Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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: 001-40631

Caribou Biosciences, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**45-3728228**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
2929 7th Street, Suite 105 Berkeley, California	**94710**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (510) 982-6030

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	CRBU	The Nasdaq Global Select 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	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 are restatements. ☐

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 aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant on June 30, 2024, based on the closing price of the shares of common stock on the Nasdaq Global Select Market on such date, was $141.4 million This calculation does not reflect a determination that certain persons are affiliates of the Registrant for any purpose.

The number of shares of Registrant's Common Stock outstanding as of March 4, 2025 was 93,004,602.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for the 2025 Annual Meeting of Stockholders are incorporated by reference into Part III.

Table of Contents

Risk Factors Summary

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in the "Risk Factors" section in Part I, Item 1A of this Annual Report on Form 10-K. These risks include, among others, the following:

Risks Relating to our Financial Position and Need for Additional Capital

- We have incurred significant operating losses since our inception and anticipate that we will incur continued operating losses for the foreseeable future and we may not be able to achieve or sustain profitability.
- We will need substantial additional financing to develop our product candidates and implement our operating plans. If we fail to obtain additional financing, we may be delayed or unable to complete the development and commercialization of our product candidates.
- Raising additional capital may cause dilution to our stockholders, restrict our operations, and/or require us to relinquish rights to our technologies or product candidates.

Risks Relating to our Business, Government Regulation, Technology, and Industry

- We are early in our product development efforts and it will be many years before we commercialize a product candidate, if ever. If we are unable to advance our product candidates through clinical trials, obtain regulatory approval, and ultimately commercialize our product candidates, or we experience significant delays in doing so, our business will be materially harmed.
- Manufacturing our product candidates is complex and we could experience manufacturing problems during our clinical trials, which could delay or limit commercialization of our product candidates.
- Our business is highly dependent on the success of our product candidates, which will require significant additional human clinical trials before we can seek regulatory approval and potentially commercialize our product candidates. If we are unable to advance our clinical trials and obtain regulatory approval for, and successfully commercialize, our product candidates for the treatment of patients in approved indications, or if we are substantially delayed in doing so, our business will be materially harmed.
- If we experience delays or difficulties enrolling patients in the clinical trials for our product candidates, our ability to advance our product candidates through clinical development and the regulatory process could be delayed or prevented.
- Our clinical trials may fail to adequately demonstrate the safety and efficacy of any of our product candidates and, if this happens, the development of our product candidates may be delayed or unsuccessful, which could prevent or delay regulatory approval and commercialization.
- If our product candidates cause serious adverse events or undesirable side effects, including injury and death, or have other properties that could delay or prevent regulatory approval, they would have limited or no commercial potential.
- The FDA or other regulatory agencies may disagree with our regulatory plans and we may fail to obtain regulatory approval of our cell therapy product candidates.
- There is substantial uncertainty regarding the new Administration's initiatives and how these might impact the FDA, its implementation of laws, regulations, policies, and guidance, and its personnel. Similar initiatives may also be directed toward other government agencies. These initiatives could prevent, limit, or delay development and regulatory approval of our product candidates, which would adversely affect our business.
- We face significant competition from other biotechnology and pharmaceutical companies, which may result in other companies developing or commercializing products before, or more successfully than, we do, thus

rendering our product candidates non-competitive or reducing the size of the market for our product candidates. Our operating results will suffer if we fail to compete effectively.

Risks Relating to Intellectual Property

- If we do not possess the necessary intellectual property rights covering our CRISPR chRDNA genome-editing technologies, our product candidates, or other proprietary technologies, we may not be able to block competitors or to compete effectively in the market.
- Third-party claims of intellectual property infringement may prevent or delay our ability to commercialize our product candidates.
- Our rights to develop and commercialize our product candidates are subject to the terms and conditions of our licenses and assignments with third parties. If we fail to comply with our obligations under these agreements, we could lose intellectual property rights and be subject to litigation from our licensors or assignors.

Risks Relating to our Relationships with Third Parties

- We rely on third parties to supply the materials for, and the manufacturing of, our clinical product candidates, and, if such product candidates receive regulatory approval, we may continue our reliance on third parties for manufacturing our commercial products. Our continued success is subject to the performance of these third parties.
- We rely and will continue to rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or do not meet deadlines, we may not be able to obtain regulatory approval of, or commercialize, our product candidates.

Risks Relating to Employee Matters, Managing Growth, and Other Risks Relating to our Business

- Our future success depends on our ability to retain our executive officers and to attract, retain, and motivate qualified personnel.
- Our internal computer systems, or those of third parties with which we interact, may fail or suffer security breaches, which could result in a material disruption of the development of our product candidates and research programs, compromise sensitive information related to our business, or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.
- As a public company, we are obligated to develop and maintain proper and effective internal controls over financial reporting, and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

Risks Relating to Ownership of our Common Stock

- The market price of our common stock has been, and may continue to be, volatile, and our investors may suffer substantial losses if the price of our common stock drops significantly.
- Our failure to meet the continued listing requirements of Nasdaq could result in the delisting of our common stock.
- We are subject to securities class action litigation, and our officers and directors may be subject to shareholder derivative lawsuits, which may result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Throughout this Annual Report on Form 10-K, "Company," "Caribou," "Caribou Biosciences," "we," "us," and "our," except where the context requires otherwise, refer to Caribou Biosciences, Inc. and its consolidated subsidiaries, and "our board of directors" refers to the board of directors of Caribou Biosciences, Inc.

Special Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical facts, contained in this Annual Report on Form 10-K are forward-looking statements, including statements regarding our business strategy, plans, and objectives; expectations regarding our clinical-stage product candidates and our preclinical development programs, including our expectations about the timelines for such product candidates and development programs; the expected timing of disclosure of clinical trial data and preclinical development program data; the safety, efficacy, and potential advantages of our product candidates; future regulatory filings and interactions with regulatory authorities; our results of operations and financial position; plans and objectives of management for future operations; and the like. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential," or "continue," or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements concerning:

- our expectations regarding the initiation, enrollment, timing, progress, and results of our clinical trials and our preclinical research programs, including our timing expectations relating to the release of initial or additional patient data from our ongoing ANTLER, CaMMouflage, AMpLify, and GALLOP phase 1 clinical trials, as well as timing for the initiation of succeeding clinical phases of these trials;
- our ability to successfully develop our product candidates and to obtain and maintain regulatory approval for our product candidates;
- the likelihood of our clinical trials demonstrating safety and efficacy of our product candidates;
- the beneficial characteristics, therapeutic effects, and potential advantages of our product candidates;
- the timing or likelihood of regulatory filings and approvals for our product candidates;
- our ability to take advantage of expedited regulatory pathways for our product candidates;
- our strategic plans for our business, product candidates, research programs, and technologies;
- the expected benefits of potential strategic collaborations with third parties, including our agreements with Pfizer, and our ability to attract additional collaborators;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and genome-editing technology;
- anticipated developments related to our competitors and our industry;
- our ability to adequately secure our information technology systems and the regulated data stored therein, as required by law;
- the impact of global economic and political developments on our business, including rising inflation and capital market disruptions; changes in governmental agencies and funding, particularly under the new Administration; the ongoing war between Ukraine and Russia, conflict in the Middle East, and tension between China and Taiwan; and economic sanctions and economic slowdowns or recessions that may result from such developments and that could harm our research and development efforts as well as the value of our common stock and our ability to access capital markets;
- estimates regarding the sufficiency of our existing capital resources to fund our future operating expenses and capital expenditure requirements; and

- our anticipated use of our existing resources, capital requirements, and the timing of and need for additional financing.

The forward-looking statements in this Annual Report on Form 10-K are only predictions and are based largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition, and results of operations. These forward-looking statements speak only as of the date this Annual Report on Form 10-K is filed and are subject to a number of known and unknown risks, uncertainties, and assumptions, including those described in the "Risk Factors" section in Part I, Item 1A of this Annual Report on Form 10-K and in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section in Part II, Item 7 of this Annual Report on Form 10-K. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or may not occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in a very competitive and rapidly evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances, or otherwise.

Trademarks and Service Marks

We have registered CARIBOU BIOSCIENCES®, CARIBOU®, SITE-SEQ®, and our logo as trademarks in the United States and certain other jurisdictions. This Annual Report on Form 10-K contains references to our trademarks and service marks and to those belonging to other entities. Solely for convenience, trademarks and service marks referred to in this Annual Report on Form 10-K, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but in the case of our trademarks and service marks, such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks and service marks. We do not intend our use or display of other entities' trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

PART I

Item 1. Business.

Overview

We are a clinical-stage **C**lustered **R**egularly **I**nterspaced **S**hort **P**alindromic **R**epeats ("CRISPR") genome-editing biopharmaceutical company dedicated to developing transformative therapies for patients with devastating diseases. Our genome-editing platform, including our novel chRDNA (**C**RISPR **h**ybrid **R**NA-**DNA**, or "chRDNA," pronounced "chardonnay") technology, enables more precise genome editing of allogeneic cell therapies.

Our allogeneic chimeric antigen receptor ("CAR") -T ("CAR-T") cell therapy product candidates are manufactured in advance with cells from healthy donors, with the goal of enabling broad patient access, rapid patient treatment, and increased manufacturing scale. Our allogeneic CAR-T cell therapy product candidates in clinical development are directed at established cell surface targets against which autologous CAR-T cell therapeutics have already demonstrated clinical proof of concept, including CD19 and B cell maturation antigen ("BCMA"), as well as targets such as C-type lectin-like molecule-1 ("CLL-1"). We use our chRDNA technologies to armor our cell therapies through multiple genome-editing strategies, such as checkpoint disruption, immune cloaking, or a combination of these two strategies, to enhance activity against devastating diseases.

We are advancing our pipeline of allogeneic CAR-T cell therapies with the following four clinical development programs targeting the treatment of hematologic malignancies and autoimmune diseases:

- CB-010: an allogeneic anti-CD19 CAR-T cell therapy, being evaluated in patients with relapsed or refractory B cell non-Hodgkin lymphoma ("r/r B-NHL") in our ANTLER phase 1 clinical trial
- CB-010: also being evaluated in patients with lupus nephritis ("LN") and in patients with extrarenal lupus ("ERL") in our GALLOP phase 1 clinical trial
- CB-011: an allogeneic anti-BCMA CAR-T cell therapy, being evaluated in patients with relapsed or refractory multiple myeloma ("r/r MM") in our CaMMouflage phase 1 clinical trial
- CB-012: an allogeneic anti-CLL-1 CAR-T cell therapy, being evaluated in patients with relapsed or refractory acute myeloid leukemia ("r/r AML") in our AMpLify phase 1 clinical trial

CB-010 has received regenerative medicine advanced therapy ("RMAT") designation for relapsed or refractory large B cell lymphoma ("r/r LBCL") as well as fast track designations for r/r B-NHL and refractory systemic lupus erythematosus ("SLE") from the U.S. Food and Drug Administration ("FDA"); CB-011 has received fast track designation for r/r MM from the FDA; and CB-012 has received fast track designation for r/r AML from the FDA.

Allogeneic CAR-T Cell Therapies

Allogeneic, or off-the-shelf, CAR-T cell therapies offer several advantages over commercially available autologous CAR-T cell therapies, including broad patient access, rapid patient treatment, and increased manufacturing scale:

- *Broad patient access:* Of every 10 patients with second-line relapsed or refractory diffuse large B cell lymphoma ("DLBCL"), only approximately two patients currently receive commercially available autologous CAR-T cell therapies. Many patients cannot wait weeks to months for autologous CAR-T cell therapy or their T cells are too dysfunctional to manufacture their individual therapy. With allogeneic CAR-T cell therapy, many more patients could be served as these cell therapies are manufactured in advance from healthy donor T cells, making them readily available off-the-shelf for rapid patient treatment. Additionally, commercially available autologous CAR-T cell therapies are primarily available at academic centers of excellence in metropolitan areas where a patient's cells can be removed for modification through apheresis versus in the community hospital setting where the vast majority of patients are treated. Allogeneic CAR-T cell therapies can be administered in academic centers of excellence and, in the future, in appropriate community hospital settings, regardless of apheresis capabilities, suggesting broader patient access to treatment.
- *Rapid patient treatment:* Commercially available autologous CAR-T cell therapies are manufactured from the patient's own T cells and require weeks to months for manufacturing, product release, and delivery back to the patient for treatment. Given the long wait time, more than 50% of patients who receive autologous CAR-T cells

require bridging therapy, adding additional therapies to their treatment journey. In addition, approximately 40% of patients with second line ("2L") DLBCL are not able to wait for autologous CAR-T cell therapy. With allogeneic CAR-T cell therapy, patients can begin treatment within days.

- *Increased manufacturing scale:* For autologous CAR-T cell therapy, one manufacturing run yields one treatment for one patient, which cannot be further scaled. There are a limited number of CAR-T cell treatment centers where apheresis capabilities are available, In addition, manufacturing failures can prevent a patient from receiving their treatment. In contrast, our allogeneic CAR-T cell therapy product candidates are manufactured from cells from healthy donors, prepared in advance of treatment, and the number of doses per manufacturing run can be scaled for broad patient access.

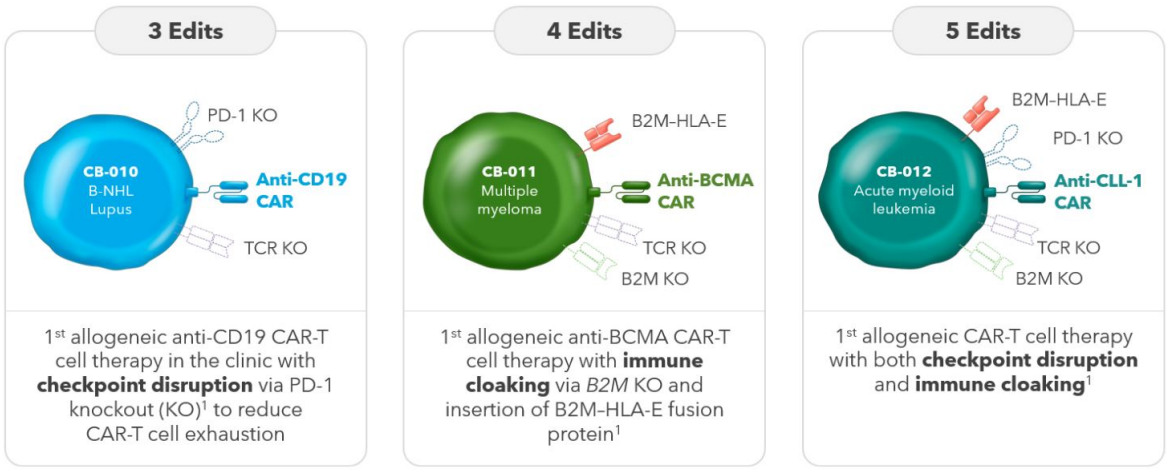
Our CRISPR chRDNA Genome-Editing Technologies

Genome-editing technologies used to date have limited efficiency, specificity, and versatility for performing the multiple, precise genomic edits necessary for allogeneic CAR-T cell therapy manufacturing. Our CRISPR chRDNA genome-editing technologies are designed to address these limitations and enable us to apply armoring strategies to enhance allogeneic CAR-T cell therapy activity against diseases.

Using our chRDNA genome-editing technologies, we have successfully demonstrated multiplex genome editing while maintaining genomic integrity. Our allogeneic CAR-T cell therapy product candidates incorporate increasing numbers of genome edits, as shown in the figure below. We believe this level of editing sophistication has the potential to unlock the broad potential of allogeneic cell therapies by:

- *Enhancing the activity of allogeneic cell therapies for potentially durable activity*: Our chRDNA technologies enable us to apply tailored armoring strategies to our allogeneic CAR-T cells, including (i) checkpoint disruption, through the knockout of programmed cell death protein 1 ("PD-1") to sustain the activity of CAR-T cells by disrupting a pathway that leads to CAR-T cell exhaustion; (ii) immune cloaking of CAR-T cells to reduce rejection by the patient's immune system; and (iii) a combination of these two strategies.

- *Improving the genomic integrity of our products:* We have observed that our cell therapy product candidates have significantly lower levels of off-target edits compared to those made using first-generation CRISPR-Cas9 genome editing, and we believe we make multiple edits while maintaining genomic integrity.

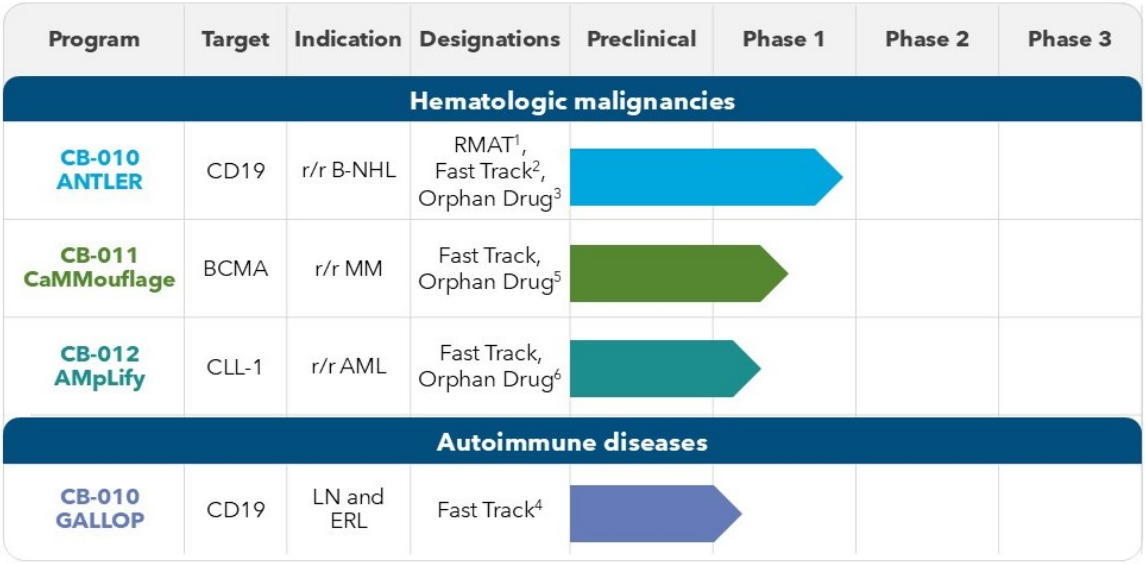


[1] *To Caribou's knowledge*

We believe that our chRDNA genome-editing technologies have broad potential to generate cell and gene therapies in oncology, autoimmune diseases, and in additional therapeutic areas. We own a robust worldwide patent portfolio protecting our Cas9 chRDNA and our Cas12a chRDNA compositions and genome-editing methods.

Our Pipeline

We are focused on the development of our pipeline of allogeneic CAR-T cell therapies. We are advancing four clinical-stage programs from our allogeneic CAR-T cell therapy platform targeting the treatment of hematologic malignancies and autoimmune diseases. Our pipeline is shown below:



[1] CB-010: RMAT designation for r/r LBCL
[2] CB-010: fast track designation for r/r B-NHL
[3] CB-010: orphan drug designation for follicular lymphoma ("FL")
[4] CB-010:fast track designation for refractory SLE
[5] CB-011: fast track and orphan drug designations for r/r MM
[6] CB-012: fast track and orphan drug designations for r/r AML

Our Programs

CB-010 is an anti-CD19 allogeneic CAR-T cell therapy product candidate that is being evaluated in patients with r/r B-NHL in our ANTLER phase 1 clinical trial and in patients with LN and ERL in our GALLOP phase 1 clinical trial. To our knowledge, CB-010 is the first clinical-stage allogeneic anti-CD19 CAR-T cell therapy with a genome-edited knockout of the *PDCD1* gene to prevent PD-1 expression on the CAR-T cell surface.

In the dose escalation portion of our ANTLER phase 1 clinical trial, 16 patients with multiple subtypes of aggressive r/r B-NHL were enrolled and three dose levels of CB-010 were evaluated: dose level 1 ($40x10^6$ viable CAR-T cells), dose level 2 ($80x10^6$ viable CAR-T cells), and dose level 3 ($120x10^6$ viable CAR-T cells). Patients received a lymphodepletion regimen that included two chemotherapy agents, cyclophosphamide and fludarabine, which are generally used for lymphodepletion prior to autologous CAR-T cell therapy. To ensure optimal engraftment of the allogeneic CB-010 cells, we used a deeper regimen of these chemotherapeutic agents, i.e., cyclophosphamide at 60 mg/kg/day for two days and then fludarabine at 25 mg/m^2/day for five days, than is used with the commercially available autologous CAR-T cell therapies. Lymphodepletion reduces the number of the patient's immune cells and creates an inflammatory state that is required for the infused CAR-T cells to effectively expand and persist for disease activity. Following dose escalation, we began the dose expansion portion of our ANTLER trial and enrolled 30 patients with 2L LBCL to treat this larger patient population earlier in the course of their disease. During these portions of our ANTLER trial, patients who had received prior CD19-targeted therapies were excluded. During dose expansion, dose level 2 ($80x10^6$ viable CAR-T cells) was selected as the recommended phase 2 dose ("RP2D") for CB-010.

At a poster presentation during the 2024 American Society of Clinical Oncology ("ASCO") Annual Meeting in June 2024, we presented safety, efficacy, and translational data for the first 46 patients evaluated in our ANTLER phase 1 clinical trial after a single dose of CB-010. CB-010 was generally well-tolerated with adverse events as expected for anti-CD19 CAR-T cell therapies. A retrospective analysis of all patient data demonstrated that patients who received a dose of CB-010 manufactured from a donor with at least four matching human leukocyte antigen ("HLA") alleles (of 12 total alleles) with the patient (referred to as "partial HLA matching") resulted in improved progression-free survival ("PFS') compared to patients who received a single dose of CB-010 from a donor with fewer than four matching HLA alleles. To confirm the partial HLA matching strategy, we are enrolling approximately 20 additional 2L LBCL patients in the ongoing ANTLER phase 1 clinical trial. In addition, we are enrolling a proof-of-concept cohort of up to 10 patients in our ANTLER phase 1 clinical trial who have relapsed following any prior CD19-targeted therapy in this population of unmet need.

We have expanded our clinical development of CB-010 to include autoimmune diseases. CB-010 holds the potential for deep depletion of disease-causing B cells, which could reset the immune system, leading to sustained drug-free remission. In our ANTLER phase 1 clinical trial, following a single dose of CB-010, the depletion and recovery of patients' B cells is on par with the duration of B cell aplasia reported in a recent case series in the literature. We have initiated our multicenter, open-label GALLOP phase 1 clinical trial to evaluate a single infusion of CB-010 at the RP2D for oncology ($80x10^6$ viable CAR-T cells) but with a different lymphodepletion regimen, also incorporating partial HLA matching, in adult patients with LN and ERL.

CB-011 is an anti-BCMA allogeneic CAR-T cell therapy product candidate that is being evaluated in patients with r/r MM in our CaMMouflage phase 1 clinical trial. To our knowledge, CB-011 is the first anti-BCMA CAR-T cell therapy incorporating an immune cloaking approach that includes both the removal of the endogenous beta-2 microglobulin ("B2M") protein and insertion of a beta-2-microglobulin–human-leukocyte-antigen-E–peptide transgene ("B2M–HLA-E"). This immune cloaking armoring strategy results in no endogenous class I HLA alleles expressed on the CAR-T cell surface. This reduces the number of potential mismatched HLA alleles to six from 12, resulting in a reduced risk of rapid immunologic clearing of the CAR-T cells by the patient.

In the dose escalation portion of our CaMMouflage phase 1 clinical trial, dose level 1 ($50x10^6$ viable CAR-T cells), dose level 2 ($150x10^6$ viable CAR-T cells), dose level 3 ($450x10^6$ viable CAR-T cells), and dose level 4 ($800x10^6$ viable CAR-T cells) of CB-011 have cleared without any observed dose-limiting toxicities ("DLTs"). We have implemented a deeper lymphodepletion regimen that includes an increased dose of cyclophosphamide (up from the original 300 mg/m^2/day to 500 mg/m^2/day together with the same fludarabine dose of 30 mg/m^2/day for three days). Dose level 3 ($450x10^6$ viable CAR-T cells) and dose level 4 ($800x10^6$ viable CAR-T cells) with the deeper lymphodepletion have cleared with no DLTs observed. We are enrolling additional patients at multiple dose levels with the deeper lymphodepletion regimen in order to further define safety and efficacy and to determine a RP2D.

CB-012 is an allogeneic anti-CLL-1 CAR-T cell therapy product candidate that is being evaluated in patients with r/r AML in our AMpLify phase 1 clinical trial. To our knowledge, CB-012 is the first allogeneic CAR-T cell therapy armored with both checkpoint disruption and immune cloaking strategies. Patients in our AMpLify phase 1 clinical trial receive a lymphodepletion regimen prior to CAR-T cell infusion. The lymphodepletion regimen includes two chemotherapy agents, cyclophosphamide (750 mg/m^2/day) and fludarabine (30 mg/m^2/day) for three days. Patients then have two days of rest, followed by a single CB-012 dose on day zero. In the dose escalation portion of our AMpLify phase 1 clinical trial, dose level 1 ($25x10^6$ viable CAR-T cells), dose level 2 ($75x10^6$ viable CAR-T cells), and dose level 3 ($150x10^6$ viable CAR-T cells) of CB-012 have cleared without any observed DLTs, and we are enrolling patients at dose level 4 ($300x10^6$ viable CAR-T cells).

In July 2024, we announced that we had discontinued preclinical research activities associated with our allogeneic CAR-natural killer ("NK") cell therapy platform to focus resources on our allogeneic CAR-T cell therapy platform and to advance our four clinical programs for oncology and autoimmune diseases.

In addition to our CAR-T cell therapy programs, we are developing *in vivo* genome-editing capabilities. Cas12a chRDNA guides may offer improved specificity compared to all-RNA guides for *in vivo* genome-editing applications. We are using Cas12a chRDNA guides to optimize the Cas12a mRNA sequence and refine our lipid nanoparticle formulations with a goal of demonstrating functional gene disruptions in animal models. Our initial research is in non-humanized mouse models to demonstrate genome-editing and gene correction capabilities. In the future, we aim to take a human sequence target and perform disease-specific edits and demonstrate highly efficient editing across multiple clinically relevant targets to highlight the broad therapeutic potential of this platform.

