu) "***Own,***" "***Owned,***" "***Owner,***" or "***Ownership***" means that a person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(vv) "***Participant***" means an Employee, Director or Consultant to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

(ww) "***Performance Award***" means an Award that may vest or may be exercised or a cash award that may vest or become earned and paid contingent upon the attainment during a Performance Period of certain Performance Goals and which is granted under the terms and conditions of Section 5(b) pursuant to such terms as are approved by the Board. In addition, to the extent permitted by Applicable Law and set forth in the applicable Award Agreement, the Board may determine that cash or other property may be used in payment of Performance Awards. Performance Awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, the Common Stock.

(xx) "***Performance Criteria***" means the one or more criteria that the Board will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: earnings (including earnings per share and net earnings); earnings before interest, taxes and depreciation; earnings before interest, taxes, depreciation and amortization; total stockholder return; return on equity or average stockholder's equity; return on assets, investment, or capital employed; stock price; margin (including gross

margin); income (before or after taxes); operating income; operating income after taxes; pre-tax profit; operating cash flow; sales or revenue targets; increases in revenue or product revenue; expenses and cost reduction goals; improvement in or attainment of working capital levels; economic value added (or an equivalent metric); market share; cash flow; cash flow per share; share price performance; debt reduction; customer satisfaction; stockholders' equity; capital expenditures; debt levels; operating profit or net operating profit; workforce diversity; growth of net income or operating income; billings; preclinical development related compound goals; financing; regulatory milestones, including approval of a compound; stockholder liquidity; corporate governance and compliance; product commercialization; intellectual property; personnel matters; progress of internal research or clinical programs; progress of partnered programs; partner satisfaction; budget management; clinical achievements; completing phases of a clinical trial (including the treatment phase); announcing or presenting preliminary or final data from clinical trials, in each case, whether on particular timelines or generally; timely completion of clinical trials; submission of INDs and NDAs and other regulatory achievements; partner or collaborator achievements; internal controls, including those related to the Sarbanes-Oxley Act of 2002; research progress, including the development of programs; investor relations, analysts and communication; manufacturing achievements (including obtaining particular yields from manufacturing runs and other measurable objectives related to process development activities); strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property); establishing relationships with commercial entities with respect to the marketing, distribution and sale of the Company's products (including with group purchasing organizations, distributors and other vendors); supply chain achievements (including establishing relationships with manufacturers or suppliers of active pharmaceutical ingredients and other component materials and manufacturers of the Company's products); co-development, co-marketing, profit sharing, joint venture or other similar arrangements; individual performance goals; corporate development and planning goals; and other measures of performance selected by the Board or Committee.

(yy) "***Performance Goals***" means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of Common Stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders

other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, the Board may establish or provide for other adjustment items in the Award Agreement at the time the Award is granted or in such other document setting forth the Performance Goals at the time the Performance Goals are established. In addition, the Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Award Agreement or the written terms of a Performance Award.

(zz) "***Performance Period***" means the period of time selected by the Board over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to vesting or exercise of an Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(aaa) "***Plan***" means this Artiva Biotherapeutics, Inc. 2024 Equity Incentive Plan, as amended from time to time.

(bbb) "***Plan Administrator***" means the person, persons, and/or third-party administrator designated by the Company to administer the day-to-day operations of the Plan and the Company's other equity incentive programs.

(ccc) "***Post-Termination Exercise Period***" means the period following termination of a Participant's Continuous Service within which an Option or SAR is exercisable, as specified in Section (h).

(ddd) "***Prior Plan***" means the Artiva Biotherapeutics, Inc. Amended and Restated 2020 Equity Incentive Plan, as amended from time to time.

(eee) "***Prospectus***" means the document containing the Plan information specified in Section 10(a) of the Securities Act.

(fff) "***Restricted Stock Award***" means an Award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 5(a).

(ggg) "***Restricted Stock Award Agreement***" means a written or electronic agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. The Restricted Stock Award Agreement includes the Grant Notice for the Restricted Stock Award and the agreement containing the written summary of the general terms and conditions applicable to the Restricted Stock Award and which is provided, including by electronic means, to a Participant along with the Grant Notice. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(hhh) "***Returning Shares***" means shares subject to outstanding stock awards granted under the Prior Plan and that following the Effective Date: (A) are not issued because such stock award or any portion thereof expires or otherwise terminates without all of the shares covered by such stock award having been issued; (B) are not issued because such stock award or any portion thereof is settled in cash; (C) are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required for the vesting of such shares; (D) are withheld or reacquired to satisfy the exercise, strike or purchase price; or (E) are withheld or reacquired to satisfy a tax withholding obligation.

(iii) "***RSU Award***" or "***RSU***" means an Award of restricted stock units representing the right to receive an issuance of shares of Common Stock which is granted pursuant to the terms and conditions of Section 5(a).

(jjj) "***RSU Award Agreement***" means a written or electronic agreement between the Company and a holder of an RSU Award evidencing the terms and conditions of an RSU Award grant. The RSU Award Agreement includes the Grant Notice for the RSU Award and the agreement containing the written summary of the general terms and conditions applicable to the RSU Award and which is provided, including by electronic means, to a Participant along with the Grant Notice. Each RSU Award Agreement will be subject to the terms and conditions of the Plan.

(kkk) "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(lll) "***Rule 405***" means Rule 405 promulgated under the Securities Act.

(mmm) "***Section 409A***" means Section 409A of the Code and the regulations and other guidance thereunder.

(nnn) "***Section 409A Change in Control***" means a change in the ownership or effective control of the Company, or in the ownership of a substantial portion of the Company's assets, as provided in Section 409A(a)(2)(A)(v) of the Code and U.S. Treasury Regulations Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(ooo) "***Securities Act***" means the U.S. Securities Act of 1933, as amended.

(ppp) "***Share Reserve***" means the number of shares available for issuance under the Plan as set forth in Section 3(a).

(qqq) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 4.

(rrr) "***SAR Agreement***" means a written agreement between the Company and a holder of a SAR evidencing the terms and conditions of a SAR grant. The SAR Agreement includes the Grant Notice for the SAR and the agreement containing the written summary of the general terms and conditions applicable to the SAR and which is provided to a Participant along with the Grant Notice. Each SAR Agreement will be subject to the terms and conditions of the Plan

(sss) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(ttt) "***Tax-Related Items***" means any income tax, social insurance, payroll tax, fringe benefit tax, payment on account or other tax-related items arising out of or in relation to a Participant's participation in the Plan and legally applicable or deemed applicable to the Participant.

(uuu) "***Ten Percent Stockholder***" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate.

(vvv) "***Trading Policy***" means the Company's policy permitting certain individuals to sell Company shares only during certain "window" periods and/or otherwise restricts the ability of certain individuals to transfer or encumber Company shares, as in effect from time to time.

(www) "***Unvested Non-Exempt Award***" means the portion of any Non-Exempt Award that had not vested in accordance with its terms upon or prior to the date of any Corporate Transaction.

(xxx) "***Vested Non-Exempt Award***" means the portion of any Non-Exempt Award that had vested in accordance with its terms upon or prior to the date of a Corporate Transaction.