Our Strategy

Our mission is to develop innovative, transformative therapies for patients with devastating diseases through our novel chRDNA genome-editing technologies. Our overarching goal is to build an integrated company that discovers, develops, manufactures, and commercializes genome-edited cell therapies that have the potential to treat patients with significant unmet needs. Our initial focus is on allogeneic CAR-T cell therapies for hematologic malignancies and autoimmune diseases, and our chRDNA technologies offer additional potential applications in the future. Key components of our strategy include:

- *Applying our chRDNA genome-editing technology to engineer allogeneic cell therapies from our CAR-T cell platform that have the potential for durable activity against multiple diseases.* Our chRDNA technologies enable us to design allogeneic cell therapies with the potential to achieve enhanced activity against diseased cells through the use of armoring strategies, including (i) checkpoint disruption, such as through a knockout of PD-1 to sustain the activity of CAR-T cells by disrupting a pathway that leads to CAR-T cell exhaustion; (ii) immune cloaking of CAR-T cells to reduce rejection by the lymphoid compartment of a patient's immune system; and (iii) a combination of these strategies.

- *Developing allogeneic CAR-T cell therapies against clinically validated targets to derisk our clinical programs.* CB-010, directed to the CD19 antigen, is being evaluated in our ANTLER phase 1 clinical trial in patients with r/r B-NHL and our GALLOP phase 1 clinical trial in patients with LN and ERL. CB-011, directed to the BCMA antigen, is being evaluated in our CaMMouflage phase 1 clinical trial in patients with r/r MM. These are the targets of several commercially available autologous CAR-T cell therapies, which reduces target risk as we evaluate the safety and efficacy of our allogeneic CAR-T cell therapies in our ongoing clinical trials.

- *Developing allogeneic CAR-T cell therapies against additional targets for diseases with limited treatment options.* We are applying our Cas12a chRDNA platform and insights from our more advanced programs to design allogeneic CAR-T cell therapies against targets for which there are no commercially available autologous CAR-T cell therapies. For example, CB-012, directed to the CLL-1 target, is being evaluated in our AMpLify phase 1 clinical trial in patients with r/r AML.

- *Pursuing select applications of our technology and indications on our own and through strategic collaborations.* We believe that our technology has broad potential to generate cell therapies in oncology, autoimmune diseases, and additional therapeutic areas. Potential applications include immune cell therapies and in vivo genome-editing therapies. We may selectively pursue these indications and applications using our internal expertise or through strategic collaborations.

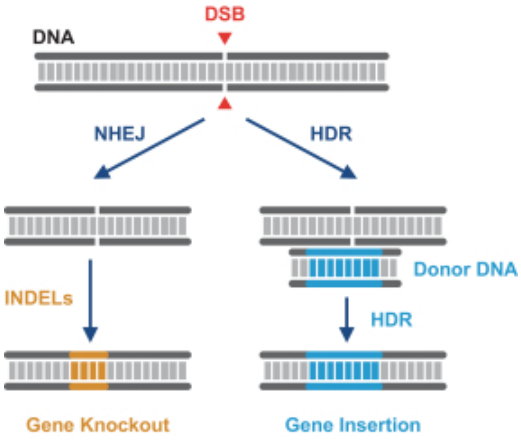
Our Team

Our team and our culture are critical to our mission to develop innovative, transformative therapies for patients with devastating diseases through our novel CRISPR chRDNA genome-editing technologies. Our mission-driven team includes leaders who have significant experience, including driving global clinical and regulatory strategies for commercially available autologous CAR-T cell therapies through all phases of development and pivotal trials, and some of the scientists who invented the chRDNA genome-editing technologies we use today in our programs and who continue to drive our future innovations.

We were founded in 2011 by globally-recognized pioneers in CRISPR genome editing and nucleic acid biology: Jennifer A. Doudna, Ph.D., who was a co-recipient of the 2020 Nobel Prize in Chemistry for the development of CRISPR-Cas9 as a method for genome editing; Martin Jinek, Ph.D., Associate Professor at the University of Zurich in the Department of Biochemistry; James Berger, Ph.D., Professor in the Department of Biophysics and Biophysical Chemistry at the Johns Hopkins University School of Medicine; and Rachel E. Haurwitz, Ph.D., who has served as our president and chief executive officer since our formation. Drs. Doudna and Jinek serve on our scientific advisory board ("SAB"), which also includes world experts in CAR-T cell development, immunotherapies, oncology, autoimmune diseases, patient care, and clinical trial development to support commercialization.

Genome-Editing Background

Genome editing is a class of technologies that facilitate engineering specific changes to deoxyribonucleic acid ("DNA") sequences inside living cells. Genome editing can occur in two steps, as shown in the figure below. In the first step, a double-stranded break ("DSB") is made at the location of the genome where the edit is desired. A cell typically has two ways to repair the DSB, which results in the knockout of a gene or the insertion of new genetic material: non-homologous end joining ("NHEJ") and homology-directed repair ("HDR"), respectively. NHEJ is an error-prone process in which the broken DNA ends are reattached. During NHEJ, the cell typically inserts or deletes nucleotides at the DSB. These insertions and deletions ("indels") generally disrupt the coding sequence for the targeted gene, resulting in the knockout of the targeted sequence. HDR, by contrast, is a more controlled repair system where the cell incorporates donor DNA delivered during the experiment into the DSB, resulting in the site-specific insertion of the provided DNA sequence.



The canonical CRISPR system utilizes a CRISPR-associated ("Cas") protein Cas9, which can cut genomic DNA. Cas9 is targeted to a specific site in a genome by a guide ribonucleic acid ("RNA"). One of the disadvantages of CRISPR-Cas9 genome editing is the occurrence of off-target editing, edits that occur at sites in the genome other than at the intended target site due to the ability of RNA guides to bind to DNA sequences similar to the target DNA sequence. Off-target edits throughout the genome can alter an oncogene or tumor suppressor gene, impact the biology of the target cell, or have other negative consequences on therapeutic development. Additionally, the simultaneous occurrence of both on-target and off-target edits may lead to genomic rearrangements, including chromosomal translocations, that may be problematic for immune cell therapeutics, especially for ones requiring multiple edits.

Our CRISPR chRDNA Technologies

Overview

We deploy a new, next-generation CRISPR genome-editing platform, our novel chRDNA technologies, which use hybrid guides containing both RNA and DNA for editing genomic DNA to engineer our allogeneic CAR-T cell therapies. The presence of DNA in a chRDNA guide significantly improves editing specificity relative to an all-RNA guide. The addition of DNA into the guide increases the fidelity by reducing the binding of the guide to the target sequence, thereby resulting in even less binding of the chRDNA guide to non-target sequences that may be similar to, but different from, the intended target sequence. Our chRDNA technologies use the canonical *Streptococcus pyogenes* Cas9 protein or the *Acidaminococcus sp*. Cas12a protein and a guide that is composed of a mixture of RNA and DNA nucleotides in both the region that interacts with the chromosomal target DNA and in the region that does not interact with the target DNA. Like Cas9, Cas12a is a Cas protein used to edit genomic DNA site-specifically. The advantages of our chRDNA technologies include:

- *Specificity:* Our chRDNA guides mediate higher genome-editing specificity as compared to all-RNA guides. Significantly fewer off-target events are observed using our chRDNA guides versus first-generation CRISPR-Cas9 or CRISPR-Cas12a systems using all-RNA guides. The improved genome-editing specificity from the use of our chRDNA guides leads to a high degree of editing specificity with lower levels of off-target events.

  Our chRDNA guides retain high affinity to edit a genome at the intended location; however, these guides have lower affinity for potential off-target sites to reduce the likelihood of a genome edit at an unintended location. We

evaluated the integrity and performance of chRDNA guides by employing two unique assays, the SITE-Seq® assay and the VINE assay, on two genes known from the scientific literature to exhibit high rates of off-target editing with either the Cas9 or Cas12a protein and all-RNA guides. All-RNA guides generated both robust on-target and off-target editing. In contrast to the all-RNA guides, the chRDNA guides maintained robust on-target editing but induced minor to no detectable off-target editing. We developed chRDNA guides that target the exact same genomic locations that achieve equivalent on-target editing compared to the all-RNA guides. We published research in *Molecular Cell*, a peer-reviewed journal, on the mitigation of off-target editing using Cas9 chRDNAs (Donohoue, P.D. et al., *Molecular Cell* 81, 3637–3649, September 2, 2021).

- *High efficiency:* We achieve a high degree of on-target gene knockout and site-specific gene insertion efficiency, facilitating robust multiplex editing, including multiple gene insertions. For example, Cas12a chRDNA genome editing used in generating CB-011 leads to approximately 76-80% gene insertion rates for two separate site-specific gene insertions, which represent both high and reproducible gene insertion rates, and greater than 60% of manufacturing-scale CAR-T cells have all four intended edits (two knockouts and two site-specific knock-ins).

  Achieving high efficiency gene insertion is more challenging than achieving high efficiency gene knockout. To insert genes into T cells with our chRDNA technology, we transduce the cells with adeno-associated virus serotype 6 ("AAV6"), which contains the DNA template of interest to facilitate the integration of the DNA into the double-stranded break generated by the Cas9 chRDNA complex or the Cas12a chRDNA complex via the HDR pathway. Our chRDNA genome-editing technologies do not rely on lentiviral or retroviral genome-editing methods, which are used in commercially available autologous CAR-T cell therapies to insert the CAR gene randomly into the genome and which may increase the risk of genomic mutagenesis.

- *Versatility*: Our chRDNA guides are compatible with, and offer utility across, multiple cell types, including but not limited to T cells, NK cells, and induced pluripotent stem cells ("iPSCs").

- *Simplicity*: Our chRDNA guides are manufactured using standard, scalable solid-phase phosphoramidite chemistry.

Genome-Editing Strategies for Allogeneic CAR-T Cell Therapies

CAR-T cells will generally proliferate in response to antigen engagement via the specificity of their respective CAR. However, allogeneic CAR-T cells are rapidly rejected by a patient's immune system due to their divergent donor-derived genetic profile and cell surface HLA presentation. We believe engineering CAR-T cells to achieve enhanced target cell killing activity is necessary for the realization of the full potential of allogeneic cell therapies. Furthermore, development of an allogeneic CAR-T cell therapy requires genome editing to remove proteins from donor T cells that may recognize and attack a patient's tissue that, without removal, would pose a risk of graft versus host disease ("GvHD").

Checkpoint Disruption with PD-1 Knockout Strategy

One of the approaches we deploy to increase the activity of CAR-T cells is to remove PD-1 from the CAR-T cell surface. Engagement of the PD-1/PD-L1 axis leads to rapid exhaustion of T cells. This occurs when a T cell expressing PD-1 interacts with another cell expressing the ligand PD-L1. Diseased cells and the patient's own cells can express PD-L1, leading to interaction with PD-1 and subsequent exhaustion of the CAR-T cells. We use our chRDNA technology to knock out the *PDCD1* gene to prevent PD-1 expression on the CAR-T cell surface, thereby disrupting PD-1/PD-L1-mediated exhaustion. We believe that knocking out PD-1 will maintain the CAR-T cells in a higher activity state for an extended period of time, and we believe this will result in greater diseased cell debulking in the patient.

Immune-Cloaking Strategy

Another approach we deploy to increase the persistence of our CAR-T cells is to immune cloak them to reduce their rapid immune-mediated rejection. The goal of immune cloaking is to maintain the allogeneic CAR-T cells in circulation for an extended period of time. Allogeneic CAR-T cells are foreign to the patient's immune system and, unless modified, will be rapidly rejected. We use our Cas12a chRDNA technology to make multiple edits to T cells to immune cloak them and limit the rapid rejection by both the patient's cytotoxic T cells and NK cells. Our edits remove all endogenous HLA class I antigens from the CAR-T cell surface and lead to the overexpression of HLA-E, a minor HLA antigen, on the CAR-T cell surface. The lack of endogenous HLA class I antigens and the presence of only HLA-E are designed to prevent the patient's T cells and NK cells from rapidly rejecting the allogeneic therapy. These cells are unlikely to persist indefinitely, and ultimately other types of immune cells in the patient will eliminate the allogeneic CAR-T cells. Our edits are designed to maintain the CAR-T cells in circulation longer to enhance the activity of the CAR-T cell therapy to destroy a larger proportion of the targeted cells.

Our Clinical Programs

We are advancing four clinical programs from our pipeline of allogeneic CAR-T cell therapies focused on the treatment of hematologic malignancies and autoimmune diseases.

CB-010

Overview: Strategy and Rationale

CB-010 is an allogeneic CAR-T cell therapy targeting CD19-positive hematologic malignancies and autoimmune diseases. CB-010 is being evaluated in our ongoing first-in-human, open-label, multicenter ANTLER phase 1 clinical trial (NCT04637763) in the United States, Australia, and Israel in adults with r/r B-NHL as well as in our open-label, multicenter GALLOP phase 1 clinical trial (NCT06752876) in the United States in adults with LN and ERL.

To our knowledge, our CB-010 product candidate is the first allogeneic CAR-T cell therapy in a clinical trial with a PD-1 knockout, and we believe the PD-1 knockout enhances the potential for durable activity of an allogeneic CAR-T cell therapy. Other CAR-T cell therapies that express endogenous PD-1 could become rapidly exhausted and lose activity due to the interaction between PD-1 and its ligand PD-L1. PD-1/PD-L1 engagement leads to rapid exhaustion in T cells. This occurs when a T cell expressing PD-1 interacts with another cell expressing PD-L1. B cell tumors and the patient's own cells express PD-L1, leading to interaction with PD-1 and subsequent exhaustion of the CAR-T cells. We prevent PD-1 expression on the CB-010 CAR-T cells, thereby disrupting PD-1/PD-L1-mediated exhaustion. More than half of B-NHL tumors express PD-L1, correlating with poorer outcomes. We believe that knocking out PD-1 will maintain the CAR-T cells in an enhanced activity state for an extended period of time, which we believe will result in greater activity against disease in the patient, thereby enabling a potentially better therapeutic index relative to PD-1-expressing CAR-T cells.

CB-010 has received RMAT designation for r/r LBCL, fast track designations for r/r B-NHL and for refractory SLE, and orphan drug designation for FL from the FDA.

Target Indications

We are developing CB-010 for the treatment of r/r B-NHL, with a focus on 2L LBCL, as well as for the treatment of LN and ERL.

NHL is the most common hematologic malignancy with an estimated 80,620 individuals, or 4% of all cancers, diagnosed in the United States in 2024 according to the National Cancer Institute SEER database. LBCL is a subtype of B-NHL and typically presents as a rapidly growing mass or enlarging lymph nodes in a nodal or extranodal site. LBCL subtypes include diffuse large B cell lymphoma not otherwise specified ("DLBCL NOS"), high-grade B cell lymphoma ("HGBL"), primary mediastinal large B cell lymphoma ("PMBCL"), transformed follicular lymphoma ("tFL"), and transformed marginal zone lymphoma ("tMZL"). The most common form of lymphoma is DLBCL, a type of LBCL, with approximately 25,000 patients diagnosed each year in the United States.

Overall, for aggressive r/r B-NHL, newer immunologically-mediated therapies under investigation include checkpoint inhibitors, bispecific antibodies, and CAR-T cells. Commercially available autologous anti-CD19 CAR-T cell therapies have shown encouraging complete response ("CR") rates, PFS, and overall survival; however, there are many barriers, including limited patient access, length of time to treatment, and manufacturing capacity and scale limitations. Thus, there remains a significant unmet medical need for patients with r/r B-NHL.

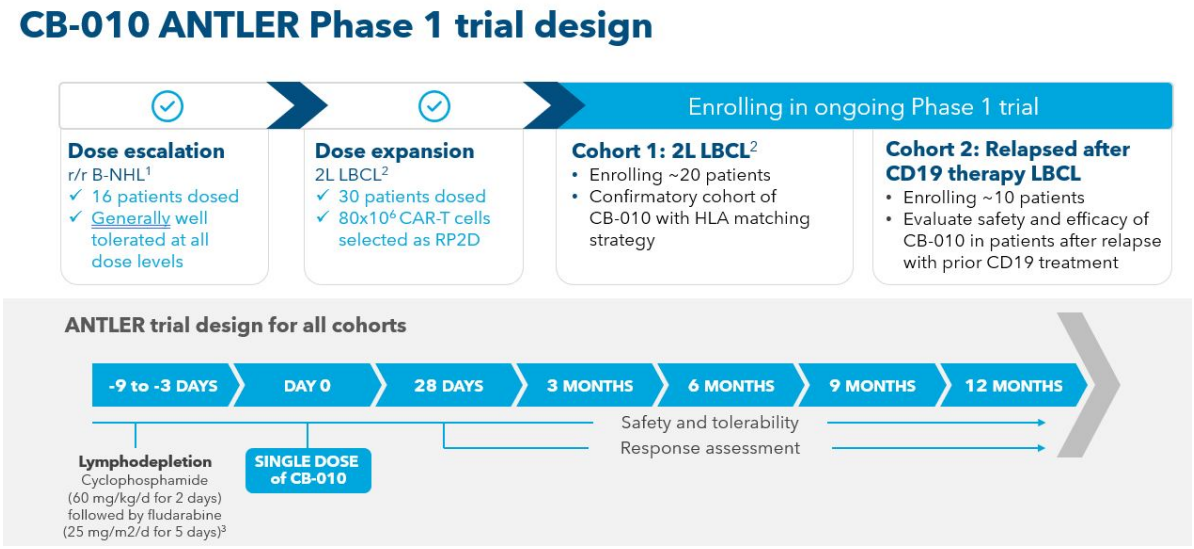
LN and ERL are sub-categories of SLE, the most common form of lupus. Lupus is a chronic autoimmune disease characterized by B cell dysfunction in which the immune system attacks the patient's own tissues, causing widespread inflammation and organ damage. There are over 200,000 individuals with SLE in the United States according to the Centers for Disease Control and Prevention. It has been estimated that about 50% of patients with SLE will develop lupus nephritis and, of those, roughly 10-30% of patients will progress to end-stage renal disease, which requires dialysis or kidney transplant. Treatments for lupus include antimalarials, steroids, non-steroidal anti-inflammatories, immunosuppressives, blood thinners, and monoclonal antibodies ("mAbs"), among others. Investigational approaches such as autologous CAR-T cell therapies are being evaluated for lupus; however, issues related to scale and access, as well as the need for a washout of lupus drugs prior to apheresis and cell therapy infusion, may present challenges due to an extended time in which the SLE disease may flare while the patients are taken off medications.

ANTLER Phase 1 Clinical Trial for CB-010 in r/r B-NHL

We are evaluating CB-010 in our ANTLER phase 1 clinical trial for the treatment of adult patients with aggressive forms of r/r B-NHL. In dose escalation, CB-010 was evaluated in patients with several aggressive subtypes of r/r B-NHL, the majority of which were third-line or later treatments. In the ongoing dose expansion portion of ANTLER, CB-010 is being evaluated in 2L LBCL patients.

Patients in our ANTLER phase 1 clinical trial receive a lymphodepletion regimen prior to CAR-T cell infusion. The lymphodepletion regimen includes two chemotherapy agents, cyclophosphamide and fludarabine, which are generally used for lymphodepletion prior to autologous CAR-T cell therapy. To ensure optimal engraftment of the allogeneic CB-010 cells, we use a deeper regimen of these chemotherapeutic agents, i.e., cyclophosphamide at 60 mg/kg/day for two days and then fludarabine at 25 mg/m^2/day for five days, than is used with the commercially available autologous CAR-T cell therapies. Lymphodepletion reduces the number of the patient's immune cells and creates an inflammatory state that is required for the infused CAR-T cells to effectively expand and persist for disease activity. The objective of our ongoing ANTLER phase 1 clinical trial is to further assess the safety and overall objective response rate ("ORR") of CB-010 in r/r B-NHL patients at the RP2D and in patients who are receiving a partially HLA matched dose of CB-010.

Our ANTLER phase 1 clinical trial consists of two parts: Part A was the dose escalation portion that followed a standard 3 + 3 design, with sequential, increasing single doses of CB-010, and was completed with 16 patients dosed at dose level 1 ($40x10^6$ viable CAR-T cells), dose level 2 ($80x10^6$ viable CAR-T cells), or dose level 3 ($120x10^6$ viable CAR-T cells). Part B was the dose expansion portion where CB-010 was evaluated in larger numbers of patients to determine the RP2D in 2L LBCL patients. Dose level 2 ($80x10^6$ viable CAR-T cells) was selected as the RP2D. In these portions of our ANTLER trial, patients who had received prior CD19-targeted therapy were excluded.



NCT04637763

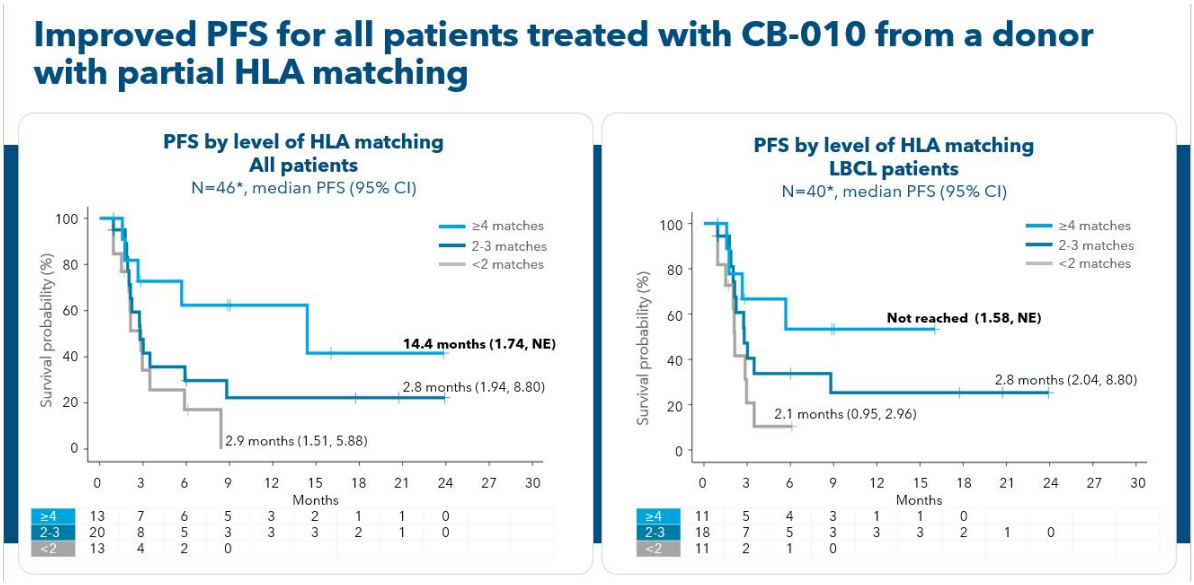
[1] Subtypes include: DLBCL, HGBL, tFL PMBCL, MCL (mantle cell lymphoma), FL (follicular lymphoma, aggressively behaving with POD24 (high risk)), MZL (marginal zone lymphoma).

[2] LBCL subtypes include: DLBCL NOS, HGBL, transformed DLBLC from FL or MZL, and PMBCL.

[3] *Clin Cancer Res. 2011 July 1; 17(13): 4550–4557. doi:10.1158/1078-0432.CCR-11-0116.*

ANTLER Phase 1 Trial Clinical Data for CB-010 in r/r B-NHL

At a poster presentation during the ASCO annual meeting in June 2024, we presented safety, efficacy, and translational data for the first 46 patients evaluated in our ANTLER phase 1 clinical trial demonstrating safety and efficacy after a single dose of CB-010 with partial HLA matching. A retrospective analysis of all patient data demonstrated that patients who received a dose of CB-010 manufactured from a donor with at least four HLA alleles matched resulted in improved PFS compared to patients who received a single dose of CB-010 from a donor with fewer than four HLA allele matched, as shown below.



CI: confidence interval; NE: not estimable; partial HLA matching: patient has at least four HLA alleles that match donor T cells used for CB-010 manufacturing.

* Retrospective analysis of HLA allele matching for class I and class II antigens.

ANTLER phase 1 clinical trial as of April 1, 2024, cutoff date; data collection ongoing.

At the 2024 ASCO annual meeting, translational research data on CB-010 were also presented, including pharmacokinetic ("PK") and pharmacodynamic ("PD") data. PK data showed that higher numbers of matched HLA alleles between the CB-010 donor and recipient patient correlated with increased CAR-T cell expansion and persistence compared to lower numbers of matched HLA alleles. PD data showed that a single dose of CB-010 resulted in extended B cell aplasia (~114 days) and a rapid recovery of the patient's endogenous T and NK cells (approximately three weeks).

CB-010 was generally well tolerated with adverse events ("AEs") as expected for anti-CD19 CAR-T cell therapies. No grade 3+ cytokine release syndrome ("CRS") and no GvHD cases were observed, and AEs of special interest are shown below.

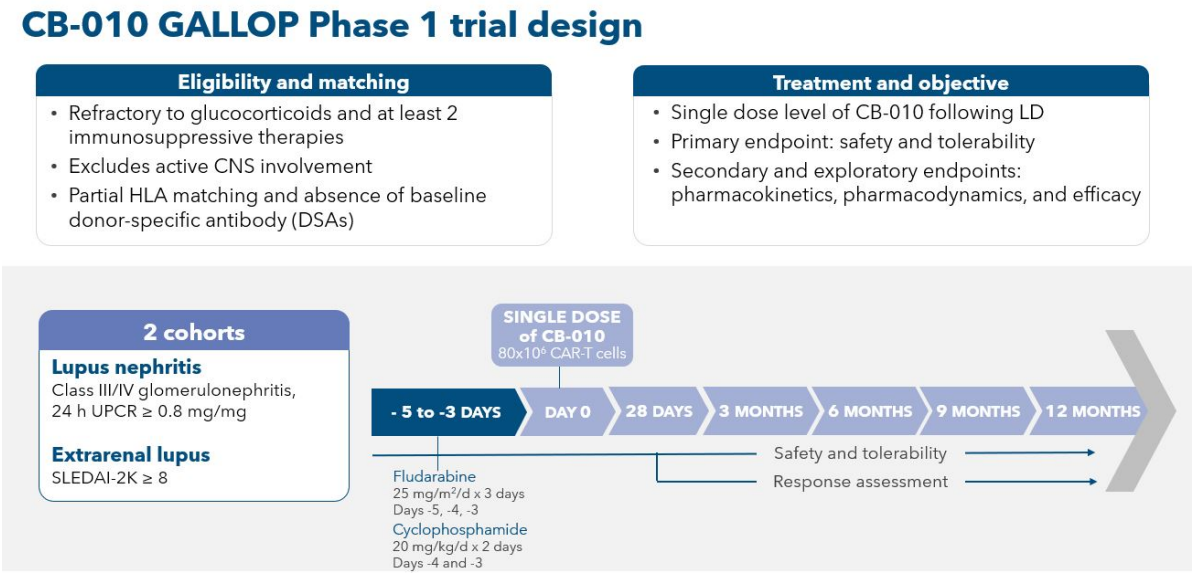
Adverse events of special interest	All CB-010 treated (N=46)	
	Any grade (n, %)	Grade ≥3 (n, %)
Prolonged cytopenias	9 (20)[1]	9 (20)[1]
CRS	26 (57)[3]	0 (0)
Infections	22 (48)[4]	10 (22)[4]
ICANS	10 (22)[5]	3 (7)[6]
Hemophagocytic lymphohistiocytosis (HLH)	1 (2)	0
GvHD	0	0

ICANS: immune effector cell–associated neurotoxicity syndrome; NR: not reported.
[1] Prolonged cytopenias are defined as grade 3 or higher events lasting beyond 30 days following CB-010 infusion; 37/46 (80%) recovered from cytopenias to grade ≤2 by day 35 post CB-010 treatment.
[2] Median time of onset was three days (range 0-22), and median duration was three days (range 1-19).
[3] Infection events reported were on or after CB-010 infusion, with highest grade reported per patient; median time of onset was eight days (range 0-279) and media duration was 14 days (range 1-239).
[4] Median time of onset was 7.5 days (range 6-34), and median duration was two days (range 1-27).
[5] Two grade 3 and one grade 4 ICANS; all resolved with supportive care. Median time of onset was eight days and median duration was two days.
ANTLER phase 1 clinical trial as of April 1, 2024, cutoff date; data collection ongoing.

To confirm that the partial HLA matching strategy can improve outcomes in patients who receive a single dose of CB-010 from a donor with at least four HLA alleles matched, we are enrolling approximately 20 additional 2L LBCL patients in the ongoing ANTLER phase 1 clinical trial. In addition, we are enrolling a proof-of-concept cohort of up to 10 patients who have relapsed following any prior CD19-targeted therapy in this population of unmet need.

GALLOP Phase 1 Clinical Trial for CB-010 in LN and ERL

We are evaluating CB-010 in our GALLOP Phase 1 trial for the treatment of adult patients with LN or ERL. The objective of our GALLOP phase 1 clinical trial is to evaluate the safety, PK profile, and initial clinical activity of a single dose of CB-010 ($80x10^6$ viable CAR-T cells) following a lymphodepletion regimen of cyclophosphamide at 20mg/kg/day for two days and fludarabine at $25mg/m^2$/day for three days. Patients are screened for donor-specific anti-HLA antibodies and administered CB-010 manufactured from a donor with partial HLA matching. The primary endpoint is safety.



NCT06752876
LD: lymphodepletion; SLEDAI: Systemic Lupus Erythematosus Disease Activity Index.

CB-011

Overview: Strategy and Rationale

CB-011 is an allogeneic CAR-T cell therapy targeting BCMA-positive malignancies that is being evaluated in our ongoing open-label, multicenter CaMMouflage phase 1 clinical trial (NCT05722418) in the United States in adults with r/r MM. We acquired a novel humanized single-chain variable fragment ("scFv") directed to BCMA that we use for the generation of the BCMA-specific CAR in CB-011.

To our knowledge, CB-011 is the first anti-BCMA CAR-T cell therapy incorporating an immune cloaking approach that includes both the removal of the endogenous B2M protein and insertion of a B2M–HLA-E peptide transgene. This immune cloaking armoring strategy results in no endogenous class I HLA alleles expressed on the CAR-T cell surface. This reduces the number of potential mismatched HLA alleles to six from 12, resulting in a reduced risk of rapid immunologic clearing of the CAR-T cells by the patient.

CB-011 has received fast track and orphan drug designations for r/r MM from the FDA.

Target Indication

We are developing CB-011 for the treatment of r/r MM. In 2024, 1.8% of all cancers were MM in the United States according to the National Cancer Institute SEER database. The median age of diagnosis is 69 years, and there were an estimated 35,780 new cases in 2024 in the United States with an estimated 12,540 deaths in 2024. Five-year survival in these patients is approximately 61%.

There has been significant interest in and activity against BCMA as a target, and autologous CAR-T cell therapy products and bispecific antibodies targeting BCMA are commercially available. Commercially available anti-BCMA autologous CAR-T cell therapies have shown encouraging CR rates, PFS, and overall survival; however, there are many barriers, including limited patient access, length of time to treatment, and manufacturing capacity and scale limitations. Of every 10 patients with r/r MM, only approximately one patient currently receives an autologous CAR-T cell therapy. Commercially available bispecific antibodies require patients to receive frequent treatments and are associated with high infection rates. Additionally, many treatments for r/r MM are multidrug regimens comprising varying routes of administration and/or complicated dosing schedules; these regimens can be complex and burdensome for both patients and physicians. Due to limited patient access and treatment burden, there is a need for an off-the-shelf, readily available, single dose treatment for patients with r/r MM.

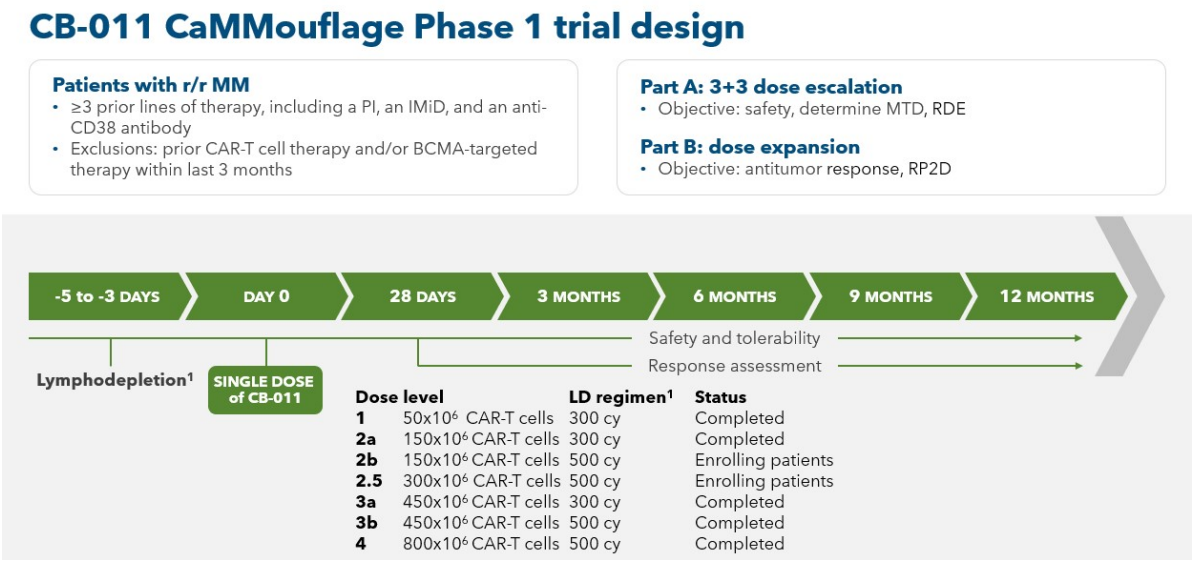
CaMMouflage Phase 1 Clinical Trial for CB-011 in r/r MM

We are evaluating CB-011 in our CaMMouflage phase 1 clinical trial in adult patients with r/r MM. These patients have a documented diagnosis of active MM according to International Myeloma Working Group diagnostic criteria. The patient population includes individuals for whom three or more lines of therapy, including a proteasome inhibitor ("PI"), an immunomodulatory drug ("IMiD"), and an anti-CD38 antibody, have failed. Patients who have received a BCMA-targeted therapy within the last three months are excluded from the trial.

Patients in our CaMMouflage phase 1 clinical trial receive a lymphodepletion regimen prior to CAR-T cell infusion. The lymphodepletion regimen includes two chemotherapy agents, cyclophosphamide and fludarabine, which are generally used for lymphodepletion prior to autologous CAR-T cell therapy. We began the clinical trial utilizing 300 mg/m^2/day of cyclophosphamide and 30 mg/m^2/day of fludarabine, each for a total of 3 days. We have recently implemented a lymphodepletion regimen that includes a deeper dose of cyclophosphamide (increased from 300 to 500 mg/m^2/day) together with the same fludarabine dose. The objective of the ongoing CaMMouflage phase 1 clinical trial is to assess safety, including the incidence of AEs defined as DLTs after CB-011 infusion, identify a maximum tolerated dose ("MTD"), if appropriate, assess the ORR at active dose levels, and identify the RP2D.

Our CaMMouflage phase 1 clinical trial is being conducted in two parts: Part A is dose escalation following a standard 3 + 3 design, with sequential, increasing single doses of CB-011 with the ability to add additional patients at safe dose levels to further evaluate activity and safety. Part B is the expansion portion where patients receive CB-011 at the dose level(s) determined in Part A to determine the RP2D.

In the dose escalation portion of our CaMMouflage phase 1 trial, dose level 1 (50x10^6 viable CAR-T cells), dose level 2 (150x10^6 viable CAR-T cells), and dose level 3 (450x10^6 viable CAR-T cells) with the initial lymphodepletion have cleared with no DLTs observed. Dose level 3 (450x10^6 viable CAR-T cells) and dose level 4 (800x10^6 viable CAR-T cells) with the deeper lymphodepletion have cleared with no DLTs observed. We are enrolling additional patients at multiple dose levels with the deeper lymphodepletion regimen in order to further define safety and efficacy and to determine a RP2D.



NCT05722418
[1]LD regimen: see above.
RDE: recommended dose for expansion.

CB-012

Overview: Strategy and Rationale

CB-012 is an allogeneic CAR-T cell therapy targeting CLL-1 that is being evaluated in the ongoing first-in-human, open-label, multicenter AMpLify phase 1 clinical trial (NCT06128044) in the United States in adults with r/r AML. We have exclusively licensed, in the field of allogeneic cell therapy, the fully human scFv targeting CLL-1 used in CB-012 from Memorial Sloan Kettering Cancer Center ("MSKCC").

We believe CLL-1 is a compelling target for the treatment of AML due to its expression on myeloid cancer cells, its enrichment in leukemic stem cells, and its absence on hematopoietic stem cells ("HSCs"). The absence of expression on HSCs indicates that these bone marrow cells will not be targeted by the CLL-1-directed CB-012 CAR-T cells, thereby preventing a patient from loss of a critical compartment of their immune system vital to generating immune cells required for fighting infections and cancer.

To our knowledge, CB-012 is the first allogeneic CAR-T cell therapy with both checkpoint disruption, through a PD-1 knockout, and immune cloaking, through a B2M knockout and B2M–HLA-E fusion protein insertion.

CB-012 has received fast track and orphan drug designations for r/r AML from the FDA.

Target Indication

AML is a cancer of the bone marrow currently treated with chemotherapy, radiation, targeted therapies, and/or HSC transplant. There were an estimated 20,800 new cases of AML in the United States in 2024 according to the National Cancer Institute SEER database. Five-year survival in these patients is 32%.

Intensive induction chemotherapy, known as 7 + 3, consisting of cytarabine and an anthracycline, is the most effective therapy for adults newly diagnosed with AML, although the treatment has significant associated toxicities. There remains significant unmet need in the treatment of patients with AML.

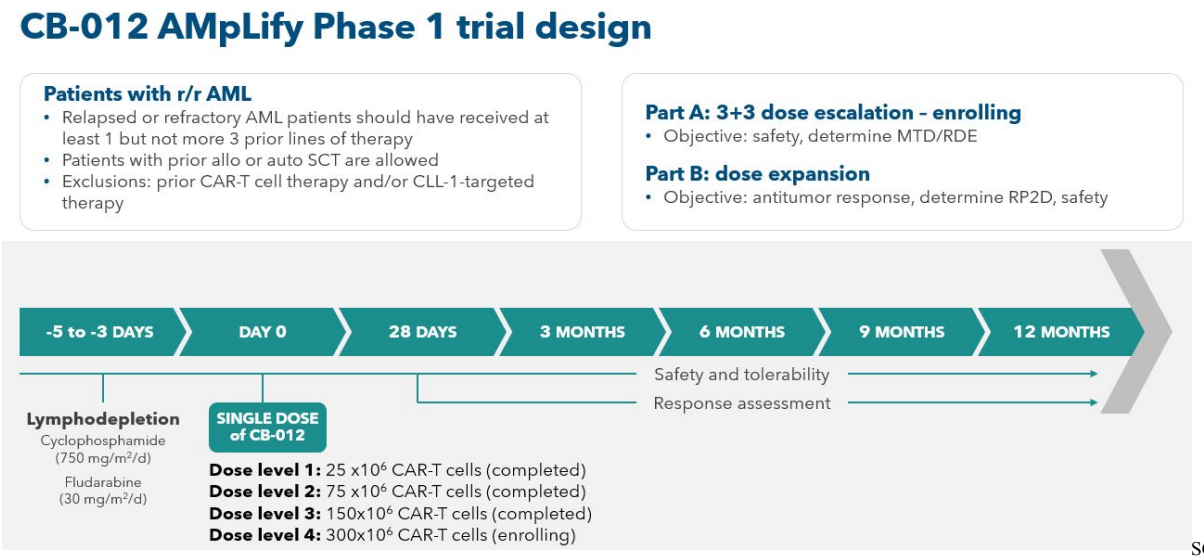
AMpLify Phase 1 Clinical Trial for CB-012 in r/r AML

We are evaluating CB-012 in our AMpLify phase 1 clinical trial in adult patients with r/r AML. Our AMpLify clinical trial includes patients who have not responded to or relapsed after standard treatment and excludes patients who have been treated with more than three prior lines of therapy and patients with proliferative disease. Patients who received prior allogeneic stem cell transplant are allowed to participate in our AMpLify clinical trial.

Patients in our AMpLify phase 1 clinical trial receive a lymphodepletion regimen prior to CAR-T cell infusion. The lymphodepletion regimen includes two chemotherapy agents, cyclophosphamide (750 mg/m^2/day) and fludarabine (30 mg/m^2/day) for three days. Patients then have two days of rest, followed by a single CB-012 dose on day zero. The objective of our ongoing AMpLify trial is to assess safety, including the incidence of AEs defined as DLTs after CB-012 infusion, identify an MTD, if appropriate, assess the overall ORR at active dose levels, and identify the RP2D.

Our AMpLify phase 1 clinical trial is an open-label study being conducted in two parts: Part A is the dose escalation portion following a standard 3 + 3 design, with sequential, increasing single doses of CB-012. Part B is the expansion portion where patients will receive CB-012 at the dose level(s) determined in Part A to determine the RP2D.

In the dose escalation portion of our AMpLify trial, dose level 1 ($25x10^6$ viable CAR-T cells), dose level 2 ($75x10^6$ viable CAR-T cells), and dose level 3 ($150x10^6$ viable CAR-T cells) have cleared with no DLTs observed, and we are enrolling patients at dose level 4 ($300x10^6$ viable CAR-T cells).

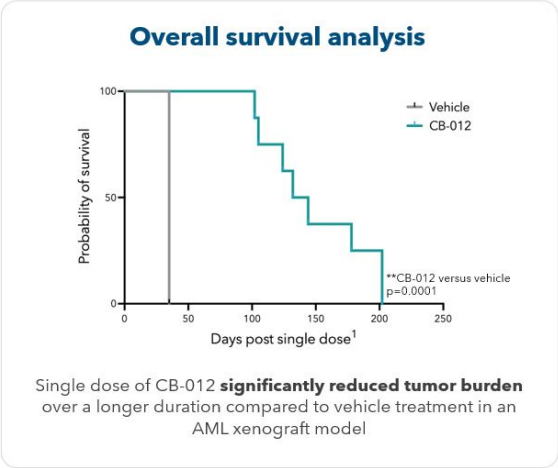


SCT: stem cell transplant.

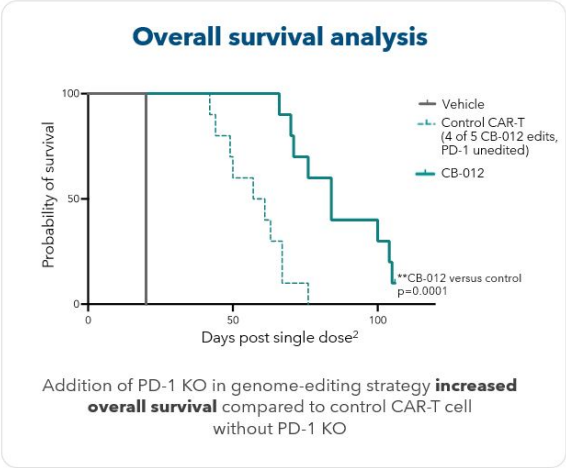
CB-012 Preclinical Data

We evaluated CB-012 in preclinical mouse models, which demonstrated that CB-012 significantly reduced tumor burden and increased overall survival. As shown in the left graph below, in a CLL-1+ AML xenograft model, a single dose of CB-012 significantly reduced an orthotopically established tumor burden over a long duration compared to vehicle, or negative control, treatment.

In a second model, we evaluated CLL-1-specific CB-012 CAR-T cells compared to equivalent CAR-T cells that lacked the PD-1 knockout in a xenograft model of CLL-1+ PD-L1+ tumor cells to evaluate the impact of the PD-1 knockout in CB-012. As shown in the right graph below, the CLL-1-specific CB-012 CAR-T cells statistically significantly increased overall survival in the tumor-bearing mice compared to mice that received either control CAR-T cells expressing PD-1 (cells engineered with the same edits of CB-012 except the *PDCD1* KO) or the vehicle control.



Single dose of CB-012 **significantly reduced tumor burden** over a longer duration compared to vehicle treatment in an AML xenograft model



Addition of PD-1 KO in genome-editing strategy **increased overall survival** compared to control CAR-T cell without PD-1 KO

Strategic Agreements

We recognize the broad opportunity presented by our genome-editing technologies to benefit patients, and we appreciate that we do not have sufficient resources to fully exploit this potential across multiple indications and applications. As part of our strategy to maximize the value and benefit of our technologies, we are exploring mutually beneficial strategic collaborations with other biotechnology or pharmaceutical companies. Additionally, we have in-licensed or taken assignment of key technologies important for the development of our product candidates.

Pfizer Investment

On June 29, 2023, we entered into a Securities Purchase Agreement ("Securities Purchase Agreement") with Pfizer Inc. ("Pfizer"), pursuant to which we, in a private placement transaction, sold to Pfizer 4,690,431 shares of our common stock, par value $0.0001 per share, at a purchase price of $5.33 per share, for aggregate gross proceeds of approximately $25.0 million ("Pfizer Investment"). The issuance and sale of the shares to Pfizer closed on June 30, 2023. We granted certain registration rights to Pfizer under the Securities Purchase Agreement covering the resale of the shares. Unless otherwise agreed by Pfizer, we have agreed to use the proceeds from the Pfizer Investment solely in connection with (i) the development program for our allogeneic anti-BCMA CAR-T cell therapy known as CB-011 that is being evaluated in our CaMMouflage clinical trial and/or (ii) any other single-targeted anti-BCMA CAR-T cell therapy using an anti-BCMA single-chain variable fragment owned or controlled by us (collectively, cell therapies described in clauses (i) and (ii) are referred to as a "BCMA Product Candidate"), for 36 months beginning on June 29, 2023.

On June 29, 2023, in connection with the Pfizer Investment, we and Pfizer also entered into an Information Rights Agreement, having a thirty-six (36)-month term. Under the Information Rights Agreement, we granted Pfizer a 30-calendar day right of first negotiation ("ROFN") if we commence or engage with any third party with respect to a potential grant of rights to develop and/or commercialize a BCMA Product Candidate, including, without limitation, a license agreement, a co-promotion/co-commercialization agreement, a profit share agreement, a joint venture agreement, or an asset sale agreement (a "Grant of Program Rights"). If we and Pfizer do not reach an agreement with respect to a Grant of Program Rights within the 30-day period, then we may pursue negotiations and enter into an agreement with any third party. If we

and such third party do not reach agreement on the Grant of Program Rights within a specified time period, Pfizer's right of first negotiation will be reinstated. Under the Information Rights Agreement, we also agreed to grant Pfizer the right to designate one representative to serve on our SAB. Through an information sharing committee, we provide calendar quarter updates to Pfizer regarding the development program for a BCMA Product Candidate. Additionally, we agreed to provide Pfizer access to any preclinical or interim or final clinical data (including raw data) and results generated as part of the development program for a BCMA Product Candidate at the same time that we provide such data to a third party (other than to our service providers or the FDA or other regulatory authorities), subject to certain confidentiality exceptions.

Memorial Sloan Kettering Cancer Center

On November 13, 2020, we entered into an Exclusive License Agreement with MSKCC (as amended, "MSKCC Agreement"), under which we exclusively licensed from MSKCC know-how, biological materials, and related patent families to fully human scFvs targeting CLL-1 (also known as CD371) for use in T cells, NK cells, and genome-edited iPSCs for allogeneic CLL-1-targeted cell therapy. We use one of the licensed scFvs in our CB-012 product candidate. We paid an upfront payment of cash and shares of our common stock and will owe annual license maintenance fees until we have commercial sales. For each licensed CLL-1 product, we will owe potential clinical, regulatory, and commercial milestone payments totaling up to $111.0 million and, if regulatory approval for a licensed CLL-1 product is received, we will owe low- to mid-single-digit percent royalties on net sales of licensed products. Our license includes the right to sublicense through multiple tiers and we will owe MSKCC a percentage of upfront cash or equity received from our sublicensees. The sublicensing percentage owed decreases as our licensed CLL-1 product candidates move through development, starting at a low-double-digit percentage if clinical trials have not yet begun and decreasing to a mid-single-digit percentage if the licensed CLL-1 product candidate is in later clinical trial stages. We are also responsible for a percentage of the licensed patent costs. The MSKCC Agreement includes certain diligence milestones that we must meet; provided, however, that these may be extended by us upon payment of additional fees.

MSKCC is entitled to certain success payments if our stock value increases by certain multiples. The potential payments are based on multiples of the fair value of our common stock compared with a split-adjusted initial stock price of $5.1914 per share, as subject to future adjustments for stock splits, during a specified time period described below. Our common stock price will be determined by reference to the 45-trading day volume weighted-average trading price of our common stock immediately preceding the date of determination. At our option, payments may be made in cash or common stock. The relevant time period commences when the first patient is dosed with our first CLL-1 product candidate (CB-012) in the first phase 1 clinical trial and ends upon the earlier of the third anniversary of approval of our biologics license application ("BLA") by the FDA or 10 years from the date the first patient was dosed with our first CLL-1 product candidate in the first phase 1 clinical trial. Under the terms of the MSKCC Agreement, the aggregate success payments will not exceed $35.0 million. Additionally, if we undergo a change of control during the relevant time period, a change of control payment may be owed, depending upon the increase in our stock price due to the change of control and also to what extent success payments have already been paid. In no event will the combination of success payments and any change of control payment exceed $35.0 million.

We may terminate the MSKCC Agreement upon 90 calendar days' prior written notice to MSKCC. MSKCC may terminate the agreement in the event of our uncured material breach, bankruptcy, or criminal activity. If MSKCC materially breaches the MSKCC Agreement in certain circumstances (for example, granting a third party a license in our field), then during the time of such uncured material breach, MSKCC will not be entitled to receive any success payments or any change of control payment.

ProMab Biotechnologies, Inc. ("ProMab")

On January 31, 2020, we entered into a Sale and Assignment Agreement with ProMab (as amended, "ProMab Agreement") under which we purchased a humanized scFv targeting BCMA and a patent family related thereto for an upfront cash payment of $0.4 million and the potential payments of future royalties to ProMab. To date, five U.S. patents have granted (U.S. Patent Nos. 10,927,182; 11,021,542; 11,142,583; 11, 299,549; and 11,472,884) in this patent family. Our anti-BCMA CB-011 product candidate contains this BCMA scFv. Under the terms of the ProMab Agreement, in the event that CB-011 is approved by the FDA, we will owe ProMab low-single-digit percent royalties on net sales until the expiration, abandonment, or invalidation of the last patent within the assigned patent family (i.e., 2040 for U.S. patents, without patent term adjustment ("PTA") or patent term extension ("PTE")). Such royalties may be reduced by no more than 50% if we must pay royalties to a third party for other intellectual property covering our product. Either party may terminate the ProMab Agreement in the event of an uncured material breach or bankruptcy of the other party. If ProMab terminates the ProMab Agreement due to our uncured material breach or bankruptcy, we must cease the manufacture, use, and sale of any products or product candidates incorporating the purchased anti-BCMA scFv.

Pioneer Hi-Bred International, Inc. ("Pioneer," now Corteva Agriscience)

On July 13, 2015, we entered into an Amended and Restated Collaboration and License Agreement (as amended, "Pioneer Agreement") with Pioneer (then a DuPont company) that superseded and replaced a prior Collaboration and License Agreement entered into on September 10, 2014. Under the terms of the Pioneer Agreement, we and Pioneer cross-licensed background CRISPR intellectual property portfolios. Pioneer granted us an exclusive worldwide license, with the right to sublicense, to its background CRISPR intellectual property in the field of research tools, and a non-exclusive license, with the right to sublicense, for CRISPR in therapeutics and all fields outside of the Pioneer field, including in the field of human and animal therapeutics. We granted Pioneer an exclusive license, with the right to sublicense, to our background CRISPR intellectual property, including the CVC IP discussed below, in certain agricultural crops, specified microorganisms, a defined industrial bio field, and certain nutrition and health applications ("Pioneer Exclusive Field"), and a non-exclusive license, with the right to sublicense, to Pioneer for CRISPR in certain defined fields outside of research reagents. The Pioneer Agreement continues until the expiration, abandonment, or invalidation of the last patent or patent application within the licensed intellectual property; provided, however, that the parties may terminate the Pioneer Agreement by mutual consent or either party may unilaterally terminate the Pioneer Agreement if there is an uncured breach of a payment obligation, bankruptcy, or failure to maintain or own licensed intellectual property by the other party if the non-breaching party is materially adversely affected by such failure. Under the terms of the Pioneer Agreement, we are obligated to pay low-single-digit percent royalties to Pioneer for our research tool products as well as certain sublicensing revenue in that field. We are eligible to receive milestone payments from Pioneer in the event certain regulatory and commercial milestones are met, for a total of up to $22.4 million, related to specified row crops and we are also eligible to receive low-single-digit percent royalties for defined agricultural products and certain sublicensing revenue in that field.

The chRDNA patent family was developed under a three-year research collaboration between us and Pioneer, which ended December 31, 2016. Initially, this patent family was owned by Pioneer under the terms of the Pioneer Agreement, and we and Pioneer split the costs of patent prosecution and maintenance equally. Pioneer granted us an exclusive license to the chRDNA patent family in the fields of human and animal therapeutics and research tools as well as a non-exclusive license in certain other fields outside of the Pioneer Exclusive Field. Through an amendment to the Pioneer Agreement, dated December 18, 2020, Pioneer assigned the chRDNA patent family to us. Pioneer retained all of its existing rights (including its sublicensing rights) to the chRDNA patent family despite the change in ownership. As consideration for the assignment, we made an upfront payment of $0.5 million and are obligated to pay all patent prosecution and maintenance costs going forward; up to $2.8 million in regulatory milestones for therapeutic products, up to $20.0 million in sales milestones over a total of four therapeutics products, and a percentage of sublicensing revenues received by us for licensing the chRDNA patent family. The sublicensing agreements that we entered into prior to December 18, 2020 (for example, the Intellia Agreement discussed below) are not subject to these economics.

Intellia Therapeutics, Inc. ("Intellia")

On July 16, 2014, we entered into a License Agreement (as amended, "Intellia Agreement") with Intellia, LLC (now Intellia Therapeutics, Inc.), under which we granted Intellia an exclusive worldwide license, with the right to sublicense, to certain CRISPR-Cas9 technology for a defined field of human therapeutics in exchange for Intellia stock. The Intellia Agreement included a license to certain of our future CRISPR-Cas9 intellectual property until such time as our direct or indirect ownership percentage in Intellia dropped below 10%, called the IP cut-off date, which occurred on January 30, 2018. Intellia granted us an exclusive worldwide license, with the right to sublicense, to its CRISPR-Cas9 technology for all fields outside of the defined field of human therapeutics, including a license to certain of Intellia's future CRISPR-Cas9 intellectual property until the IP cut-off date. Each party had the right to opt in to any licenses in its field of use entered into by the other party prior to the IP cut-off date, subject to the terms and conditions of such license, and Intellia opted into our Pioneer Agreement and thus has a license to the Pioneer background CRISPR-Cas9 intellectual property. Under the Intellia Agreement, each party is responsible for 30% of the other party's expenses for prosecution and maintenance of the licensed intellectual property, including 30% reimbursement of the patent prosecution and maintenance costs that we pay to UC/Vienna as described below. The milestones and royalties set forth in the Intellia Agreement are those in the UC/Vienna Agreement and so we pass through any payments received from Intellia to UC/Vienna. The Intellia Agreement continues for the life of the licensed patents and patent applications; provided, however that either party may terminate upon the occurrence of certain events.

In 2018, Intellia initiated an arbitration proceeding over whether two patent families relating, respectively, to CRISPR-Cas9 chRDNA guides and Cas9 scaffolds, were included in the Intellia Agreement. An interim award from the arbitration panel in 2019 determined that both patent families are included in the Intellia Agreement, but the panel granted us an exclusive leaseback to Cas9 chRDNA guides under economic terms to be negotiated by the parties. On June 16, 2021, we entered into a leaseback agreement with Intellia ("Leaseback Agreement"), which resolved the arbitration

proceeding. Pursuant to the Leaseback Agreement, in exchange for Intellia's grant to us of an exclusive license to certain intellectual property relating to CRISPR-Cas9, including Cas9 chRDNAs, for use solely in the manufacture of our CB-010 product candidate, we paid Intellia an upfront cash payment of $1.0 million and we will owe up to $23.0 million in potential future regulatory and sales milestones. Additionally, we will owe Intellia low- to mid- single-digit percent royalties on net sales of our CB-010 product candidate until the expiration, abandonment, or invalidation of the last patent within the intellectual property relating to CRISPR-Cas9, including that relating to Cas9 chRDNAs (i.e., 2036, without PTA or PTE).

The Regents of the University of California ("UC") and the University of Vienna ("Vienna")

On April 16, 2013, we entered into an Exclusive License for Methods and Compositions for RNA-Directed Target DNA Modification and for RNA-Directed Modulation of Transcription with UC and Vienna (as amended, "UC/Vienna Agreement"), under which we received an exclusive worldwide license, with the right to sublicense, in all fields to the foundational CRISPR-Cas9 patent family co-owned by UC, Vienna, and Dr. Emmanuelle Charpentier ("CVC IP"). Dr. Charpentier has not granted us any rights to the CVC IP, either directly or indirectly. The UC/Vienna Agreement continues until the last-to-expire patent or last-to-be-abandoned patent application of the CVC IP; provided, however, that UC/Vienna may terminate the UC/Vienna Agreement upon the occurrence of certain events, including our uncured material breach of a material term of the UC/Vienna Agreement, and we may terminate the UC/Vienna Agreement at our sole discretion upon written notice. Without PTA or PTE, the CVC IP will expire in 2033. The UC/Vienna Agreement includes certain diligence milestones that we must meet. For products and services sold by us that are covered by the CVC IP, we will owe low- to mid-single-digit percent royalties on net sales, subject to a minimum annual royalty. Prior to such time that we are selling products, we owe UC/Vienna an annual license maintenance fee. We will owe UC/Vienna up to $3.1 million in potential regulatory and clinical milestone payments in the field of human therapeutics and diagnostics. Additionally, we pay UC/Vienna a specified percentage of sublicensing revenue we receive including cash and equity under our sublicensing agreements, subject to certain exceptions. If we include intellectual property owned or controlled by us in such sublicense, we pay UC/Vienna a low-double-digit percentage of sublicensing revenues received under the sublicense. If we do not include intellectual property owned or controlled by us in such sublicense, we pay UC/Vienna 50% of sublicensing revenues received under the sublicense. To date, we have entered into over 30 sublicensing agreements in a variety of fields such as human therapeutics, forestry, agriculture, research reagents, transgenic animals, certain livestock targets, internal research, bioproduction, cell lines, and microbial applications that include the CVC IP as well as other Cas9 intellectual property owned or controlled by us. We are obligated to reimburse UC for its prosecution and maintenance costs of the CVC IP. The CVC IP is currently involved in administrative proceedings at the U.S. Patent and Trademark Office ("USPTO") and at the European Patent Office ("EPO"). See Risk Factors - *"Our ability to continue to receive licensing revenue and to enter into new licensing arrangements related to the foundational CRISPR-Cas9 intellectual property will be substantially impaired if such intellectual property is limited by administrative patent proceedings or other patent challenges,*" in Item 1A of this Annual Report on Form 10-K.

On December 15, 2016, we entered into a Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement ("IMA") with UC, Vienna, Dr. Emmanuelle Charpentier, Intellia Therapeutics, CRISPR Therapeutics AG, ERS Genomics Ltd., and TRACR Hematology Ltd. relating to the CVC IP. Under the IMA, each of the owners of the CVC IP (i.e., UC, Vienna, and Dr. Charpentier) retroactively consented to all licenses and sublicenses granted by the other owners and their licensees and also gave prospective consent to any licenses and sublicenses that may be granted in the future. Additionally, the IMA provides for, among other things, (i) good faith cooperation among the parties regarding patent maintenance, defense, and prosecution of the CVC IP; (ii) cost-sharing under which CRISPR Therapeutics AG reimburses us for 50% of what we reimburse UC for patent prosecution and maintenance costs; and (iii) notice of and coordination in the event of third-party infringement of the subject patents and with respect to certain adverse claimants of the CRISPR-Cas9 intellectual property. Unless earlier terminated by the parties, the IMA will continue in effect until the later of the last expiration or abandonment date of the CVC IP.

On March 14, 2019, we entered into a Memorandum of Understanding with UC/Vienna, wherein we agreed that, for sublicensees in the fields of human therapeutics and companion diagnostics, we would pay UC/Vienna the royalties and milestones set forth in the UC/Vienna Agreement for products sold by our sublicensees, not the specified percentage of such sublicensing income received by us. We also agreed to various provisions that must be included in all future sublicensing agreements, including specific provisions for exclusive sublicenses.

Intellectual Property

We strive to protect and enhance the genome editing technologies that we believe are important to our business by seeking patents to cover our platform technologies. We also rely on trade secrets to protect aspects of our business that are

not amenable to, or that we do not consider appropriate for, patent protection. Our success will depend significantly on our ability to obtain and maintain patent and trade secret protection for our technologies, our ability to defend and enforce our intellectual property rights, and our ability to operate without infringing any valid and enforceable intellectual property rights of third parties.

As of March 1, 2025, we owned 63 granted U.S. patents, 324 granted foreign patents, and 148 pending patent applications throughout the world. The patent portfolio owned by us includes U.S. and foreign patents and patent applications covering methods and compositions relating generally to our Cas9 chRDNA and Cas12a chRDNA technologies (which, for granted U.S. patents, without PTA or PTE, will expire in 2036). Additionally, our portfolio includes U.S. and foreign patents and patent applications covering methods and compositions relating to the anti-BCMA binding domain of our CB-011 product candidate (which, for granted U.S. patents, without PTA or PTE, will expire in 2040). In general, we file our patent applications in the United States and Europe as well as in numerous other foreign patent jurisdictions. We have exclusively in-licensed intellectual property covering the anti-CLL-1 scFv of our CB-012 product candidate from MSKCC (which, upon grant, without PTA or PTE or other extensions, will expire in 2040).

Additionally, we have substantial patent protection on CRISPR Type I systems, CRISPR-Cas9 methods and compositions, and other genome-editing technologies. The patent term in the United States and other countries 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 a PTA, which compensates a patentee for administrative delays by the USPTO in granting a patent or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. Additionally, under the Drug Price Competition and Patent Term Restoration Act of 1984 (“Hatch-Waxman Amendments”), the term of a patent that covers an FDA-approved biologic may also be eligible for a PTE of up to five years, which is designed to compensate for the patent term lost during clinical trials and the FDA regulatory review process. A PTE cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent claiming the drug product, methods of use, or methods of manufacturing may be restored. Moreover, a patent can only be restored once and, if a single patent is applicable to multiple products, it can only be extended based on one product. Similar provisions to extend the term of a patent that covers an approved product are available in Europe and certain other foreign jurisdictions . Without any PTE, the earliest expiration date of our granted U.S. patents is in 2032 and the latest expiration date of our granted U.S. patents is in 2043.

As of March 1, 2025, we owned 25 trademark registrations worldwide, including 7 U.S. trademark registrations, and 2 pending trademark applications worldwide. We have registered “CARIBOU,” “CARIBOU BIOSCIENCES,” “SITE-SEQ,” and the Caribou logo as trademarks in relevant classes and jurisdictions in the United States, European Union, and certain other jurisdictions.

Furthermore, we rely upon trade secrets, know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our competitive position. We seek to protect these trade secrets and other confidential information, in part, by entering into confidentiality agreements with parties who have access to them. We also enter into confidentiality and invention assignment agreements with our employees and our agreements with consultants include invention assignment obligations.

Competition

We currently compete across the fields of cell therapy and genome editing. We believe that our novel CRISPR-Cas12a chRDNA genome-editing platform has broad potential applicability across human therapeutic indications, and our strategy is to demonstrate our platform’s capability by first developing improved allogeneic cell therapies in hematologic oncology and autoimmune diseases.

The biopharmaceutical industry, in particular the cell therapy and genome editing fields, is characterized by intense investment and competition aimed at rapidly advancing new technologies. Our platform and therapeutic product candidates are expected to face substantial competition from multiple technologies, marketed products, and numerous other therapies being developed by other biopharmaceutical companies, larger and better funded pharmaceutical companies, academic research institutions, governmental agencies, and private research institutions. Many of our competitors, either alone or with their collaborators, have substantially greater financial, technical, and other resources, such as larger research and development staff, and/or greater expertise in research and development, preclinical testing, conducting clinical trials, established manufacturing capabilities and facilities, and experienced marketing organizations with well-established sales forces. In addition, there is extensive patent infringement litigation in the biopharmaceutical industry and, in the future, we may bring or defend such litigation against our competitors.

We believe that our CAR-T cell therapy product candidates have the potential to offer beneficial products to patients due to genome edits we make with our chRDNA technology with the goal of extending robust CAR-T cell activity in patients. Because of the promising therapeutic effect of cell therapies, and the potential benefit of allogeneic treatment alternatives, we expect increasing competition from new and existing companies, which include, among others:

- *Autologous T cell therapy*: Autologous T cell therapies directed at CD19 have been commercialized by Novartis AG (Kymriah®), Kite Pharma, Inc., a Gilead Sciences, Inc. company (Yescarta®, Tecartus®), and Bristol-Myers Squibb Company (Breyanzi®) and are witnessing increased adoption in the marketplace. Autologous cell therapies directed at BCMA have been commercialized by 2seventy bio, Inc. with their partner, Bristol-Myers Squibb Company, (Abecma®) and Legend Biotech Corporation with their partner, Janssen Biotech, Inc., a Johnson & Johnson company, (Carvykti®). Both Abecma and Carvykti cell therapies have succeeded in pivotal trials in earlier lines of r/r MM and are expected to gain label extensions into this market. Autologous T cell therapies are being developed by a number of additional companies, including but not limited to, 2seventy bio, Inc., Adaptimmune Therapeutics PLC, Alaunos Therapeutics, Inc., Arcellx, Inc., Arsenal Biosciences, Inc., Astellas Pharma Inc., Autolus Therapeutics plc, AvenCell Therapeutics, Inc., Bristol-Myers Squibb Company, Cabaletta Bio, Inc., CARGO Therapeutics, Inc., Eureka Therapeutics, Inc., Gracell Biotechnologies Inc., an AstraZeneca PLC company, Iovance Biotherapeutics, Inc., Janssen Biotech, Inc., Kite Pharma, Inc. (a Gilead Sciences Inc. company), Kyverna Therapeutics, Inc., Legend Biotech Corporation, Lyell Immunopharma, Inc., March Biosciences, Inc., Miltenyi Biotec, Mustang Bio, Inc., Novartis AG, Precigen, Inc., Regeneron Pharmaceuticals, Inc. (through its acquisition of the 2seventy bio, Inc. research pipeline), F. Hoffman-La Roche Ltd (through its acquisition of Poseida Therapeutics, Inc.), TCR² Therapeutics Inc., Triumvira Immunologics Inc., TScan Therapeutics, Inc., and Vor Biopharma Inc.;

- *In vivo T cell therapy*: Companies such as Abintus Bio, Inc., Capstan Therapeutics, Inc., GigaMune, Inc., Interius BioTherapeutics, Inc., Kelonia Therapeutics, Inc., Myeloid Therapeutics, Inc., and Umoja Biopharma, Inc. are developing *in vivo* T cell therapies;

- *Allogeneic T cell therapy:* Other companies are developing allogeneic T-cell therapies, including Allogene Therapeutics, Inc., Atara Biotherapeutics, Inc., AvenCell Therapuetics, Inc., Cellectis S.A., Celyad Oncology SA, CRISPR Therapeutics AG, Fate Therapeutics, Inc., Gracell Biotechnologies (an AstraZeneca PLC company), Imugene Limited, Kite Pharma, Inc. (a Gilead Sciences, Inc. company), Legend Biotech Corporation, March Biosciences, Inc., F. Hoffman La-Roche Ltd (through its acquisition of Poseida Therapeutics, Inc.), Sana Biotechnology, Inc., and Vor Biopharma Inc.;

- *Allogeneic NK cell therapy:* Companies are developing allogeneic NK cell therapies, including Artiva Biotherapeutics, Inc., Celularity Inc., Century Therapeutics, Inc., Fate Therapeutics, Inc., ImmunityBio, Inc., Nkarta, Inc., NKGen Biotech, Inc., Oncternal Therapeutics, Inc., Senti Biosciences, Inc., and Takeda Pharmaceutical Company Limited;

- *Other cell therapies:* Other companies are developing CAR-expressing immune cell therapies derived from macrophages, including Carisma Therapeutics Inc.; from regulatory T cells, including Kyverna Therapeutics, Inc.; and from gamma-delta T cells, including Adicet Bio, Inc., CytoMed Therapeutics Limited, IN8bio, Inc., TC BioPharm (Holdings) PLC, and Takeda Pharmaceutical Company Limited;

- *Other oncology therapeutics:* Multiple biotechnology and pharmaceutical companies are developing other directly competitive technologies, such as small molecule, antibody, bi-specific antibody, and antibody-drug conjugates; and

- *Non-oncology therapeutics*: Several companies are also exploring the use of CAR-T cell therapies for the treatment of autoimmune diseases, often including against the same targets as in the oncology field (e.g., CD19, BCMA). Such autoimmune diseases include LN, SLE, pemphigus vulgaris, myasthenia gravis, and multiple sclerosis. These companies include BRL Medicine Inc., Fate Therapeutics, Inc., Kite Pharma, Inc. (a Gilead Sciences, Inc. company) Kyverna Therapeutics, Inc., Luminary Therapeutics, Inc., Nkarta, Inc., and Sana Biotechnology, Inc. in allogeneic cell therapies; and Atara Biotherapeutics, Inc., Autolus Therapeutics plc, Bristol-Myers Squibb Company, Cabaletta Bio, Inc., Cartesian Therapeutics, Inc., Century Therapeutics, Inc., iCell Gene Therapeutics Inc., JW (Cayman) Therapeutics Co. Ltd, Kyverna Therapeutics, Inc., Lyell Immunopharma, Inc., and Novartis AG in autologous cell therapies. We also face competition from non-cell-based treatments offered by companies such as Amgen Inc., AstraZeneca PLC, Bristol-Myers Squibb Company, F. Hoffman-La Roche Ltd, GlaxoSmithKline Capital plc, Merck & Co., Inc., and Pfizer Inc.

Compared to first-generation genome-editing approaches, our chRDNA platform has shown improved specificity, a reduction in off-target edits and translocations and, when paired with Cas12a, an advanced capability to perform multiplexed edits, in particular multiplexed insertions. Although we believe that our scientific expertise, novel technologies, and intellectual property position offer competitive advantages, we face competition from multiple other genome-editing technologies and companies. Other companies developing CRISPR-based technologies include, among others, Arbor Biotechnologies, Inc., Beam Therapeutics Inc., CRISPR Therapeutics AG, Editas Medicine, Inc., Intellia Therapeutics, Inc., Mammoth Biosciences, Inc., Metagenomi, Inc., and Scribe Therapeutics, Inc. Companies developing other genome-editing technologies include, among others, Allogene Therapeutics, Inc., Cellectis S.A., Precision BioSciences, Inc., Prime Medicine, Inc., Sangamo Therapeutics, Inc., and Wave Life Sciences Ltd.

Manufacturing

Manufacturing CAR-T cell therapies requires multiple components. Allogeneic CAR-T cell therapies are manufactured with cells from healthy donors and clinical product candidates are prepared, qualified, and released in advance. After manufacture, allogeneic CAR-T therapies are cryogenically stored in freezers and are readily available for patient treatment. To date, we have successfully scaled our manufacturing processes so that one manufacturing run from a healthy donor can produce sufficient cell yield for approximately 150 doses of CB-010.This is in contrast to commercially available autologous CAR-T cell therapy where one manufacturing run is required for each patient to be treated using the patient's cells that may have already been depleted by prior treatments and this process can take several weeks to months to deliver product for patient treatment.

For our CAR-T product candidates, we have optimized the manufacturing process that we developed in-house and have transferred the manufacturing to CMOs that manufacture current good manufacturing practices ("cGMP")-grade material for our clinical trials. Additionally, we have developed different analytical methods to understand the integrity and potency of our cells based upon our manufacturing process. We have made a significant investment in process development to control our product candidate characteristics and to also improve our supply chain capabilities.

For the manufacturing of our allogeneic CAR-T cell therapy product candidates, we have developed a platform process that is scaled to eventually support commercially manufacturing. Our process development and manufacturing core competencies and advantages include:

- optimization and learnings across all of our product candidates and preclinical research programs, allowing for consistency and increased process robustness;
- internal process development to facilitate optimization of manufacturing processes and technical transfers to manufacturing sites;
- readily available and established equipment that further enables the transfer from our process development lab to cGMP operations;
- custom engineering and development to create the necessary specific requirements for our product candidates, while leveraging the broader platform to ensure robust processes;
- removal of residual TCR positive T cells after genome editing to minimize the risk of GvHD in patients;
- process understanding and cell manufacturing control for continuous optimization of productivity and product candidate quality;
- closed manufacturing systems;
- highly specific development efforts focused on enhancing cell viability;
- extensive core process knowledge of gene knockout, CAR expression, and gene insertion;
- process control and optimization, allowing for increased retention of early memory T cell phenotypes; and
- platform scale and efficiency to accommodate high dose yield per batch, with optimization for further commercial supply processes.

The contract manufacturing organizations ("CMOs") that are manufacturing the phase 1 clinical supplies of our product candidates are located in the United States and are subject to cGMP requirements. We have dedicated cGMP suites

at our CMOs for the manufacture of our cell therapy product candidates. We use multiple CMOs to individually manufacture the critical and starting materials for our product candidates, including cGMP chRDNA guides, Cas9 and Cas12a proteins, and AAV6 vectors used in the manufacture of our CAR-T cells. Our chRDNA genome-editing is a next-generation CRISPR technology that does not rely on lentiviral or retroviral genome-editing methods, which are used in commercially available autologous CAR-T cell therapies to insert the CAR gene randomly into the genome, which may increase the risk of genomic mutagenesis. We expect to rely on our CMOs for manufacturing our product candidates to expedite readiness for future clinical trials, and most of these CMOs have demonstrated capabilities for commercial manufacturing. Additionally, we may decide to build our own manufacturing facility in the future, or we may deploy a hybrid approach to manufacturing, to provide us with greater flexibility and control over our clinical or commercial manufacturing needs.

Government Regulation

As a biotechnology company, we are subject to extensive legal and regulatory requirements, including those related to research, development, testing, manufacture, product approval and licensure, quality control, packaging, storage, record keeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of our product candidates. Relevant regulatory authorities include, but are not limited to, the FDA; the European Medicines Agency ("EMA"), an agency of the European Union ("EU") in charge of the evaluation and supervision of medicinal products; the European Commission, which is the executive arm of the EU; and other national, state, local, and provincial regulatory authorities. The United States and certain jurisdictions outside the United States also regulate the pricing and reimbursement of such products. The processes for obtaining marketing approvals in the United States and in other countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources. In addition, the regulatory framework for the collection, use, safeguarding, sharing, transfer, and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future.

Licensure and Regulation of Biologics in the United States

In the United States, our product candidates are regulated as biological products, or biologics, under the Public Health Service Act ("PHSA"), and the Federal Food, Drug, and Cosmetic Act ("FDCA"), and their implementing regulations promulgated by the FDA. Failure to comply with the applicable requirements at any time during the product development process, including nonclinical testing, clinical testing, the approval process, or post-approval process, may subject us to delays in the conduct of a clinical trial, regulatory review and approval, and/or subject us to administrative or judicial sanctions. Such sanctions may include, but are not limited to, the FDA's refusal to allow us to proceed with clinical testing of our product candidates, refusal to approve pending applications, license suspension or revocation, withdrawal of an approval, receipt of untitled or warning letters, adverse publicity, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, and civil or criminal investigations and penalties brought by the FDA, U.S. Department of Justice ("DOJ"), or other governmental entities.

As we seek approval to market and distribute a new biologic in the United States, we generally must satisfactorily complete each of the following steps:

- nonclinical studies performed in accordance with the FDA's current Good Laboratory Practice ("cGLP") regulations;
- manufacture and testing of clinical investigational product according to cGMPs;
- submission to the FDA of an investigational new drug ("IND") application for human clinical testing, which must become effective before human clinical trials may begin;
- approval by an independent institutional review board ("IRB"), representing each clinical trial site before each clinical trial may be initiated, or by a central IRB if appropriate;
- performance of adequate and well-controlled human clinical trials required to establish the safety and efficacy of the product candidate for each proposed indication, in accordance with the FDA's current Good Clinical Practice ("cGCP") regulations including, but not limited to, informed consent and investigator disclosure requirements;
- preparation and submission to the FDA of a BLA seeking approval of our product candidates for one or more proposed indications, including submission of detailed information on the manufacture and composition of our product candidates and proposed labeling;

- review of the BLA by an FDA advisory committee, where applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities, including those of any third-party manufacturers, at which the product, or components thereof, are produced in order to assess compliance with cGMP requirements and to ensure that the facilities, methods, and controls are adequate to preserve and ensure the product's safety, purity, and potency, and, if applicable, the FDA's current Good Tissue Practice ("cGTP"), for the use of human cell and tissue products;
- satisfactory completion of any FDA audits of the nonclinical study and clinical trial sites to ensure compliance with cGLPs and cGCPs, respectively, and the integrity of nonclinical and clinical data in support of the BLA;
- payment of user fees and securing FDA approval of the BLA; and
- compliance with any post-approval requirements, including the potential requirement to implement Risk Evaluation and Mitigation Strategy ("REMS"), adverse event reporting, and compliance with any post-approval studies required or requested by the FDA.

Nonclinical Studies and Investigational New Drug Applications

Before testing any investigational biologic product candidate in humans, we must submit an IND application and receive clearance from the FDA to initiate a clinical trial. The results of our nonclinical testing, including laboratory evaluation of product chemistry, formulation and toxicity, as well as animal trials to assess the characteristics and potential safety and efficacy of the product, together with manufacturing information, are submitted to the FDA as part of the IND application. An IND is an exemption from the restrictions of the FDCA, which would otherwise preclude an unapproved biologic product candidate from being shipped in interstate commerce. Under a cleared IND, the unapproved biologic product candidate may be shipped in interstate commerce for use in an investigational clinical trial, provided that the product candidate meets certain quality and labeling requirements. An IND automatically becomes effective 30 calendar days after receipt by the FDA, unless before that time the FDA places the trial on clinical hold. In such a case, the IND sponsor must correct the deficiencies cited in the hold letter or otherwise satisfy the FDA that the investigation may proceed before the clinical trial can begin. When the sponsor submits a response to the issues identified in the hold letter, the FDA must respond in writing to the sponsor within 30 days of the complete response by either removing or maintaining the clinical hold. The FDA may impose a partial or full clinical hold with respect to our product candidate. In certain cases, we may not be able to proceed at all with our proposed clinical trial.

Human Clinical Trials in Support of a BLA

Our clinical trials involve the administration of our product candidate to patients with the disease to be treated and are conducted under the supervision of a qualified principal investigator in accordance with cGCP requirements. Clinical trials are conducted under study protocols detailing, among other things, the objectives of the clinical trial, inclusion, and exclusion criteria, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and subsequent protocol amendments must be submitted to the FDA as part of the IND.

If we wish to conduct a clinical trial outside of the United States, we may, but need not, obtain FDA authorization to conduct the clinical trial under an IND application. When a foreign clinical trial is conducted under a foreign equivalent to an IND application, FDA IND applications requirements must be met unless waived. If a non-U.S. clinical trial is not conducted under an FDA IND application, we may submit data from a well-designed and well-conducted clinical trial to the FDA in support of our BLA as long as the clinical trial is conducted in compliance with cGCP and the FDA is able to accept the data from the clinical trial and/or through an onsite inspection if the FDA deems it necessary.

For clinical trials conducted in the United States, each clinical trial must be reviewed and approved by an IRB, either centrally or individually at each institution at which our clinical trials will be conducted. The IRB will consider, among other things, our clinical trial design, subject informed consent, ethical factors, and the safety of human subjects. The IRB must operate in compliance with FDA regulations governing IRBs. The FDA, the applicable IRB, or we may suspend or terminate a clinical trial at any time for various reasons, including a finding that the clinical trial is not being conducted in accordance with FDA requirements or that the subjects or patients are being exposed to an unacceptable health risk. Some clinical trials receive additional oversight by an independent group of qualified experts organized by us, known as a data safety monitoring board or committee. This group receives and reviews data from the clinical trial on an ongoing basis and may recommend continuation of the clinical trial as planned, changes in clinical trial conduct, or cessation of the clinical trial at designated check points based on such data.

In addition to the submission of an IND to the FDA before initiation of a clinical trial in the United States, certain human clinical trials involving recombinant or synthetic nucleic acid molecules may be subject to oversight of institutional biosafety committees ("IBCs"), as set forth in the National Institutes of Health ("NIH") Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules ("NIH Guidelines"). Under the NIH Guidelines, recombinant and synthetic nucleic acids are defined as: (i) molecules that are constructed by joining nucleic acid molecules and that can replicate in a living cell (i.e., recombinant nucleic acids); (ii) nucleic acid molecules that are chemically or by other means synthesized or amplified, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules (i.e., synthetic nucleic acids); or (iii) molecules that result from the replication of those described in (i) or (ii). Specifically, under the NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. Although 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.

Furthermore, the Food and Drug Omnibus Reform Act of 2022 ("FDORA") requires a clinical trial sponsor to submit a diversity action plan for clinical trials, unless a waiver is granted by the FDA for reasons such as prevalence of the disease or condition, impracticality of implementing such a diversity action plan, or if such implementation would be against the interest of public health during a public health emergency. Unless the FDA has granted a waiver, a sponsor must submit such action plan by the time the sponsor submits a protocol for a phase 3 clinical trial or other pivotal clinical trial. The action plan must include information such as the sponsor's goal for enrollment (by sex, ethnic characteristics, age), the rationale behind the enrollment goals, the subject patient population, potential barriers for enrollment, among others. This requirement is not yet in effect as it will become applicable to all clinical trials that begin enrollment 180 days after FDA publishes its final guidance on this topic. In January 2025, the FDA removed its June 2024 guidance on clinical trial diversity action plans from its website, and it is not clear how the FDA will enforce the statutory requirement under FDORA.

Clinical trials typically are conducted in three sequential phases.

- Phase 1 clinical trials are initially conducted in a limited population of healthy humans or, for our product candidates, in patients, such as cancer patients, in order to test the product candidate for safety, including adverse effects, dose tolerance, absorption, metabolism, distribution, excretion, and pharmacodynamics, and to identify a recommended phase 2 dose.

- Phase 2 clinical trials are generally conducted in a limited patient population to identify possible adverse effects and safety risks, evaluate the efficacy of the product candidate for specific targeted indications, and to determine dose tolerance and optimal dosage. We may conduct multiple phase 2 clinical trials to obtain information prior to beginning larger and costlier phase 3 clinical trials. In appropriate circumstances, a phase 2 clinical trial may serve as the basis for an application, in which case a separate phase 3 clinical trial will not be necessary.

- Phase 3 clinical trials are undertaken within an expanded patient population to gather the additional information about effectiveness and safety that is needed to evaluate the overall benefit-risk relationship of the drug and to provide an adequate basis for physician labeling.

These phases may overlap or be combined. For example, a phase 1/2 clinical trial may contain both a dose-escalation stage and a dose-expansion stage, the latter of which may confirm tolerability at the recommended dose for expansion in future clinical trials (as in traditional phase 1 clinical trials) and provide insight into the anti-tumor effects of the investigational therapy in selected subpopulation(s). Typically, during the development of oncology therapies, all subjects enrolled in phase 1 clinical trials are disease-affected patients and, as a result, considerably more information on clinical activity may be collected during such trials than during Phase 1 clinical trials for non-oncology therapies. In most cases, the FDA requires two adequate and well-controlled phase 3 clinical trials to demonstrate the safety and efficacy of the biologic. In rare instances, a single phase 3 trial may be sufficient when either (i) the trial is a large, multicenter trial demonstrating internal consistency and a statistically very persuasive finding of a clinically meaningful effect on mortality, irreversible morbidity or prevention of a disease with a potentially serious outcome and confirmation of the result in a second trial would be practically or ethically impossible, or (ii) the single trial is supported by confirmatory evidence. Approval on the basis of a single trial may be subject to a requirement for additional post-approval studies.

In addition, the manufacturer of an investigational biologic in a phase 2 or phase 3 clinical trial for a serious or life-threatening disease is required to make available, such as by posting on its website, its policy on evaluating and responding to requests for expanded access to such investigational drug or biologic.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the status of clinical trials must be submitted to the FDA. Written IND safety reports must be submitted to the FDA and the investigators within 15 calendar days of receipt by us after determining that the information qualifies for such expedited reporting. IND safety reports are required for suspected unexpected serious adverse reactions ("SUSARs"), findings from other studies or animal or *in vitro* testing that suggest a significant risk to humans in our clinical trials, and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. Additionally, we must notify FDA within seven calendar days after receiving information concerning any unexpected fatal or life-threatening suspected adverse reaction. Other external events may occur that can affect the conduct of our clinical trials, such as pandemics or government shutdowns.

Guidance Governing Gene Therapy Products

The FDA has defined a gene therapy product as one that mediates its effects by transcription and/or translation of transferred genetic material or by specifically altering host (human) genetic sequences. Examples of gene therapy products include nucleic acids (e.g., plasmids, *in vitro* transcribed ribonucleic acid), genetically modified microorganisms (e.g., viruses, bacteria, fungi), engineered site-specific nucleases used for human genome editing, and *ex vivo* genetically modified human cells. The products may be used to modify cells *in vivo* or transferred to cells *ex vivo* prior to administration to the recipient. Within the FDA, the Center for Biologics Evaluation and Research ("CBER") regulates gene therapy products. Within CBER, the review of gene therapy and related products is consolidated in the Office of Therapeutic Products, and the FDA has established the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its reviews. The FDA and the NIH have published guidance documents with respect to the development and submission of gene therapy protocols.

For example, in January 2024, the FDA issued a guidance document titled "Considerations for the Development of Chimeric Antigen Receptor T Cell Products; Guidance for Industry," which provides recommendations regarding collection and handling of cellular starting materials, vector manufacturing and testing processes, CAR-T cell design and development considerations, pharmacology and toxicology, clinical trial considerations, manufacturing processes, analytical comparability, etc. In this guidance the FDA outlined factors that sponsors should consider in conducting clinical trials using CAR-Ts, including defining appropriate study populations based on potential toxicities of CAR-T cells, such as cytokine-release syndrome and neurological toxicities, diagnostic tests that can identify patients with tumors that have the target antigens, selection of appropriate dosage levels based on viable transduced CAR-T cells, etc. The FDA also issued a guidance document titled "Human Gene Therapy Products Incorporating Human Genome Editing" in January 2024, which provides recommendations for sponsors that are developing gene therapy products involving genetic editing of somatic cells, as well as information that sponsors should provide to the FDA prior to beginning a clinical trial, including information on the design of the gene editing component; delivery mechanisms for the gene editing components; information on chemistry, manufacturing, and controls ("CMC"); risk of unregulated proliferation; potential implications of off-site gene editing; etc. The FDA also has issued other guidance documents that relate to gene therapies, such as "Human Gene Therapy for Rare Diseases," and it is likely that the FDA will continue to issue additional guidelines in the future that may affect our product candidates.

Although guidance documents are not legally binding, we believe that following FDA's recommendations set forth in them is likely necessary to gain approval for any product candidate we may develop. The guidance documents provide additional factors that the FDA will consider at each of the above stages of development and relate to, among other things, the proper preclinical assessment of gene therapies; the CMC information that should be included in an IND application; the proper design of tests to measure product potency in support of a BLA application; and measures to observe delayed adverse effects in subjects who have been exposed to investigational gene therapies when the risk of such effects is high. Further, the FDA usually recommends that sponsors observe subjects for potential gene therapy-related delayed adverse events. Depending on the product type, long term follow up can be up to 15 years or as short as five years.

Clinical Trial Registry

There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries, such as such as *www.ClinicalTrials.gov*. We are required to register and disclose certain clinical trial information, including the product information, patient population, phase of investigation, clinical trial sites and investigators, and other aspects of the clinical trial on *www.ClinicalTrials.gov*. We are also obligated to disclose the results of our clinical trials after completion. Disclosure of the results of these clinical trials can be delayed until the new product candidate or new indication being studied has been approved, up to a maximum of two years.

Compliance with cGMP and cGTP Requirements

Before approving a BLA, the FDA typically will inspect the facility or facilities where our product candidates are manufactured. The FDA will not approve a BLA unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to ensure consistent production of the product within required specifications. The PHSA emphasizes the importance of manufacturing control for products such as biologics whose attributes cannot be precisely defined. Material changes in manufacturing equipment, location, or process post-approval may result in additional regulatory review and approval.

The FDA also will not approve the product if we are not in compliance with cGTPs, which are requirements found in FDA regulations that govern the methods used in, and the facilities and controls used for, the manufacture of human cells, tissues, 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 cGTP 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.

Review and Approval of a BLA

The results of product candidate development, nonclinical testing, and clinical trials, including negative or ambiguous results as well as positive findings, are submitted to the FDA as part of a BLA requesting a license to market the product. The BLA must contain sufficient manufacturing information and detailed information on the composition of the product candidate and proposed labeling as well as payment of a user fee, unless the criteria for a waiver or exemption are met. Under the PHSA, the FDA will approve a BLA if it determines that our product candidate is safe, pure, and potent and the manufacturing facility meets standards designed to ensure that our product continues to be safe, pure, and potent.

The FDA has 60 calendar days after submission of a BLA to conduct an initial review to determine whether the BLA is acceptable for filing based on the agency's threshold determination that the BLA is sufficiently complete to permit substantive review. Once the submission has been filed, the FDA begins an in-depth review of the application. Under the goals agreed to by the FDA under the Prescription Drug User Fee Act ("PDUFA"), for a new molecular entity, the FDA has 10 months from date that the FDA filed the BLA in which to complete its initial review of a standard application and respond to us, and six months from such filing date for a priority review of the application. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs. The review process and the PDUFA goal date may be extended by three months if the FDA determines that we have submitted a major amendment.

The FDA may refer our BLA to an advisory committee for review, evaluation, and recommendation as to whether our BLA should be approved. In particular, the FDA may refer to an advisory committee application for biologic products that present difficult questions of safety or efficacy. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates, and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

On the basis of the FDA's evaluation of the application and accompanying information, including the results of the inspection of the manufacturing facilities and any FDA audits of nonclinical study and clinical trial sites to ensure compliance with cGMPs and cGCPs, respectively, the FDA will issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of our product candidate with specific prescribing information for specific indications. If our BLA is not approved, the FDA will issue a complete response letter, which will contain the deficiencies that preclude approval of the application and outline recommended actions we might take to obtain approval of our BLA. If we receive a complete response letter, we may submit to the FDA information that represents a complete response to the issues identified by the FDA. Such resubmissions are classified under the PDUFA as either class 1 or class 2. The classification of a resubmission is based on the information submitted by us in response to the complete response letter.

Under the goals and policies agreed to by the FDA under the PDUFA, the FDA has two months to review a class 1 resubmission and six months to review a class 2 resubmission. The FDA will not approve an application until deficiencies identified in the complete response letter have been addressed. Alternatively, if we receive a complete response letter, we may either withdraw our BLA or request a hearing.

If the FDA approves any one of our products, it may limit the approved indications for use of our products. The FDA may also require that contraindications, warnings, or precautions be included in the product labeling. In addition, the FDA may call for post-approval studies, including phase 4 clinical trials. The FDA may also require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, to help ensure that the benefits of the product outweigh the potential risks. REMS can include medication guides, communication plans for healthcare professionals, and elements to assure safe use ("ETASU"). ETASU can include, but are not limited to, specific or special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, certain manufacturing changes, and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Fast Track, Breakthrough Therapy, Priority Review, and Regenerative Medicine Advanced Therapy Designations

The FDA is authorized to facilitate and expedite development and review of new drugs intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs include fast track designation, breakthrough therapy designation, priority review, and regenerative medicine advanced therapy designation. These designations are not mutually exclusive, and our product candidates may qualify for one or more of these programs. Although these programs are intended to expedite product development and approval, they do not alter the standards for FDA approval.

The FDA may designate one or more of our product candidates as a fast track product if our product candidate is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it can be demonstrated that our product candidate has the potential to address an unmet medical need for such a disease or condition. Our current product candidates have been designated as fast track products, which means we may have greater interactions with the FDA, and the FDA may initiate review of sections of our fast track product candidate's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by us, that a fast track product candidate may be effective. We must also provide, and the FDA must approve, a schedule for the submission of the remaining information, and we must pay applicable application user fees. However, the FDA's goal for reviewing a rolling submission does not begin until the last section of the application is submitted. In addition, the fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process, or if our designated product candidate development program is no longer being pursued.

Our product candidates may obtain breakthrough therapy designations if they are intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that our product candidates may demonstrate substantial improvement over available therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA may take certain actions with respect to product candidates with such designations, including holding meetings with us throughout the development process, providing timely advice to us regarding development and approval, involving more senior staff in the review process, assigning a cross-disciplinary project lead for the review team, and taking other steps to provide guidance on the design of the clinical trials in an efficient manner. Breakthrough therapy designation may be rescinded if our product candidate no longer meets the qualifying criteria.

The FDA may determine that an application will receive priority review designation if the application is for a product candidate that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA makes such determination on a case-by-case basis, compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting adverse reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority review designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for acting on a marketing application from 10 months to six months.

The FDA may grant product candidate RMAT designations if such product candidates are regenerative medicine therapies intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition and preliminary clinical evidence indicates that they have the potential to address unmet medical needs for such disease or condition. RMAT designation provides potential benefits that include early interactions and more frequent meetings with the FDA to discuss the development plan for the product candidate and eligibility for rolling review and priority review. Product candidates granted RMAT designation may also be eligible for accelerated approval on the basis of surrogate or intermediate clinical trial endpoints 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. RMAT-designated products that receive accelerated approval may, as appropriate, fulfill their post-approval requirements through the submission of clinical evidence, clinical trials, patient registries, or other sources of real-world evidence such as electronic health records, through the collection of larger confirmatory data sets as agreed with the FDA, or via post-approval monitoring of all patients treated with such therapy prior to approval of the therapy. Regenerative medicine advanced therapy designation may be rescinded if our product candidate no longer meets the qualifying criteria.

Accelerated Approval Pathway

The FDA may grant accelerated approval to our product candidates for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that our product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. The FDA may also grant accelerated approval for such a condition when our product candidate has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality ("IMM"), and that our product candidate is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition, and the availability or lack of alternative treatments. Product candidates granted accelerated approval must meet the same statutory standards for safety and efficacy as those granted traditional approval.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a product candidate, such as an effect on IMM. The FDA has limited experience with accelerated approvals based on intermediate clinical endpoints but has indicated that such endpoints generally could support accelerated approval where a clinical trial demonstrates a relatively short-term clinical benefit in a chronic disease setting in which assessing long-term clinical benefit is essential for traditional approval, but the short-term benefit is considered reasonably likely to predict long-term benefit.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a product candidate, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly. Thus, accelerated approval has been used extensively in the development and approval of products for treatment of a variety of cancers in which the goal of therapy is generally to improve survival or decrease morbidity and the duration of the typical disease course requires lengthy and sometimes large trials to demonstrate a clinical or survival benefit.

The accelerated approval pathway is usually contingent on our agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe our product candidate's clinical benefit, and, in most cases, the FDA may require that the trial be designed, initiated, and/or fully enrolled prior to approval. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, would allow the FDA to withdraw the product from the market on an expedited basis. All promotional materials for product candidates approved under accelerated regulations are subject to prior review by the FDA unless the FDA informs us otherwise.

FDORA included provisions related to the accelerated approval pathway. Pursuant to FDORA, the FDA is authorized to require a post-approval study to be underway prior to approval or within a specified time period following approval. FDORA also requires the FDA to specify conditions of any required post-approval study, which may include milestones such as a target date of study completion and requires sponsors to submit progress reports for required post-approval studies and any conditions required by the FDA not later than 180 calendar days following approval and not less frequently than every 180 days thereafter until completion or termination of the study. FDORA enables the FDA to initiate enforcement action for the failure to conduct with due diligence a required post-approval study, including a failure to meet any required conditions specified by the FDA or to submit timely reports.

Post-Approval Regulation

If regulatory approval for marketing of any of our product candidates is obtained, we will be required to comply with all regular post-approval regulatory requirements as well as any post-approval requirements that the FDA has imposed as part of the approval process. We will be required to report certain adverse reactions and manufacturing problems to the FDA, provide updated safety and efficacy information, and comply with requirements concerning advertising and promotion. Manufacturers of our products are required to register their establishments with the FDA and certain state agencies and are subject to periodic announced or ad hoc inspections by the FDA and certain state agencies for compliance with ongoing regulatory requirements, including cGMP regulations, which impose certain procedural and documentation requirements upon these manufacturers. Accordingly, we and our third-party manufacturers must continue to expend time, money, and effort in the areas of production and quality control to maintain compliance with cGMP regulations and other regulatory requirements.

Our products may also be subject to official lot release, meaning that the manufacturer of our products is required to perform certain tests on each lot of the product before the product is released for distribution. If the product is subject to official lot release, the manufacturer must submit to the FDA samples of each lot, together with a release protocol showing a summary of the history of manufacture of the lot and the results of the manufacturer's tests performed on the lot. The FDA may in addition perform certain confirmatory tests on lots of some products before releasing the lots for distribution.

Once a marketing approval is granted for our product candidate, the FDA may withdraw the approval if compliance with regulatory requirements is not maintained or if problems occur after our product reaches the market. Later discovery of previously unknown problems with our product, including adverse events of unanticipated severity or frequency, issues with 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-marketing studies or clinical trials to assess new safety risks, or imposition of distribution or other restrictions under a REMS.

Other potential consequences of a failure to comply with regulatory requirements include:

- restrictions on the marketing or manufacturing of our product, complete withdrawal of our product from the market, or product recalls;
- fines, untitled or warning letters, or holds on post-approval clinical trials;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of our product license approvals;
- product seizure or detention, or refusal to permit the import or export of products or the raw materials or ingredients that are needed for product manufacture; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of licensed and approved products that are placed on the market. Pharmaceutical products may be promoted only for the approved indications and in accordance with the provisions of the approved labeling.

Orphan Drug Designation

Orphan drug designation is available for drugs that are intended for rare diseases or conditions, defined as (i) a disease or condition that affects fewer than 200,000 individuals in the United States or (ii) a disease or condition that affects 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 a biologic for the disease or condition will be recovered from sales of the product in the United States. If a drug becomes the first drug that is approved for the same indication for which the FDA has granted the designation, the drug will be entitled to exclusivity, which means the FDA may not approve any other application to market the same drug for the same orphan indication for a period of seven years following the date of our product's marketing approval, except in certain circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity by means of greater effectiveness, greater safety, or providing a major contribution to patient care, or in instances of drug supply issues. In the case of a biological product, sameness is based on the principal molecular features of the product. Orphan drug exclusivity does not prevent FDA from approving a different drug for the same disease or condition, or the same drug for a different disease or condition.

To obtain an orphan drug designation, we must make a request before submitting our BLA for a particular product candidate. After the FDA grants orphan drug designation, the generic or trade name, or the chemical name or a meaningful description of the biologic, its designated orphan use and date of designation, and our company name 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 addition, other financial incentives, such as tax credits or exemption from the BLA application fee, may be available.

Pediatric Studies and Exclusivity

Under the Pediatric Research Equity Act of 2003 (as amended, "PREA"), a BLA or supplement to a BLA for a product candidate with certain novel characteristics must contain data to assess the safety and effectiveness of the product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product candidate is safe and effective.

Sponsors must submit a pediatric study plan to FDA outlining the proposed pediatric study or studies they plan to conduct, including study objectives and design, any deferral or waiver requests, and other information required by regulation. The FDA must then review the information submitted, consult with the sponsor, and agree upon a final plan. The FDA or the sponsor may request an amendment to the plan at any time.

For products intended to treat a serious or life-threatening disease or condition, the FDA must, upon the request of a sponsor, meet to discuss preparation of the initial pediatric study plan or to discuss deferral or waiver of pediatric assessments. In addition, the FDA will meet early in the development process to discuss pediatric study plans with the sponsor and the FDA must meet with the sponsor by no later than the end-of-phase 1 meeting for serious or life-threatening diseases and by no later than 90 calendar days after FDA's receipt of the study plan. The FDA may, on its own initiative or at the request of the sponsor, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements, under specified circumstances. Unless otherwise required by regulation, the pediatric data requirements do not apply to products with orphan designation except a product with a new active ingredient that is a molecularly targeted cancer product intended for the treatment of an adult cancer and directed at a molecular target determined by the FDA to be substantially relevant to the growth or progression of a pediatric cancer.

Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing non-patent regulatory exclusivity, including orphan drug exclusivity. This six-month exclusivity may be granted if pediatric data is submitted that sufficiently responds to a written request from the FDA for such data. The data do not need to show a product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to be responsive to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity or patent protection cover the product are extended by six months. This is not PTE; instead, this grant of exclusivity extends the regulatory period during which the FDA cannot approve another application.

Biosimilars and Exclusivity

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 ("Affordable Care Act") includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product in the United States. Starting in 2015, the FDA commenced licensing biosimilars under the BPCIA, and there are currently numerous biosimilars approved in the United States as well as a number of interchangeable biosimilar products.

For the FDA to approve a biosimilar product, it must find that there are no clinically meaningful differences between the reference product and proposed biosimilar product in terms of safety, purity, and potency in at least one condition of use for which the reference product is approved. For the FDA to approve a biosimilar product as interchangeable with a reference product, the agency must find that the biosimilar product can be expected to produce the same clinical results as the reference product, and, for products administered multiple times, that the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. Even after the FDA approves a biosimilar product, the product, its manufacturing processes, post-approval clinical data, labeling, advertising, and promotional activities for the product will be subject to continuous requirements of and review by the FDA or other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, including mandatory post-

marketing safety reporting; registration and listing requirements; cGMP requirements relating to quality control, quality assurance, and corresponding maintenance of records and documents; and requirements regarding recordkeeping.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date of approval of the reference product. The FDA may not approve a biosimilar product until 12 years from the date on which the reference product was approved. Even if a product is considered to be a reference product eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full BLA for such product containing our own nonclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity, and potency of the product.

Patent Term Extension

A patent claiming a new biologic product may be eligible for a limited PTE under the Hatch-Waxman Amendments, which permits a patent restoration of up to five years for patent term lost during product development and FDA regulatory review. The restoration period granted on a patent covering a product is typically 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 ultimate approval date, less any time during which due diligence was not conducted. PTE cannot be used to extend the remaining term of a patent past a total of 14 years from the product's regulatory approval date. Pursuant to 35 U.S.C. §156, only one patent covering an approved product, or the use or manufacture thereof, is eligible for PTE, and the application for the extension must be submitted prior to the expiration of the patent in question and within 60 calendar days after regulatory approval. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. The USPTO reviews and approves the application for any PTE in consultation with the FDA. Similar provisions are available in Europe and other jurisdictions to extend the term of a patent that covers an approved biologic although the eligibility requirements for these extensions vary.

Regulation and Procedures Governing Approval of Medicinal Products in Other Countries

In order to market any product outside of the United States, we must also comply with numerous and comprehensive regulatory requirements of other countries and jurisdictions, regarding quality, safety, and efficacy, and governing, among other things, clinical trials, marketing authorization, post-authorization requirements, commercial sales, import and export, reimbursement, and distribution of products. Whether or not we obtain FDA approval for our product candidates, we will need to obtain the necessary approvals from health regulatory authorities in other countries or jurisdictions before we can initiate clinical trials or marketing of our products in those countries or jurisdictions. Specifically, the process governing approval of medicinal products in the EU generally follows the same lines as in the United States, although the approval of a medicinal product in the United States is no guarantee of approval of the same product in the EU, either at all or within the same timeframe as approval may be granted in the United States. The process entails satisfactory completion of preclinical studies and adequate and well-controlled clinical trials to establish the safety and efficacy of a product candidate for each proposed indication. It also requires the submission to the EMA or the relevant member state competent authorities, of a marketing authorization application and granting of a marketing authorization by the EMA or these authorities before the product can be marketed and sold in the EU.

U.S. Export Control Licensing Requirements and Other U.S. and Foreign Trade Regulations, Sanctions Laws, Anti-Corruption, and Anti-Money Laundering Laws

We develop product candidates that may be subject to varying U.S. export control licensing requirements and foreign investment regulations. In addition, U.S. international trade laws, including the U.S. Foreign Corrupt Practices Act of 1977, as amended ("FCPA"), and similar anti-bribery or anti-corruption laws, regulations, and rules of other countries in which we may choose to operate, could apply to our international activities. Anti-corruption laws generally prohibit companies and their employees and certain other third parties from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector in order to influence action. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the company and to devise and maintain an adequate system of internal accounting controls.

In addition, U.S. import and export regulations, anti-money laundering laws, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls could apply to any international activities we may undertake.

Coverage, Pricing, and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we may seek regulatory approval by the FDA or other government authorities. In the United States and other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services often rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use any product candidates we may develop unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of such product candidates. In addition, direct or indirect governmental price regulation may affect the prices that we may charge for product candidates.

United States

Even if any product candidates we may develop obtain approval, sales of such product candidates will depend, in part, on the extent to which third-party payors, including government healthcare programs in the United States, such as Medicare and Medicaid, commercial health insurers, and managed care organizations provide coverage and establish adequate reimbursement levels for such product candidates.

In general, factors payors consider in determining coverage and reimbursement are based on whether the product is:

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

In the United States, no uniform policy of coverage and reimbursement for biological products, including gene and cell therapy products, exists among third-party payors. As a result, obtaining coverage and reimbursement approval for such a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical, and cost-effectiveness data regarding the product's clinical benefits, medical necessity, and risks on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. A decision by a third-party payor not to cover any product candidates we may develop could reduce physician utilization of such product candidates once approved and have a material adverse effect on our sales, results of operations and financial condition. Additionally, a payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved, and inadequate reimbursement rates, including significant patient cost sharing obligations, may deter patients from selecting our product candidates. One payor's determination to provide coverage for a product does not ensure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor. Third-party reimbursement and coverage may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. 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 marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

European Union

In the EU, the approval process and requirements governing pricing and reimbursement for any product candidate vary greatly between countries and jurisdictions. Some countries allow biological products to be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional testing or studies that compare the cost effectiveness of a particular biological product to currently available treatments, or so-called health technology assessments, in order to obtain reimbursement or pricing approval. The EU HTA Regulation 2021/2282 became effective in January 2022, is applicable from January 2025 with a phased implementation until 2030, and aims to harmonize clinical and scientific aspects of HTA across the EU.

Some countries, including several EU member states, set prices and reimbursement for biological products, with limited participation from the marketing authorization holders. For example, the EU provides options for its member states to restrict the range of biological products for which their national health insurance systems provide reimbursement and to

control the prices of biological products for human use. EU member states may approve a specific price for a biological product or may instead adopt a system of direct or indirect controls on the profitability of the company providing the biological product. Recently, many European countries have increased the level of discounting required in relation to the pricing of biological products and these efforts could continue as countries attempt to manage healthcare expenditures.

Healthcare Law and Regulation

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of pharmaceutical products that are granted marketing approval. Arrangements with providers, consultants, third-party payors, customers, and patients are subject to broadly applicable fraud and abuse laws including anti-kickback laws, false claims laws, and health care provider payment transparency laws, as well as data privacy and security laws and other healthcare laws that may constrain our business and/or financial arrangements. Violation of these laws may result in significant civil monetary penalties, possible exclusion from participation in U.S. federal health care programs, and/or criminal penalties.

Restrictions under applicable U.S. federal and state healthcare laws and regulations, as well as equivalent international laws, include but are not limited to the following:

- the U.S. federal Anti-Kickback Statute ("AKS"), which prohibits, among other things, individuals or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce, or reward, either the referral of an individual, or the purchase, lease, order, arrangement for or recommendation of the purchase, lease, order, arrangement for any good, facility, item, or service, for which payment may be made, in whole or in part, under a federal healthcare program, such as Medicare and Medicaid;

- the U.S. civil and criminal false claims laws, including the civil U.S. False Claims Act, and civil monetary penalties laws, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious, or fraudulent or knowingly making, using, or causing to be made or used a false record or statement to avoid, decrease, or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the AKS or FDA promotional standards constitutes a false or fraudulent claim for purposes of the U.S. False Claims Act;

- the U.S. Beneficiary Inducement Statute, which prohibits, among other things, the offering or giving of remuneration, which includes, without limitation, any transfer of items or services for free or for less than fair market value, with limited exceptions, to a Medicare or Medicaid beneficiary that the person knows or should know is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of items or services reimbursable by a federal or state health program;

- the U.S. Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), and their respective implementing regulations (collectively "HIPAA"), which imposes criminal and civil liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private payors, or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services;

- HIPAA also imposes obligations with respect to safeguarding the privacy, security, and transmission of individually identifiable information that constitutes protected health information, including mandatory contractual terms and restrictions on the use and/or disclosure of such information without proper authorization;

- the federal transparency requirements known as the U.S. Physician Payments Sunshine Act, or Open Payments program, created under the Affordable Care Act, which requires certain manufacturers of drugs, devices, biologics, and medical supplies to report annually to the Centers for Medicare & Medicaid Services ("CMS") information related to payments, including certain product development activities such as clinical trials, and other transfers of value made by that entity to covered recipients, currently defined to include doctors, dentists, optometrists, podiatrists, chiropractors, teaching hospitals, physician assistants, nurse practitioners, and certain other healthcare providers and requires certain manufacturers and applicable group purchasing organizations to report ownership and investment interests held by physicians or their immediate family members;

- U.S. price reporting laws, which require companies to calculate and report complex pricing metrics in an accurate and timely manner to government programs. Such laws may not only affect coverage, reimbursement, and pricing for our product candidates, but can also result in civil penalties for late or incorrect reports;
- U.S. consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- the FCPA, which prohibits companies and their intermediaries from making, or offering or promising to make, improper payments to non-U.S. officials for the purpose of obtaining or retaining business or otherwise seeking favorable treatment;
- certain state and other laws that require pharmaceutical companies to comply with the state standards or pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. government in addition to requiring pharmaceutical manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures;
- certain state and other laws that govern 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; and
- analogous state and foreign laws and regulations, which may be broader in scope than their federal equivalents.

Numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws and federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), that govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of our collaborators and third-party providers. In December 2023, HHS finalized its Health Data, Technology and Interoperability rule, establishing new standards for transparency, information exchange, and interoperability for health information technology. California has enacted the California Consumer Privacy Act ("CCPA"). The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Additionally, the California Privacy Rights Act amended the CCPA to impose additional data protection obligations on companies doing business in California, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, opt outs for certain uses of sensitive data, and creation of a new California data protection agency authorized to issue substantive regulations. The majority of the provisions went into effect on January 1, 2023, and additional compliance investment and potential business process changes may be required. In the United States, states are constantly amending existing laws, requiring attention to frequently changing regulatory requirements.

Healthcare Reform

In the United States, there have been, and continue to be, proposals by the federal government, state governments, regulators and third-party payors to control or manage the increased costs of health care and, more generally, to reform the U.S. healthcare system. The pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. For example, in March 2010, the Affordable Care Act ("ACA") was enacted, which intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms, substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. Healthcare reforms that have been adopted, and that may be adopted in the future, could result in further reductions in coverage and levels of reimbursement for pharmaceutical products, increases in rebates payable under U.S. government rebate programs and additional downward pressure on pharmaceutical product prices.

Several healthcare reform proposals culminated in the enactment of the Inflation Reduction Act (the "IRA") in August 2022, which, among other things, eliminated, beginning in 2025, the coverage gap under Medicare Part D by significantly lowering the enrollee maximum out-of-pocket costs and requiring manufacturers to subsidize, through a newly established manufacturer discount program, 10% of Part D enrollees' prescription costs for brand drugs below the out-of-pocket limit, and 20% once the out-of-pocket limit has been reached. The IRA also allows HHS to directly negotiate the selling price of a statutorily specified number of drugs and biologics each year that CMS reimburses under Medicare Part B and Part D. The negotiated price may not exceed a statutory ceiling price. Only high-expenditure single-source

biologics that have been approved for at least 11 years (seven years for single-source drugs) are eligible to be selected by CMS for negotiation, with the negotiated price taking effect two years after the selection year. For 2026, the first year in which negotiated prices become effective, CMS selected 10 high-cost Medicare Part D products in 2023, negotiations began in 2024, and the negotiated maximum fair price for each product has been announced. CMS has selected 15 additional Medicare Part D drugs for negotiated maximum fair pricing in 2027. For 2028, an additional 15 drugs, which may be covered under either Medicare Part B or Part D, will be selected, and for 2029 and subsequent years, 20 Part B or Part D drugs will be selected. A drug or biological product that has an orphan drug designation for only one rare disease or condition will be excluded from the IRA's price negotiation requirements, but will lose that exclusion if it receives designations for more than one rare disease or condition, or if is approved for an indication that is not within that single designated rare disease or condition, unless such additional designation or such disqualifying approvals are withdrawn by the time CMS evaluates the drug for selection for negotiation. The IRA also imposes rebates on Medicare Part B and Part D drugs whose prices have increased at a rate greater than the rate of inflation. The IRA also extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. These provisions may be subject to legal challenges. For example, the provisions related to the negotiation of selling prices of high-expenditure single-source drugs and biologics have been challenged in multiple lawsuits brought by pharmaceutical manufacturers. The outcome of these lawsuits is uncertain, and some IRA drug discount provisions have not been challenged in litigation. Thus, while it is unclear how the IRA will be implemented, it will likely have a significant impact on the pharmaceutical industry and the pricing of our products and product candidates. It is unclear what policies the new Administration will advance with respect to IRA implementation and other drug pricing proposals.

At the state level, legislatures have increasingly passed legislation and implemented 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.

Additional Regulations

In addition to the foregoing, state and federal laws regarding environmental protection and hazardous substances, including the U.S. Occupational Safety and Health Act, the U.S. Resource Conservancy and Recovery Act, and the U.S. Toxic Substances Control Act, all affect our business. These and other state and local 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.

Employee and Human Capital Resources

Workforce Demographics

As of March 1, 2025, we had 147 total employees, all of which were full-time. Of our employees, 39 hold Ph.D., M.D., and/or Pharm.D. degrees, and 107 are engaged in research, development, and technical operations. Most of our employees are located in Berkeley, California. Our employees are not represented by labor unions or covered by collective bargaining agreements. We believe that our employee morale is healthy and consider our relationship with our employees to be good.

Talent Acquisition, Development, and Total Rewards

We recognize that attracting, developing, and retaining talent at all levels is vital to our continued success. We have implemented a comprehensive talent strategy that motivates our employees to perform to the best of their abilities and to achieve our objectives. We are committed to providing a competitive and comprehensive total rewards program that includes market-aligned salaries, performance-based incentives, long-term equity grants, and comprehensive benefits, including health and wellness programs, retirement savings plan (401k), an employee stock purchase plan (ESPP), and paid time off. We invest in employee learning and development by identifying and providing training and development programs, tuition reimbursement, and cross-training in areas of interest beyond hired roles. Employees have access to ongoing learning opportunities to enhance their skills and advance their careers.

We understand the importance of goal setting and ongoing career development conversations. We require our managers and employees to play an active role in the performance management process. Our performance management

process is designed to increase clarity and accountability for roles and responsibilities, strengthen communication, and build trust, all while championing personal and professional growth, learning, and success.

Great teamwork is a critical foundation for Caribou. Our peer-to-peer rewards and recognition program helps us maintain a culture of recognition and teamwork by offering various options for our employees and managers to recognize and reward colleagues across the organization. We plan to continue to refine our efforts related to optimizing our use of human capital as we grow, including improvements in the way we hire, develop, reward, and retain employees.

The Herd at Caribou

Our employees are our greatest asset, and we aim to create an inclusive and collaborative environment with the overall goal of engaging our workforce to support our current pipeline, develop new technologies, and support future business goals, while protecting the long-term interests of our stockholders. Our culture is built around our core values: we are driven by patient needs, innovation is in our chRDNA, together we are stronger, and integrity and ethics guide our decision making. We have built a culture where employees are empowered, their ideas are taken seriously, and their contributions are recognized.

We at Caribou refer to ourselves as “the herd.” We encourage and value social interactions among the herd. We hold bi-monthly herd meetings and quarterly on-site events to strengthen our culture and find different ways to interact. Some of these events include contributing to the Alameda Food Bank and participating in San Francisco Bay clean-up events. We offer “fun runs,” yoga in a hybrid format, and have local gym facilities available for our Berkeley employees. As we continue to grow, we will find more opportunities to connect our teams, taking into account our different functions and locations, while focusing on building a culture that is driven by our mission to develop innovative, transformative therapies through novel genome editing for patients with devastating diseases.

We regularly conduct engagement surveys and use the feedback to enhance our workplace culture. Our well-being initiatives include mental health resources and flexible work arrangements to support our employees’ overall health and productivity. We have established a culture advisory group comprised of cross-functional representatives from various geographic locations. Based on feedback from focus groups and the culture advisory group, along with the results of employee surveys, we have focused on highlighting how our daily work connects to our corporate values, connecting teams to other functions, and helping employees understand how decisions that impact them or their roles are made. Survey results demonstrate that employees feel more connected and are committed and excited to come to work, increasing overall engagement.

We expect all employees to observe the highest levels of business ethics while delivering the highest levels of performance. We encourage employees to speak up and raise questions and concerns promptly about any situation that may violate our Code of Business Conduct, Scientific and Data Integrity, and Ethics or any other corporate policy. We believe that it is beneficial for employees to raise concerns so that we may consider them carefully and address them appropriately. We seek to promote an environment that fosters honest communications about matters of conduct related to our business activities, whether that conduct occurs within our company or involves one of our third-party suppliers, service providers, or collaborators. We work diligently to make clear that management is prepared to address any reported violations and to ensure that it is known that any form of retaliation is prohibited. In addition, we have an easily accessible hotline available to employees wishing to report complaints anonymously.

Involvement in Our Community

Our headquarters are located in Berkeley, California, and many of our employees are alumni of local universities. Our employees are talented and passionate people who are committed to making a difference in our community and beyond. As a company, we actively participate in outreach efforts to increase opportunities for underrepresented groups, including hosting and providing volunteers for science, technology, engineering, and mathematics (“STEM”) programs at local elementary, junior high, and high schools as well as community colleges and universities. Many of our employees speak at local schools about careers in biotechnology and we have hosted students at our facility to engage them in aspects of biotechnology to which they may not have been previously exposed. We look for opportunities to foster the growth of future scientists and a love of science. We provide each of our employees with eight hours of paid volunteer time each year, which can be used for participating in school activities, voter registrations, environmental activities, and the like.

We are environmentally conscious. With this in mind, we strive to mitigate our impact on the environment where possible and pursue innovative ways to grow our business while minimizing our environmental footprint. The City of Berkeley requires companies with 10 or more employees to have a commuter benefits program in place, and we offer pre-tax commuter benefits to ride public transportation, which is connected to our facility through various free shuttle services.

Additionally, we provide bicycle vouchers to employees who bike to work and have bike repair tools on site as well as bike storage areas, and our employees have access to electric vehicle charging stations. Our facility is equipped with water stations that filter water to discourage the use of plastic bottles. All refuse generated at our facility is sorted among recycle, compost, and landfill. We have moved to electronic documentation and files in most functions.

Workforce Health and Safety

Workplace safety is a priority for us. To maintain a safe and healthy workplace, we have implemented Environment, Health, and Safety ("EHS") initiatives that focuses on key risk mitigation programs to identify, assess, and correct hazards. We also have a safety training program that is designed for employees to be assigned the appropriate training to understand how to safely perform their duties.

Information Available on the Internet

Investors and others should note that we announce material information to our investors using our investor relations website (https://cariboubio.com/investors), our filings with the U.S. Securities and Exchange Commission ("SEC"), press releases, public conference calls, and webcasts. We use these channels to communicate with the public about our company, our business, our product candidates and other matters. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, including exhibits, proxy and information statements and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Exchange Act, are available on our website free of charge as soon as reasonably practicable after we electronically file the material with, or furnish it to, the SEC. The materials we file with or furnish to the SEC are also available at http://www.sec.gov.

Item 1A. Risk Factors.

Investing in shares of our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all of the other information contained in this Annual Report on Form 10-K, including our financial statements and related notes, before making an investment decision. The risks described below are not the only ones facing us. 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, and reputation. In such case, the trading price of shares of our common stock could decline, and you may lose all or part of your investment. This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See Special Note Regarding Forward-Looking Statements in this Annual Report on Form 10-K.

Risks Relating to our Financial Position and Need for Additional Capital

We have incurred significant operating losses since our inception and anticipate that we will incur continued operating losses for the foreseeable future and we may not be able to achieve or sustain profitability.

We have incurred significant operating losses each year since our inception. For the years ended December 31, 2024, and 2023, we incurred net losses of $149.1 million and $102.1 million, respectively. As of December 31, 2024, we had an accumulated deficit of $448.4 million. In addition, we have not commercialized any products and have never generated any revenue from product sales. We have devoted almost all of our financial resources to research and development, including our preclinical development activities.

We expect to continue to incur significant expenses and operating losses over the next several years and for the foreseeable future as we seek to advance product candidates through preclinical development, expand our research and development activities, develop new product candidates, initiate and complete clinical trials, seek regulatory approval and, if we receive approval from the FDA or foreign regulatory authorities, commercialize our products. Furthermore, the costs of advancing product candidates into each succeeding clinical phase with greater number of patients increase substantially over time and, if we are to advance our CAR-T cell therapy product candidates into pivotal clinical trials, we will incur significant expenses in running large, multicenter trials in the United States and foreign jurisdictions. The total costs to advance any of our product candidates to marketing approval in even a single jurisdiction is substantial. Our prior losses, combined with expected future losses, will continue to have an adverse effect on our stockholders' deficit and working capital. We anticipate that our expenses will increase substantially if and as we:

- progress our clinical trials for our CAR-T product candidates, particularly as we advance product candidates into succeeding clinical phases;
- continue our current research programs and our preclinical and clinical development of our other current product candidates and any other product candidates we identify and choose to develop;
- hire additional employees;
- seek to identify additional research programs and additional product candidates;
- further develop our genome-editing technologies;
- acquire or in-license intellectual property or new technologies;
- expand, maintain, enforce, and defend our intellectual property estate;
- seek regulatory and marketing approvals for any of our product candidates that successfully complete clinical trials, if any;
- establish and expand manufacturing capabilities and supply chain capacity for our product candidates;
- experience any delays, challenges or other issues associated with any of the above, including the failure of clinical trials meeting endpoints, the generation of unanticipated preclinical study results or clinical trial data subject to

differing interpretations, or the occurrence of potential safety issues or other development or regulatory challenges;

- make royalty, milestone, or other payments under current, and any future, in-license or assignment agreements;
- establish a sales, marketing, and distribution infrastructure to commercialize any product candidates for which we obtain marketing approval; and
- continue to operate as a public company, including defending against securities class action litigation.

We are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

We will need substantial additional financing to develop our product candidates and implement our operating plans. If we fail to obtain additional financing, we may be delayed or unable to complete the development and commercialization of our product candidates.

We will continue to need additional capital beyond the proceeds received from our initial public offering ("IPO"), follow-on public financing, at-the-market equity offering program, and other historical sources of proceeds. We expect to spend a substantial amount of capital in the research, development, and manufacture of our product candidates, particularly as we advance our CAR-T cell therapy product candidates through succeeding clinical phases with greater numbers of patients. We expect our expenses to increase in connection with our ongoing activities, particularly as we initiate additional clinical trials for, and seek marketing approval of, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution to the extent that we do not obtain commercialization partners who will bear the costs for such activities. We may also need to raise additional funds sooner if we choose to pursue additional indications or markets for our product candidates or otherwise expand more rapidly than we presently anticipate. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. Because our allogeneic cell therapy product candidates are based on new technologies, they require extensive research and development and have substantial manufacturing costs. In addition, clinical costs to treat patients with our product candidates, including treatment of any potential side effects that may arise, will be significant.

As of December 31, 2024, we had cash, cash equivalents, and marketable securities of $249.4 million. We expect our cash, cash equivalents, and marketable securities to be sufficient to fund our current operating plan through at least the next 12 months from the date the consolidated financial statements included in this Annual Report on Form 10-K are issued. Our expectation is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect.

Our future capital requirements will depend on, and could increase significantly as a result of, many factors, including:

- costs, progress, and results of our product candidate preclinical studies and clinical trials;
- potential delays in our preclinical studies and clinical trials, whether current or planned, due to unforeseen events as well as other factors such as the economic or regulatory environment or pandemics or other public health crises;
- potential difficulties and delays in receiving regulatory clearances and/or approvals for our product candidates;
- costs and prioritization of our research and development programs as well as costs to acquire or in-license technologies or other product candidates;
- expansion of our workforce or our facilities;
- costs of establishing and maintaining a supply chain for the development and manufacture of our product candidates;
- timing and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations on favorable terms;

- costs of fulfilling our contractual obligations to reimburse certain parties for costs incurred in connection with the prosecution and maintenance of licensed patent rights, including reimbursements owed to The Regents of the University of California;
- achievement of milestones that trigger payments under any of our current license and assignment agreements as well as under any additional agreements we enter into in the future;
- costs of preparing, filing, prosecuting, and maintaining our patent portfolio, including costs associated with administrative proceedings of patent offices;
- litigation costs in the event we seek to enforce our patents against third parties or if we are sued for infringement by third parties as well as for securities lawsuits;
- effects of competing technologies, success or failure of products similar to our product candidates, and market developments;
- costs of establishing or contracting for sales and marketing capabilities if we obtain regulatory approvals to market our product candidates; and
- costs of operating as a public company, including defending against any class action securities litigation.

Changing circumstances may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than expected because of circumstances beyond our control. We may also need to raise additional capital sooner if we choose to expand programs, personnel, and facilities more rapidly than planned. In any event, we will require additional capital for the further research, development, and commercialization of our product candidates, including potentially establishing our own internal manufacturing capabilities. Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to research, develop, and commercialize our product candidates.

We cannot be certain that additional funding will be available when needed and on acceptable terms, or at all. If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay, or discontinue one or more of our product candidate preclinical studies, clinical trials, or development and commercialization, or we may be unable to expand our operations or otherwise capitalize on our business opportunities, as desired. Any of the above could significantly harm our business, financial condition, results of operations, and prospects and cause the price of our common stock to decline.

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

Until such time, if ever, that we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, and strategic collaboration and licensing arrangements. The terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our common stock to decline. Debt 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, licensing or assigning our intellectual property rights, declaring dividends, and possibly other restrictions.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, our existing stockholders' interests will be diluted, perhaps substantially, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders and new investors could gain rights superior to our existing investors. We may sell common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner we determine from time to time and investors may be substantially diluted by those issuances and sales.

Attempting to secure additional financing may also divert our management from our day-to-day activities, which could impair or delay our ability to develop our product candidates. Furthermore, if, in the future, one or more banks or financial institutions enter receivership or become insolvent in response to financial conditions affecting the banking system or financial markets, our ability to access our existing cash, cash equivalents, and marketable securities may be threatened and could have a material impact on our business and financial condition.

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. Alternatively, we could be required to seek collaborators for our product candidates at an earlier stage than would otherwise be desirable or on terms that are less favorable than might otherwise be available. We might need to relinquish or license on unfavorable terms our rights to our product candidates in markets where we otherwise would seek to pursue development and commercialization ourselves, or to license our intellectual property to others who could develop products that will compete with our products. Any of these actions could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We have a limited operating history, which may make it difficult to evaluate our technologies and product candidate development capabilities or to predict our future performance.

We are a clinical-stage biotechnology company formed in 2011, with no products approved for commercial sale, and we have not generated any revenues from product sales. Our operations to date have been limited to financing and staffing our company, developing our technologies, and evaluating our CAR-T cell therapy product candidates in phase 1 clinical trials. Our prospects must be considered in light of the uncertainties, risks, expenses, and difficulties frequently encountered by companies in their early stages of operations. We have not yet demonstrated an ability to obtain marketing approval, manufacture at commercial scale, or conduct sales and marketing activities for our product candidates, which are all necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing cell therapy products. Our ability to generate product revenue or profits, which we do not expect to occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates, which may never occur. Unless we receive approval from the FDA or other regulatory authorities for our product candidates, we will not have product revenues. We may never be able to develop or commercialize a marketable cell therapy product.

We are early in our product development efforts. All of our programs will require clinical development, regulatory approval, manufacturing at commercial scale, distribution channels, a commercial organization, significant marketing efforts, and substantial investment before we generate any revenue from product sales. In addition, our product candidates must be approved for marketing by the FDA before we may commercialize our products in the United States and, if we wish to commercialize our products outside the United States, by foreign regulatory agencies. Furthermore, we will continue to incur costs associated with operating as a public company, including legal, accounting, insurance, investor relations, and other expenses.

Additionally, the rapidly evolving nature of the genome-editing and cell therapy fields may make it difficult to evaluate our technologies and product candidates as well as to predict our future performance. Our short history as an operating company makes any assessment of our future success or viability subject to significant uncertainty. We will encounter risks and difficulties, known and unknown, that are frequently experienced by early-stage companies in rapidly evolving fields. As we advance our product candidates, we must transition from a company with a research focus to a company capable of supporting clinical development and, if successful, commercial activities. We may not be successful in such transitions. If we do not address these risks successfully, our business will suffer. Similarly, we expect that 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. As a result, you should not rely upon the results of any quarterly or annual period as an indicator of future operating performance.

Risks Relating to our Business, Government Regulation, Technology, and Industry

We are early in our product development efforts and it will be many years before we commercialize a product candidate, if ever. If we are unable to advance our product candidates through clinical trials, obtain regulatory approval, and ultimately commercialize our product candidates, or we experience significant delays in doing so, our business will be materially harmed.

We are early in the development of our cell therapy product candidates and have focused our research and development efforts to date on various CRISPR genome-editing technologies, including our chRDNA genome-editing technology, as well as identifying our initial CAR-T cell product candidates. Our future success depends heavily on the successful development of our product candidates. Our ability to generate product revenue, which we do not expect will occur for many years, if ever, will be a result of the successful development and eventual commercialization of our product candidates, which may never occur. Our product candidates may have expected or unexpected adverse side effects or fail to demonstrate safety and efficacy. Additionally, our product candidates may have other characteristics that may make them

impractical or prohibitively expensive for large-scale manufacturing. In certain cases, CROs and clinical trial sites may fail to conduct the clinical trials as planned, may fail to comply with applicable requirements, or may deviate from the clinical trial protocols. Furthermore, our product candidates may not receive regulatory approval or, if they do, they may not be accepted by the medical community or patients or may not be competitive with other products that become available. We currently have no product revenue and we may never be able to successfully develop or commercialize a marketable product.

We must submit IND applications to the FDA to initiate clinical trials in the United States. The filing of future IND applications for our product candidates is subject to additional preclinical research, research-scale and clinical-scale manufacturing, exploration of possible other genome-editing systems, evaluation of potential targets, and other factors yet to be identified. In addition, commencing any new clinical trial is subject to review by the FDA based on the acceptability and sufficiency of our CMC, and preclinical information provided to support our IND applications. If the FDA or foreign regulatory authorities require us to complete additional preclinical studies or we are required to satisfy other requests for additional data or information, our clinical trials may be delayed. Even after we receive and incorporate guidance from the FDA or foreign regulatory authorities, these regulatory authorities could disagree that we have satisfied all requirements to initiate our clinical trials or they may change their position on the acceptability of our trial design or the clinical endpoints selected. They could impose a clinical hold, which may require us to complete additional preclinical studies or clinical trials. The FDA and foreign regulatory authorities may refuse to clear our IND applications. The success of our product candidates will depend on several factors, including the following:

- sufficiency of our financial and other resources;
- acceptance of our chRDNA genome-editing technology;
- ability to develop and deploy armoring technologies so that our product candidates have a competitive edge;
- successful completion of preclinical studies;
- clearance of IND applications to initiate clinical trials;
- successful enrollment in, and completion of, our clinical trials;
- data from our clinical trials that support an acceptable risk-benefit profile of our product candidates for our intended patient populations and indications and demonstrate safety and efficacy;
- establishment of agreements with CMOs for clinical and commercial supplies and scaling up of manufacturing processes and capabilities to support our clinical trials;
- successful development of our internal process development and transfer to larger-scale facilities;
- receipt of regulatory and marketing approvals from applicable regulatory authorities as well as receipt of regulatory exclusivity for our product candidates;
- establishment, maintenance, enforcement, and defense of patent and trade secret protection and other intellectual property rights;
- not infringing, misappropriating, or otherwise violating third-party intellectual property rights;
- entry into collaborations to further the development of our product candidates or for the development of new product candidates;
- establishment of sales, marketing, and distribution capabilities for commercialization of our product candidates if and when approved, whether by us or in collaboration with third parties;
- identification and establishment of a stable supply chain that permits us to procure the necessary materials for our product candidates;
- legal and regulatory compliance by third parties that provide services to us or on our behalf, including but not limited to CMOs, suppliers, and clinical research organizations (“CROs”), some of which may be subject to regulatory investigations;

- the ability of CROs and clinical trial sites to conduct our clinical trials;
- maintenance of a continued acceptable safety profile of products post-approval;
- acceptance of product candidates, if and when approved, by patients, the medical community, and third-party payors;
- effective competition with other therapies and treatment options, including but not limited to autologous CAR-T cell therapies, small molecules, and antibody treatment;
- establishment and maintenance of healthcare coverage and adequate reimbursement; and
- expanding indications and patient populations for our products post-approval.

Our product candidates are cell therapies generated by our novel CRISPR chRDNA genome-editing technologies, which make it difficult to predict the time and cost of developing these product candidates and obtaining regulatory approval. To date, no other products that use these chRDNA genome-editing technologies have advanced into clinical trials or received marketing approval in the United States.

We are concentrating our initial research, development, and manufacturing efforts on our allogeneic CAR-T cell therapies that are intended to treat patients with certain cancers. Before obtaining regulatory approval for the commercial sale of any of our product candidates, we must demonstrate through lengthy, complex, and expensive preclinical studies and clinical trials that our product candidates are both safe and effective for their intended use. The clinical trial requirements of the FDA and other 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, intended use, and target population of our product candidates. The outcome of preclinical studies and clinical trials is inherently uncertain. Preclinical results in animals may not be predictive of safety or efficacy in humans. Failure can occur at any time during the preclinical study and clinical trial processes and because we have never successfully commercialized a product and our first product candidate is in an early stage of clinical development, there is a high risk of failure. We may never succeed in developing marketable products.

Approval processes by the FDA or other regulatory authorities for existing autologous anti-CD19 and anti-BCMA CAR-T cell therapies may not be indicative of what these regulatory authorities will require for approval of our allogeneic anti-CD19 CAR-T cell therapy or our other product candidates. Also, although we expect reduced variability in our allogeneic products candidates compared to autologous products, we do not have any clinical data supporting benefits of lower variability, and the use of healthy donor material may create separate variability challenges for us. Moreover, our product candidates may not perform successfully in clinical trials or may be associated with serious adverse events ("SAEs") that distinguish them from the autologous anti-CD19 and anti-BCMA CAR-T therapies that have previously been approved. For instance, allogeneic product candidates may result in GvHD, which is not experienced with autologous products. GvHD results when allogeneic T cells see the patient's normal tissue as foreign and attack and damage those cells. Even if we collect promising initial clinical data for our product candidates, longer-term data may reveal adverse events or responses that are not durable. Negative clinical outcomes would significantly impact our business.

In addition, approved autologous CAR-T therapies and those under development have shown frequent rates of cytokine release syndrome, neurotoxicity, serious infections, prolonged cytopenia, hypogammaglobulinemia, and other SAEs that have resulted in patient death. There may be similar adverse events for our allogeneic CAR-T cell therapy product candidates, including patient death. Moreover, patients eligible for allogeneic CAR-T cell therapies but ineligible for autologous CAR-T cell therapies due to aggressive cancer or an inability to wait for autologous CAR-T cell therapies may be at greater risk for complications and death from therapy. Our allogeneic CAR-T cell product candidates may also cause unique adverse events related to the differences between the donor and patients, such as GvHD or infusion reactions. Our product candidates may not be successful in limiting the risk of GvHD, exhaustion of the CAR-T cells, or premature rejection by a patient's immune system. If significant GvHD or other SAEs are observed with the administration of our product candidates, or if any of our product candidates are viewed as less safe or effective than autologous therapies or other allogeneic therapies, our ability to develop other allogeneic therapies may be adversely affected.

We use our CRISPR chRDNA genome-editing platform to generate our product candidates, and we believe our chRDNA guides significantly improve the specificity of CRISPR genome editing (e.g., by reducing the number of off-target events). CRISPR genome editing generally is relatively new; to date, only one cell therapy product using CRISPR-Cas9 genome editing has been approved in the United States although clinical trials of additional product candidates based on CRISPR-Cas9 and other genome-editing technologies are underway. As a result, the regulatory approval process for cell

therapy product candidates such as ours is uncertain and may be more expensive and take longer than the approval process for product candidates based on better known or more extensively studied technologies. As such, it is difficult to accurately predict the developmental challenges we may face as we progress our product candidates through preclinical studies and clinical trials. There may be long-term adverse effects from treatment with our product candidates resulting from the use of our chRDNA genome-editing technologies that we cannot predict with the knowledge we have today. Also, animal models may not exist for some of the diseases we choose to pursue in our programs, which may complicate and increase the cost of preclinical research. As a result of these factors, it is difficult for us to predict the time and cost of our product candidate development, and we cannot predict whether the application of our chRDNA technologies, or other genome-editing technologies we may use in the future, will result in the identification, development, preclinical studies, and clinical trials to support regulatory approval of any of our cell therapy product candidates. There can be no assurance that any development problems we experience in the future related to our chRDNA technologies or any of our research programs will not cause significant delays or unanticipated costs, or that such development problems can be solved. We may not achieve the desired safety and efficacy of our product candidates. Also, we may not sufficiently improve genome-editing specificity and our genome editing may have off-target events. Moreover, we may not be able to achieve a high degree of on-target gene knockout and insertion efficiency in developing our product candidates. Any of these factors may prevent us from completing our clinical trials, delay or cause us to fail to meet our clinical trial endpoints, or lead us to fail to commercialize any of our cell therapy product candidates.

We may also experience delays in developing robust, reproducible, and scalable manufacturing processes and transferring those processes to CMOs, which may prevent us from completing our clinical trials or commercializing our products on a timely or profitable basis, if at all. Currently, we have only manufactured our CAR-T cell therapy product candidates for clinical trials. In addition, since we are in the early stages of clinical development, we do not know the doses to be used in later phase 2 or pivotal phase 3 clinical trials necessary to evaluate the efficacy of our product candidates, which will affect the manufacturing requirements for our product candidates. Finding a suitable dose, such as a MTD or, as applicable, a RP2D, for our cell therapy product candidates may delay our anticipated clinical development timelines and prolong our clinical trials. Accordingly, our expectations regarding our costs of manufacturing may vary significantly as we develop our product candidates and understand these critical factors. Such factors may delay or keep us from bringing a product candidate to market and could decrease our ability to generate sufficient product revenue, which could harm our business, financial condition, results of operations, and prospects.

Manufacturing our product candidates is complex and we could experience manufacturing problems during our clinical trials, which could delay or limit commercialization of our product candidates.

The manufacturing processes used to produce our cell therapy product candidates are and will be complex, as our product candidates are new products. Several factors could cause production interruptions including facility contaminations; shortages or quality problems; contamination of healthy donor cells, chRDNA guides, Cas9 and Cas12a proteins, viruses, iPSC master cell banks or working cell banks; natural disasters, including pandemics and other public health crises; labor shortages and strikes; lack of experienced scientific, quality control, and manufacturing personnel; human error; or other disruptions in the operations of our suppliers and CMOs. We conduct process development activities at our facilities and we may experience personnel and supply shortages. Problems with our manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims, or insufficient inventory. We may encounter problems achieving adequate quantities and quality of clinical grade materials that meet FDA or other applicable standards or specifications with consistent and acceptable production yields and costs.

As our product candidates proceed through preclinical studies to clinical trials to regulatory review, and potential marketing approval and commercialization, it is common that various aspects of our manufacturing methods will be altered along the way to optimize processes and results. Such changes carry the risk that intended objectives will not be achieved. If we make any such changes, our product candidates could perform differently and affect the results of clinical trials conducted with the altered materials. Such changes may also require additional testing as well as notification to or approval from the FDA or other regulatory authorities, which could delay completion of our clinical trials, require bridging clinical trials, require repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates, if any, and ultimately jeopardize commercialization.

If we receive marketing approval for a product candidate, the FDA and other regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA or other regulatory authorities may require that we not distribute a lot until the relevant agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls.

Problems in our manufacturing processes could restrict our ability to meet market demand for our products. All these factors could be costly to us and otherwise harm our business, financial condition, results of operations, and prospects.

Our business is highly dependent on the success of our product candidates, which will require significant additional human clinical trials before we can seek regulatory approval and potentially commercialize our product candidates. If we are unable to advance our clinical trials and obtain regulatory approval for, and successfully commercialize, our product candidates for the treatment of patients in approved indications, or if we are substantially delayed in doing so, our business will be materially harmed.

Our business and future success depends on our ability to advance our product candidates through preclinical studies and clinical trials, obtain regulatory approval for, and successfully commercialize, our product candidates. The failure of our product candidates in clinical trials, or the failure of other companies' allogeneic anti-CD19 CAR-T and allogeneic anti-BCMA CAR-T cell therapies, including for reasons due to safety, efficacy, or the durability of response, may impede our ability to develop our CAR-T cell therapy programs and product candidates and may significantly influence physicians' and regulatory authorities' opinions with regard to the viability of our entire pipeline of allogeneic cell therapies. In order to submit IND applications for our other product candidates, we will need to complete many objectives, such as our preclinical research of product candidates still in discovery and advancement of cGMP conditions for our product candidates. If we are unable to achieve any of these objectives, we may not be able to submit other IND applications in a timely manner or at all, which would significantly harm our business.

We may not be successful in our efforts to identify and successfully research and develop additional product candidates and may expend our limited resources to pursue particular product candidates or indications while failing to capitalize on other product candidates or indications that may be more profitable, or for which there is a greater likelihood of commercial success.

Part of our business strategy involves identifying and developing new cell therapy product candidates. The process by which we identify product candidates may fail to yield successful product candidates for a number of reasons, including:

- we may not be able to assemble sufficient resources to identify or acquire additional product candidates;
- competitors may develop alternative therapies that render new product candidates obsolete or less attractive;
- product candidates we develop or acquire may be covered by third-party intellectual property rights;
- new product candidates may, on further study, be shown to have adverse side effects, toxicities, or other characteristics that indicate that they are unlikely to receive marketing approval or achieve market acceptance;
- new product candidates may not be safe or effective;
- the market for a new product candidate may change so that the continued development of that product candidate is no longer reasonable; and
- we may not be able to produce new product candidates in commercial quantities at an acceptable cost, or at all.

We have limited financial and managerial resources. We are focused initially on allogeneic CAR-T cell therapies and, as a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and future product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements when it would have been more advantageous for us to retain sole development and commercialization rights to that product candidate.

If we experience delays or difficulties enrolling patients in the clinical trials for our product candidates, our ability to advance our product candidates through clinical development and the regulatory process could be delayed or prevented.

The timely completion of clinical trials depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. We may encounter delays in enrolling or be unable to enroll a sufficient number of patients to complete any of our clinical trials and, even if patients are enrolled, they may withdraw from our clinical trials before completion. For our current clinical trials, we have entered into contracts with CROs, as well as clinical trial agreements with the sites participating in our clinical trials. Patient selection and enrollment may be

challenging; additionally, the protocols for our ongoing clinical trials specifically exclude patients with certain prior treatments as well as other conditions. Additionally, even after the FDA clears an IND for one of our product candidates, our clinical trials may not commence immediately if we are negotiating clinical trial agreements with clinical sites, conducting site initiation visits, or waiting for the sites to receive IRB approval. Due to competition from other clinical trials within the same therapeutic area at clinical sites, particularly with autoimmune diseases, sites may drop out or take longer to start up and enroll trials. Thus, we may not treat the first patient in a clinical trials for several months, or even for a year, after IND clearance.

Our current and future clinical trials, will compete for enrollment of patients with other clinical trials for product candidates that are in the same cell therapeutic areas with the same or similar study populations as our product candidates. Our clinical trials will also compete for enrollment of patients with other clinical trials for product candidates based on non-cellular modalities, such as small molecules and antibodies, that are intended for the same or similar study populations as our product candidates. This competition will reduce the number and types of patients available to us because some patients who might opt to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Additionally, since the number of qualified and experienced clinical investigators for therapeutic areas is limited, some of our clinical trial sites may be also conducting clinical trials for some of our competitors, which may reduce the number of patients who are available for our clinical trials at that clinical trial site. Moreover, because our product candidates represent a departure from more commonly used methods for cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy, HSC transplantation, or autologous CAR-T cell therapies, rather than refer patients to our clinical trials. Because our cell therapy product candidates are edited with CRISPR chRDNA guides, our products may be perceived to have additional or greater safety risks. Patients eligible for allogeneic CAR-T cell therapies but ineligible for autologous CAR-T cell therapies may be difficult to treat due to advanced and aggressive cancers and may fail to experience improved outcomes and be at greater risk for complications and death from our product candidates. If patients are unwilling to participate in our cell therapy trials, the timeline for recruiting patients, conducting clinical trials, and obtaining regulatory approval of any of our product candidates may be delayed.

In addition, the enrollment of patients depends on many factors, including:

- severity or stage of the type of cancer under investigation;
- size of the patient population and process for identifying patients;
- design of the clinical trial protocol;
- regulatory hold on clinical trial recruitment because of unexpected safety events;
- availability of eligible prospective patients who are otherwise eligible patients for competitive clinical trials;
- availability and efficacy of approved alternative treatments for the disease under investigation;
- ability to obtain and maintain patient consent;
- risk that enrolled patients will drop out before completion of the trial;
- eligibility and exclusion criteria for the trial in question;
- perceived risks and benefits of our product candidates;
- perceived risks and benefits of genome-editing and cell therapies;
- perceived risks and benefits of participating in a clinical trial;
- efforts by clinical sites and investigators to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- proximity and availability of clinical trial sites for prospective patients; and
- interruptions, delays, or staffing shortages resulting from pandemics or other public health crises.

Enrollment delays in our clinical trials may result in increased development costs for any product candidates we may develop, which may cause our stock price to decline and limit our ability to obtain additional financing. If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit, or terminate our current clinical trials, or future clinical trials, and postpone or forgo seeking marketing approval, any of which would have an adverse effect on our business, financial condition, results of operations, and prospects.

Clinical trials are expensive, time-consuming, and subject to uncertainty. Our clinical trials may not be conducted as planned or completed on schedule, if at all completed. Issues may arise that could suspend or terminate our clinical trials. A failure of one or more of our clinical trials may occur at any stage of testing, and our future clinical trials may not be successful.

Events that may prevent successful or timely completion of clinical development include:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials;
- delays or failure to obtain regulatory clearance to initiate our clinical trials, as well as delays or failures to obtain any necessary approvals by the clinical sites;
- delays, suspension, or termination of our clinical trials by the clinical sites;
- modification of clinical trial protocols;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites, as well as possible future breaches of such agreements;
- failure to manufacture sufficient quantities of our product candidates for use in our clinical trials;
- failure by CMOs, suppliers, CROs, or clinical trial sites to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- imposition of a temporary or permanent clinical hold by us, IRBs for the institutions at which such trials are being conducted, or by the FDA or other regulatory authorities for safety or other reasons, such as a result of a new safety finding in a clinical trial on a similar product by one of our competitors, that presents unreasonable risk to clinical trial participants;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which we developed our clinical development plan, which may require new or additional trials;
- the cost of clinical trials of our product candidates being greater than we anticipated;
- insufficient funding to continue clinical trials with our product candidates;
- the emergence of unforeseen safety issues or undesirable side effects;
- clinical trials of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials or abandon development of our product candidates;
- inability to establish clinical trial endpoints that applicable regulatory authorities consider clinically meaningful, or, if we seek accelerated approval, that applicable regulatory authorities consider likely to predict clinical benefit;
- regulators withdrawing their approval of a product or imposing restrictions on its distribution; and
- interruptions, delays, or staffing shortages resulting from pandemics or other public health crises.

If (i) we are required to extend the duration of any clinical trials or to conduct additional preclinical studies or clinical trials or other testing of our product candidates beyond those that we currently contemplate; (ii) we are unable to successfully complete preclinical studies or clinical trials of our product candidates or other testing; (iii) the results of these

trials, studies, or tests are negative or produce inconclusive results; (iv) there are safety concerns; or (v) we determine that the observed safety or efficacy profile would not be competitive in the marketplace, we may:

- abandon the development of one or more product candidates;
- 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 jurisdictions and not in others;
- obtain marketing approval for indications or patient populations that are not as broad as we intended or designed;
- obtain marketing approval with labeling that includes significant use restrictions or safety warnings, including black box warnings;
- be subject to additional post-marketing requirements; or
- have regulatory agencies remove the product from the market or we voluntarily withdraw the product from the market after obtaining marketing approval.

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

Our product candidates are in various stages of preclinical and clinical development. If we encounter safety or efficacy problems in our ongoing or future studies, our developmental plans and business could be materially harmed. Product candidates in later stages of clinical trials may fail to show the desired safety profiles and efficacy results despite having progressed through initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Based upon negative or inconclusive results, we may decide, or regulatory agencies may require us, to conduct additional clinical trials or preclinical studies. Although we recently incorporated partial HLA matching in our ANTLER and GALLOP phase 1 clinical trials, after a retrospective analysis of all patient data in our ANTLER phase 1 trial demonstrated that patients who received a dose of CB-010 manufactured from a donor with at least four matching HLA alleles with the patient resulted in improved PFS compared to patients who received a single dose of CB-010 from a donor with fewer than four matching HLA alleles, there can be no assurances that partial HLA matching will increase efficacy and/or durability and there may be other donor characteristics that prove to be more relevant.

In addition, data obtained from clinical trials are susceptible to varying interpretations, and regulatory agencies may not interpret our data as favorably as we do, which may delay, limit, or prevent regulatory approval.

In addition, the design of a clinical trial can determine whether its results will support approval of our product candidates, and flaws in the design of a clinical trial may not be apparent until the clinical trial is well advanced. We have limited experience designing clinical trials and may be unable to design and execute a clinical trial that will support regulatory approval.

From time to time, we may publish initial, interim, or preliminary data from our clinical trials. Initial, interim, or preliminary data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially and adversely change as patient enrollment continues, and additional and long-term patient data become available, including data respect to efficacy, duration of response, and/or safety. Additional clinical data may not support or may contradict the findings of the initial, interim, or preliminary data reported earlier. Initial, interim, or preliminary clinical trial data may be based on a limited number of patients and are subject to the risk that they will not ultimately be predictive of the safety and/or efficacy of the final product candidate. 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 evaluate all data at the time of publishing initial, interim, or preliminary data. These data also remain subject to audit and verification procedures that may result in the final data being materially different from the data we previously published. The information that we choose to disclose publicly regarding preclinical studies or clinical trials is typically a summary of extensive information, and others may not agree with what we determine is 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 candidate or our product candidates generally. As

a result, initial, interim, and preliminary data should be viewed with caution until the final data are available. Moreover, initial, interim, and preliminary data are subject to the risk that one or more of the clinical outcomes may materially and adversely change as more patient data become available when patients mature on study, dose levels change, patient enrollment continues, or, for final data, as other ongoing or future clinical trials with a product candidate further develop. Past results of clinical trials may not be predictive of future results. Unfavorable differences between initial, interim, or preliminary data and final data could significantly harm our business prospects and may cause the trading price of our common stock to decline significantly.

Because of these risks, our product candidates may fail or encounter difficulties in clinical trials. If we are unable to advance our product candidates through clinical trials to seek marketing approval, our business, financial condition, results of operations, and prospects will be materially harmed.

If our product candidates cause serious adverse events or undesirable side effects, including injury and death, or have other properties that could delay or prevent regulatory approval, they would have limited or no commercial potential.

Product candidates we develop may be associated with undesirable or unacceptable side effects, unexpected characteristics, or other SAEs, including death. Immunotherapy, and its method of action of harnessing the immune system, is powerful and could lead to serious side effects that we only discover in clinical trials. In addition to potential SAEs from the immune system or side effects caused by our product candidates currently in clinical trials, or any product candidate we may develop and advance into one or more clinical trials, the product candidate administration process and related procedures may also cause undesirable side effects. Patients who enroll in our current clinical trial undergo a lymphodepletion regimen, including administration of fludarabine and cyclophosphamide, which can lead to SAEs. Because these regimens will cause a transient and sometimes prolonged blood count suppression, patients have an increased risk of leukopenia, anemia, thrombocytopenia bleeding, or infection, which could ultimately lead to death. Although we educate clinical site personnel administering our cell therapy product candidates to understand the side effect profiles for our product candidates, inadequate recognition or management of the potential side effects of our product candidates could result in patient injury or death. If any undesirable or unacceptable side effects, unexpected characteristics, or other SAEs occur, our clinical trials could be suspended or terminated, and our business and reputation could suffer substantial harm.

There can be no assurance that we will resolve any adverse event related to any of our products to the satisfaction of the FDA or any regulatory agency in a timely manner or at all. If we are unable to demonstrate that such adverse events were caused by factors other than our product candidates, the FDA or other regulatory authorities could order us to cease further clinical trials of, or deny approval of, our product candidates. Even if we demonstrate that such SAEs are not product candidate-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete our clinical trials. Moreover, if we elect, or are required, to delay, suspend, or terminate any clinical trial of any of our product candidates, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from these product candidates may be delayed or eliminated. Any of these occurrences may harm our business, financial condition, results of operations, and prospects.

The FDA or other regulatory agencies may disagree with our regulatory plans and we may fail to obtain regulatory approval of our cell therapy product candidates.

If and when each of our phase 1 clinical trials for our CAR-T product candidates is completed and, assuming positive data, we will propose to the FDA that such product candidate advance to a pivotal phase 3 clinical trial. Although the FDA has found substantial evidence to support approval outside of the traditional phase 1, phase 2, and phase 3 framework for the approved autologous anti-CD19 and anti-BCMA CAR-T cell therapies, the general approach for FDA approval of a new biologic is for the sponsor to provide dispositive data from at least two adequate and well-controlled clinical trials of the relevant biologic in the applicable patient population. Such clinical trials typically involve hundreds of patients, have significant costs, and take years to complete. We do not have agreement or guidance from the FDA that our regulatory development plans will be sufficient for submission of a BLA. In the event that the FDA requires us to conduct clinical trials with more patients than planned or to add additional clinical trials for our product candidates or to compare our product candidates against certain approved therapies, we may not have the funding to enlarge or conduct such trials and we may not be able to raise sufficient funding to do so, which could delay or prevent commercialization of our product candidates.

In addition, the standard of care may change with the approval of new products in the same indications to which our cell therapy product candidates are directed. This may result in the FDA or other regulatory authorities requesting additional studies to show that our product candidate is comparable or superior to the new products.

Our clinical trial results may also not support marketing approval. In addition, our product candidates could fail to receive regulatory approval for many reasons, including:

- the FDA or other regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or other regulatory authorities that our product candidates are safe and effective for their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or other regulatory authorities for approval, including due to heterogeneity of patient populations;
- we may be unable to demonstrate that the clinical and other benefits of our product candidates outweigh the safety risks;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or other regulatory authorities to support the submission of a BLA or a similar filing in a foreign jurisdiction or to support commercial reimbursement or reimbursement under publicly-funded health systems;
- new information or data indicating safety concerns with CAR-T cell therapies may result in the FDA or other regulatory authorities declining to approve or requiring additional clinical data for our product candidates;
- the FDA or other authorities will review our manufacturing processes and inspect our CMOs' facilities and may not approve our manufacturing processes or CMOs' facilities; and
- the approval policies or regulations of the FDA or other regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Even if we comply with all FDA requests, we may still fail to obtain regulatory approval. We cannot be sure that we will ever obtain regulatory clearance for our product candidates. Failure to obtain FDA approval of our product candidates will severely undermine our business by leaving us without a commercially marketable product in the United States, and therefore without any source of revenues from product sales in the United States, until another product candidate can be developed or obtained and ultimately approved.

In June 2024, in *Loper Bright Enterprises v. Raimondo*, U.S. Supreme Court overruled the 1984 *Chevron USA v. National Resources Defense Council* doctrine, which gave deference to regulatory agencies' statutory interpretations in litigation against federal government agencies, such as the FDA, where the law is ambiguous. This landmark *Loper* decision may invite various stakeholders to bring lawsuits against the FDA to challenge longstanding decisions and policies of the FDA, including the FDA's statutory interpretations of market exclusivities and the "substantial evidence" requirements for drug approvals, which could undermine the FDA's authority, lead to uncertainty in the industry, and disrupt the FDA's normal operations. Furthermore, there is substantial uncertainty as to how, if at all, the new Administration will seek to modify or revise the requirements and policies of the FDA and other regulatory agencies with jurisdiction over our product candidates. We are reliant on regulators having the resources necessary to evaluate and approve our product candidates. In the United States, a partial federal government shutdown halted the work of many federal agencies and their employees from late December 2018 through late January 2019. A subsequent extended shutdown or, pursuant to the new Administration's actions in early 2025 to freeze or reduce the federal workforce, significant reductions of, or disruptions to, staffing and resources available to government agencies could result in reductions or delays of FDA's activities, including with respect to our ongoing clinical trials, the manufacturing of our product candidates, and regulatory approvals for our product candidates. There is currently substantial volatility and uncertainty surrounding the role and activities of federal regulatory agencies and their future, including potential workforce reductions. Although it is impossible to predict what governmental changes may occur, the impending uncertainty could present new challenges or potential opportunities as we navigate the clinical development and approval process for our product candidates. Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of our products.

Even if we complete the necessary preclinical studies and clinical trials, the regulatory approval process is expensive, time-consuming, and uncertain, and we may be unable to obtain the regulatory approvals necessary for the commercialization of our product candidates; furthermore, if there are delays in obtaining regulatory approvals, we

may not be able to commercialize our products, may lose competitive lead time, and our ability to generate revenues will be materially impaired.

The process of obtaining marketing approvals, both in the United States and in other jurisdictions, is expensive, may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. It is impossible to predict if or when any of our product candidates will prove to be safe and effective in humans or if we will receive regulatory approval for such product candidates. The risk of failure through the development process is high. Any product candidates we may develop, and the activities associated with their development and commercialization, including their manufacture, preclinical and clinical development, safety, efficacy, recordkeeping, labeling, storage, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities.

Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval or authorization to market any product candidates from regulatory authorities in any jurisdiction and it is possible that none of our product candidates or any product candidates we may seek to develop in the future will ever obtain marketing approval or commercialization. We have not previously submitted a BLA to the FDA or made a similar submission to any foreign regulatory authority. A BLA must include extensive preclinical and clinical data and supporting information to establish our product candidate's safety and efficacy for each desired indication. The BLA must also include significant information regarding the chemistry, manufacturing, and controls for our product. Any product candidates we develop may not be effective; may be only moderately effective; or may prove to have undesirable or unintended side effects, toxicities, or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. The FDA and other regulatory authorities have substantial discretion in the approval process and may refuse to accept our BLA applications and decide that our data are insufficient and require additional preclinical studies or clinical trials. The same may happen with review of our product candidates by foreign regulatory authorities. In addition, varying interpretations of the data obtained from preclinical studies and clinical trials could delay, limit, or prevent marketing approval of our product candidates. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render our approved product not commercially viable. If we experience delays in obtaining approval or if we fail to obtain approval of any product candidates we may develop, the commercial prospects for those product candidates and our ability to generate revenues will be materially impaired and we may lose competitive lead time as similar products enter the market.

We expect the innovative nature of our product candidates to create further challenges in obtaining regulatory approval. For example, the FDA has limited experience with the development of allogeneic T cell cell therapies for cancer and other diseases. We may also request regulatory approval of future CAR-T cell therapy product candidates by target, regardless of cancer type or origin, which the FDA may have difficulty accepting if our clinical trials have only involved cancers of certain types or origins. 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. The opinion of an Advisory Committee, although not binding, may have a significant impact on our ability to obtain marketing approval of our product candidates based on our completed clinical trials, as the FDA often adheres to an Advisory Committee's recommendations. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive, and lengthy, and approval may not be obtained.

The regulatory landscape that will govern our product candidates is uncertain; regulations relating to more established gene therapy and 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 CAR-T cell therapy product candidates that are unique biological entities, the regulatory requirements to which we will be subject are not entirely clear. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. For example, regulatory requirements governing gene therapy products and cell therapy products have changed frequently and may continue to change in the future. Moreover, there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of existing gene therapy products and cell therapy products. Gene therapy clinical trials are also subject to additional review and oversight by an IBC. Although the FDA decides whether individual gene therapy protocols may proceed, review processes and determinations of other reviewing bodies can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the study and cleared its initiation. Conversely, the FDA can place an IND application on clinical hold even if such other entities have provided a favorable review. In addition, regulatory agencies, including the FDA, develop and issue guidance documents with which we, in practice, must comply, even if the agencies state that the documents only represent the current thinking of the agencies and are not binding. These documents may provide

additional guidance and recommendations regarding the testing, design, development, and manufacturing of cell therapy products. Failure to comply with such regulatory agency guidance could delay or prevent regulatory approval of our product candidates. The content of such guidance documents may change in the future, which could add to the cost, time, and resources that are required for completion of our preclinical studies, clinical trials, or regulatory approvals.

There is substantial uncertainty regarding the new Administration's initiatives and how these might impact the FDA, its implementation of laws, regulations, policies, and guidance, and its personnel. Similar initiatives may also be directed toward other government agencies. These initiatives could prevent, limit, or delay development and regulatory approval of our product candidates, which would adversely affect our business.

As a result of efforts under the new Administration, FDA-regulated industries, such as ours, face substantial uncertainty with regard to the regulatory environment we will face as we proceed with research and development, and, if our product candidates receive regulatory approval, during future commercialization. Some of these efforts have manifested to date in the form of workforce reduction measures that could impact the FDA's ability to hire and retain key personnel, which could result in delays or limitations on our ability to obtain guidance from the FDA on our product candidates in development and obtain the requisite regulatory approvals in the future. Moreover, the new Administration has proposed action to freeze or reduce the budget of the National Institutes of Health ("NIH") related to funding for medical research, which could negatively impact the ability of facilities that rely on NIH funding to enroll and conduct clinical trials or could increase the costs to us of conducting clinical trials on our product candidates.

There remains general uncertainty regarding other government agencies under the new Administration, such as the SEC, USPTO, DOJ, Federal Trade Commission ("FTC"), and Internal Revenue Service ("IRS"), among others. The new Administration could issue or promulgate executive orders, regulations, policies, or guidance that adversely affect us or create a more challenging or costly environment to conduct business and to pursue the development of our product candidates and research programs. We could be negatively impacted by future governmental orders, regulations, policies, or guidance of the new Administration, which could have a material adverse effect on us and our business. Additionally, court challenges to the new Administration's changes may delay certainty around such executive orders, regulations, policies, guidance, and workforce reductions, and different courts may issue conflicting rulings.

If we are required by the FDA to obtain approval of a companion diagnostic in connection with approval of any of our product candidates, and we do not obtain, or face delays in obtaining, FDA approval of the companion diagnostic, we will not be able to commercialize our product candidates.

According to FDA guidance, if the FDA determines that a companion diagnostic is essential to the safe and effective use of a therapeutic product or new product indication, the FDA generally will not approve the therapeutic product or new therapeutic product indication if the companion diagnostic is not also approved or cleared for that indication. Depending on the data from our clinical trials, we may decide to use a diagnostic for our clinical trial enrollment process to help identify patients with characteristics that we believe will be most likely to benefit from our product candidates. If a satisfactory companion diagnostic is not commercially available in this situation, we may be required to develop or obtain the rights to such diagnostic, which would be subject to regulatory approval requirements. The process of obtaining or developing such a diagnostic is time consuming and costly and we may not be able to either develop such a diagnostic or receive appropriate and timely regulatory approval. Furthermore, the classification, approval, or clearance of a companion diagnostic as part of the therapeutic product's further labeling limits the use of the therapeutic product to only those patients who fit the criteria and indications that are reviewed and authorized by FDA.

We may not receive additional priority review, such as RMAT designation, breakthrough therapy designation, or fast track designation, by the FDA for our allogeneic CAR-T cell therapies.

We may continue to apply for certain expedited programs in the United States, such as RMAT, breakthrough therapy, fast track, or priority review programs. The FDA granted RMAT designation for our CB-010 product candidate for r/r LBCL as well as fast track designation for r/r B-NHL and SLE. Additionally, the FDA granted fast track designation for our CB-011 product candidate in r/r MM and our CB-012 product candidate in r/r AML. Although obtaining each of these designations has specific and different criteria, they are reserved for therapeutic products that are intended for serious diseases, and each designation offers certain benefits to prioritize the review and approval of such therapeutic option, which may include rolling reviews, intensive guidance, or approval based on surrogate endpoint or an intermediate clinical endpoint that is reasonably likely to predict a drug's clinical benefit. However, there is no assurance that we will be able to obtain such designations in the future and, even with expedited designation, we may ultimately fail to obtain FDA's full approval for our product candidates, or the approved indication may be narrower than the indication covered by the designation.

We may continue to seek orphan drug designation for our allogeneic CAR-T cell therapy product candidates across various indications, but we may not be able 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.

We may submit applications to FDA for additional orphan drug designation for our allogeneic CAR-T cell therapy product candidates in specific orphan indications in which there is a medically plausible basis for the use of these products. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is intended to treat a rare disease or condition, defined as a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States.

Although we received orphan drug designation from the FDA for our CB-010 product candidate in FL, for our CB-011 product candidate in the treatment of r/r MM, and for our CB-012 product candidate in the treatment of r/r AML, we may not be able to obtain additional designations for other indications or for our other product candidates as the FDA may decline future requests if it determines that our product candidates and the proposed indications do not meet the threshold for the orphan drug designation. Even if we obtain additional orphan drug designations, we may not be the first company to obtain FDA approval for the orphan drug indication, in which case exclusive marketing rights would not be available to us. In addition, 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, we are unable to ensure 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.

In addition, there remains some uncertainty regarding the legal and regulatory framework for orphan drug exclusivity. In September 2021, the U.S. Court of Appeals for the Eleventh Circuit agreed with a pharmaceutical company's position that once an orphan drug is approved for a disease or condition, the FDA may not approve another drug for the same disease or condition, even if for different uses or indications that the FDA has not approved. However, in January 2023, the FDA stated that it will continue to tie the applicability of the orphan drug exclusivity to the specific uses or indications, rather than diseases or conditions, despite the loss. Thus, any future orphan drug exclusivity may be blocked if another company receives approval before us for an indication for a disease or a condition, even if our orphan drug designation was for a different indication.

Our allogeneic CAR-T cell therapy product candidates will be regulated as biological products, or biologics, and therefore may be subject to uncertainty regarding regulatory exclusivity or maintaining regulatory approval.

Under the BPCIA, the FDA has the authority to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an approved biologic. An application for a biosimilar product cannot be approved by the FDA until 12 years after the reference product was approved under a BLA. We believe that our product candidates should qualify for the 12-year period of exclusivity. However, some uncertainty over interpretation of the law remains, and there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for biosimilar 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 drug products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. In addition, critics of the 12-year exclusivity period in the biosimilar pathway law may continue to seek to shorten the data exclusivity period and/or to encourage the FDA to interpret narrowly the law's provisions regarding which new products receive data exclusivity. Also, the FDA is considering whether subsequent changes to a licensed biologic would be protected by the remainder of the reference product's original 12-year exclusivity period (a concept known in the generic drug context as "umbrella exclusivity"). If the FDA were to decide that umbrella exclusivity does not apply to biological reference products or were to make other changes to the exclusivity period, this could expose us to biosimilar competition at an earlier time. There also have been, and may continue to be, legislative and regulatory efforts to promote competition through policies enabling easier generic and biosimilar approval and commercialization, including efforts to lower standards for demonstrating biosimilarity or interchangeability, eliminate the standard for interchangeability and declare by law that all biosimilars are de facto interchangeable with their reference products, limit patents that may be litigated and/or patent settlements, implement preferential reimbursement policies for biosimilars, and pass new laws requiring more disclosure in the FDA's Purple Book.

Even if we obtain marketing approvals for our product candidates, the terms of such approvals and ongoing regulation of our products could require substantial expenditure of resources and may limit how we manufacture and market our products, which could materially impair our ability to generate revenues. Any product candidate for which we obtain marketing approval could be subject to restrictions or withdrawal from the market, and we may be subject to

substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.

Even if we receive marketing approval for a product candidate, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval or contain requirements for costly post-marketing testing and studies to further assess the safety or efficacy of the product. The FDA also may place other conditions on our approval, including the requirement for a REMS to ensure the safe use of the product by reinforcing medication use behaviors and actions. If the FDA concludes a REMS is needed, we must submit a proposed REMS before our product candidate will be eligible to receive marketing approval. A REMS could include medication guides, physician communication plans, or other elements to ensure safe use, such as restricted distribution methods, patient registries, and other risk minimization tools. Certain REMS programs can significantly impact and restrict the marketability of our products, even if our products are approved.

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit, or delay regulatory approval of our product candidates. If we are slow to address or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects, and ability to achieve or sustain profitability. Any government investigation of alleged violations of law, including investigations of any of our suppliers or CMOs, could require us to expend significant time and resources in response and could generate negative publicity. Accordingly, we will need to continue to expend time, money, and effort on regulatory compliance activities. If we are not able to comply with post-approval regulatory requirements, we could have the marketing approval for our products withdrawn by regulatory authorities and our ability to market any product candidates could be limited, which could adversely affect our ability to achieve or sustain profitability. Furthermore, the cost of compliance with post-approval regulations, including REMS, may have a negative effect on our business, financial condition, results of operations, and prospects.

The FDA and other regulatory authorities closely regulate the post-approval marketing and promotion of biologics to ensure that they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and other regulatory authorities impose stringent restrictions on off-label promotion, and if we market our products for unapproved indications, including off-label indications, we may be subject to enforcement action for off-label marketing by the FDA and other federal and state enforcement agencies, including the DOJ. Violation of the FDCA and other statutes, including the federal False Claims Act, relating to the promotion and advertising of prescription products, may also lead to investigations or allegations of violations of federal and state healthcare fraud and abuse laws and state consumer protection laws.

In addition, later discovery of previously unknown problems with our products or the manufacturing of our products, may cause:

- restrictions on our products or the manufacturing of our products;
- restrictions on the labeling or marketing of our products;
- restrictions on the exportation, distribution, or use of our products;
- requirements to conduct post-marketing clinical trials;
- receipt of warning or untitled letters;
- withdrawal of our products from the market;
- refusal to approve pending BLAs or BLA supplements that we submit;
- recall of our products;
- fines, restitution, or disgorgement of profits or revenue;
- suspension or withdrawal of marketing approvals;
- suspension of any ongoing clinical trials;
- product seizure; and

- injunctions or the imposition of civil or criminal penalties.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity and adversely affect our reputation. The occurrence of any event or penalty described above may inhibit our ability to commercialize any product candidates we develop and adversely affect our business, financial condition, results of operations, and prospects.

We may never obtain approval to commercialize our product candidates outside the United States, which could limit our ability to recognize the full market potential of our product candidates and could materially impair our ability to generate revenues.

In order to market and sell any of our product candidates in the EU or other foreign jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and jurisdictions and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all the risks associated with obtaining FDA approval. In addition, in many countries, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other jurisdictions. The failure to obtain approval in one jurisdiction may negatively impact our ability to obtain approval elsewhere. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our product candidates in multiple jurisdictions, which could materially impair our ability to generate revenue.

Following the United Kingdom's exit from the EU in 2020 (commonly referred to as "Brexit"), the EU and United Kingdom entered into the EU-UK Trade and Cooperation Agreement, which was entered into force permanently on May 1, 2021. The agreement provides details on how some aspects of the United Kingdom and the EU's relationship regarding pharmaceutical products will operate; however, there are still many uncertainties. Since the regulatory framework in the United Kingdom covering pharmaceutical products is derived from EU directives and regulations, Brexit could materially impact the future regulatory requirements for product candidates and products in the United Kingdom as there is now potential for the UK regulations to diverge from the EU regulations. In the meantime, the Medicines and Healthcare products Regulatory Agency ("MHRA"), the medicines and medical devices regulator in the United Kingdom, has published detailed guidance for industry and organizations to follow as of January 1, 2021, which is updated as necessary. A number of new marketing authorization routes have been introduced post-Brexit under the UK Human Medicines Regulations 2012 (SI 2012/1916) to allow for quick recognition of products that are approved in the EU and to allow greater flexibility in the UK procedures (such as a "rolling review" that permits the submission of an application in modules). As of January 1, 2024, the MHRA is applying its new International Recognition Procedure ("IRP") to medicines approved in other jurisdictions (including by the FDA and EMA) that meet certain criteria to undergo a fast-tracked MHRA review to obtain and/or update a marketing authorization in the UK. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, may force us to restrict or delay efforts to seek regulatory approval in the United Kingdom for our product candidates, which could harm our business.

Negative public opinion and increased regulatory scrutiny of genetic research and therapies involving genome editing may damage public perception of our product candidates generated through genome editing or adversely affect our ability to conduct our business or obtain regulatory approvals for our product candidates.

The CRISPR chRDNA genome-editing technologies that we use are novel, and public perception may be influenced by claims that genome editing is unsafe, and therapeutic products generated through genome editing may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians specializing in our targeted diseases prescribing our product candidates, if approved for marketing, as treatments in lieu of, or in addition to, existing, more familiar treatments for which greater clinical data may be available. Any increase in negative perceptions of genome editing may result in fewer physicians prescribing our treatments or may reduce the willingness of patients to accept our products. In addition, given the nature of genome-edited and CAR-T cell therapies in general, governments may place import, export, or other restrictions in order to retain control or limit the use of such technologies. Increased negative public opinion or more restrictive government regulations, either in the United States or internationally, could have a negative effect on our business or financial condition and may delay or impair the commercialization of our product candidates or demand for such products.

In particular, genome-editing technology is subject to public debate and heightened regulatory scrutiny due to ethical concerns relating to the potential application of genome-editing technology to human embryos or the human germline. We do not apply genome-editing technologies to human embryos or the human germline. In April 2016, a group of scientists reported on their attempts to edit the genome of human embryos to modify the gene for hemoglobin beta. This is the gene in which a mutation occurs in patients with the inherited blood disorder beta thalassemia. Although this research was purposefully conducted in embryos that were not viable, the work prompted calls for a moratorium or other types of restrictions on genome editing of human eggs, sperm, and embryos. Additionally, in November 2018, a researcher at the Southern University of Science and Technology in Shenzhen, China, reportedly claimed they had created the first human genome-edited babies, which was subsequently confirmed by Chinese authorities and was negatively received by the public, in particular by those in the scientific community. In the wake of the claim, the World Health Organization established a new advisory committee to create global governance and oversight standards for human genome editing. In 2021, the advisory committee published literature that provides a framework and recommendations for human genome editing, including human germline genome editing, while advising that it is premature to proceed with clinical application of germline human genome editing. The Alliance for Regenerative Medicine in Washington, D.C. has called for a voluntary moratorium on the use of genome-editing technologies, including CRISPR, in research that involves altering human embryos or human germline cells and has also released a bioethical framework of principles for the use of genome editing in therapeutic applications endorsed by a number of companies that use genome-editing technologies. Similarly, the NIH has announced that it would not fund any use of genome-editing technologies in human embryos, noting that there are multiple existing legislative and regulatory prohibitions against such work, including the Dickey-Wicker Amendment, which prohibits the use of appropriated funds for the creation of human embryos for research purposes or for research in which human embryos are destroyed.

Although we do not use our CRISPR chRDNA genome-editing technologies to edit human embryos or the human germline, such public debate about the use of genome-editing technologies in human embryos and heightened regulatory scrutiny could prevent or delay our development of our product candidates and, if approved, the market acceptance of our products. More restrictive government regulations or negative public opinion would have a negative effect on our business or financial condition. Adverse events in our clinical trials or those of our competitors or of academic researchers utilizing genome-editing technologies, even if not ultimately attributable to product candidates we may identify and develop, and the resulting publicity, could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved, and a decrease in demand for any such product candidates.

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

To achieve commercial success for any approved product for which we retain sales and marketing responsibilities, we must develop and build a sales and marketing team or make arrangements with third parties to perform these services. There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time consuming and could delay our product launch. We will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train, and retain marketing and sales personnel. If the commercial launch of our product for which we have recruited a sales force and established marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses, which may be costly and our investment will be lost if we cannot retain or reposition our sales and marketing personnel.

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

- our inability to recruit, hire, train, and retain adequate numbers of effective sales, marketing, customer service, medical affairs, and other support personnel;
- our inability to equip sales personnel with effective materials, including sales literature, to help them educate physicians and other healthcare providers regarding our product candidates and their approved indications;
- our inability to effectively manage a geographically dispersed sales and marketing team;
- the inability of medical affairs personnel to negotiate arrangements for reimbursement and other acceptance by payors;

- the inability to price our products at a sufficient price point to ensure an adequate and attractive level of profitability; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we are unable or decide not to establish internal sales, marketing, and distribution capabilities, we will need to enter into arrangements with third parties to perform sales, marketing, and distribution services. In such cases, our product revenue or the profitability to us from these revenue streams is likely to be lower than if we were to market and sell any product candidates that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We likely will have little control over those third parties and they may fail to devote the necessary resources and attention to sell and market our product candidates effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we may not be successful in commercializing our product candidates, and our business, financial condition, results of operations, and prospects will be materially adversely affected.

Our products may not gain market acceptance among physicians, patients, hospitals, cancer treatment centers, and others in the medical community, which could significantly harm our business, financial condition, results of operations, and prospects.

The use of CAR-T as potential cancer treatments is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers, and others in the medical community. Ethical, social, and legal concerns about genome editing could result in the development of additional regulations restricting or prohibiting our products. Even with the requisite approvals from the FDA and other regulatory authorities internationally, the commercial success of our product candidates will depend, in significant part, on the acceptance of physicians, patients, and healthcare payors of products generated through genome editing in general, and our allogeneic CAR-T cell therapy product candidates in particular, as medically necessary, cost-effective, safe, and effective therapies. We expect physicians in the large bone marrow transplant centers to be particularly important to the market acceptance of our allogeneic CAR-T cell therapy product candidates and we may not be able to adequately educate them on the benefits and risks associated with the use of our product candidates to address concerns and foster acceptance, for many reasons. For example, certain of the product candidates that we may develop target a cell surface marker that may be present on cancer cells as well as non-cancerous cells. It is possible that our product candidates may kill these non-cancerous cells, which may result in unacceptable side effects, including death.

Additional factors will influence whether our product candidates are accepted in the market, including:

- the clinical indications for which our product candidates are approved;
- physicians, hospitals, cancer treatment centers, and patients considering our product candidates as safe and effective treatments;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the prevalence, identification, or severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities, including limitations or warnings contained in the product labeling;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment of our product candidates in relation to alternative treatments;
- the availability of coverage and adequate reimbursement by third-party payors and government authorities;
- the willingness of patients to pay out-of-pocket for our product candidates in the absence of coverage;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies;
- the effectiveness of our sales and marketing efforts; and
- potential product liability claims.

If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, 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 cell therapy products, genome-editing technologies, or other therapeutic approaches are introduced that are more favorably received than our products, are more cost effective, or render our products obsolete.

The market opportunities for our product candidates may be smaller than we currently believe and limited to those patients who are ineligible for or have failed prior treatment, which may adversely affect our business. Because the target patient populations of our product candidates are small, we must be able to successfully identify patients and capture a significant market share to achieve profitability and growth.

Our projections of both the number of patients who have the cancers we are targeting, as well as the subset of patients with these cancers in a position to receive second or later lines of therapy and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. New studies may change the estimated incidence or prevalence of these cancers. The number of eligible patients may turn out to be lower than we expected. Additionally, the potentially addressable patient population for our product candidates may be limited or may not be amenable to treatment with our product candidates. Given the small number of patients who have the eligibility criteria and diseases that we are or will be targeting, it is critical to our ability to become profitable that we successfully identify such patients. The effort to identify patients with diseases we seek to treat is in early stages, and we cannot accurately predict the number of patients for whom treatment might be possible. Additionally, the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our business, financial condition, results of operations, and prospects. Even if we obtain significant market share for our product candidates, because the potential target populations are small, we may never achieve profitability without obtaining regulatory approval for additional indications.

Even if we are able to commercialize our product candidates, such products may be subject to unfavorable pricing regulations, third-party reimbursement practices, or healthcare reform initiatives, which could harm our business.

The regulations that govern marketing approvals, pricing, and reimbursement for new biologic products vary widely from country to country. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some non-U.S. markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial marketing approval is granted. As a result, we might obtain marketing approval for our product candidates in a particular country, but then be subject to price regulations that delay our commercial launch of such product candidates, possibly for lengthy time periods, and such delays would negatively impact the revenues we are able to generate from the sale of our product candidates in that country. Pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if any product candidates we may develop obtain marketing approval.

Because our current product candidates represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from our product candidates. Significant uncertainty exists as to the coverage and reimbursement status of any of our products for which we obtain regulatory approval. Additionally, reimbursement coverage may be more limited than the indications for which our products are approved. The marketability of our products may suffer if government and other third-party payors fail to provide coverage and adequate reimbursement. Furthermore, 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 of our product candidates for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Moreover, eligibility for reimbursement does not imply that our product candidates will be paid for in all cases or at a rate that will cover our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of our product candidate and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost products, and may be incorporated into existing payments for other services. Net prices for our product candidates may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of products from countries where our product candidates may be sold at lower prices than in the United States.

Third-party payors, whether domestic or foreign, 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 healthcare systems that could impact our ability to sell our product candidates, if approved, profitably. There have been, and likely will continue to be, legislative and regulatory proposals at the federal and state levels directed at broadening the availability of, and containing or lowering the cost of, healthcare. The implementation of cost containment measures that third-party payors and healthcare providers are instituting and any other healthcare reforms may prevent us from being able to generate, or may reduce, our revenues from the sale of our product candidates, if approved, and our product candidates may not be profitable. Such reforms could have an adverse effect on anticipated revenue from product candidates for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates. Even if our product candidates are successful in clinical trials and receive marketing approval, we cannot provide any assurances that we will be able to obtain and maintain third-party payor coverage or adequate reimbursement for our product candidates in whole or in part.

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

The Affordable Care Act and Inflation Reduction Act brought significant changes to the way healthcare is financed by both the government and private insurers, and significantly impacted the U.S. pharmaceutical industry, including expanding the list of covered entities eligible to participate in the 340B drug pricing program and establishing a new Medicare Part D coverage gap discount program. We expect that these and other healthcare reform measures in the future, may result in more rigorous coverage criteria and lower reimbursement, and in addition, exert downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may hinder us in generating revenue, attaining profitability, or commercializing our cell therapy products once, and if, marketing approval is obtained.

In the EU, coverage and reimbursement status of any product candidates for which we obtain regulatory approval are provided for by the national laws of EU member states. The requirements may differ across the EU member states. In markets outside the United States and the EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings or other price controls on specific products and therapies.

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

We face significant competition from other biotechnology and pharmaceutical companies, which may result in other companies developing or commercializing products before, or more successfully than, we do, thus rendering our product candidates non-competitive or reducing the size of the market for our product candidates. Our operating results will suffer if we fail to compete effectively.

The biopharmaceutical industry, and the cell therapy and genome editing industries specifically, is characterized by intense competition and rapid innovation. Our potential competitors include major multi-national pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, and universities and other research institutions. Many of our competitors have substantially greater financial, technical, and other resources, such as larger research and development staffs, established manufacturing capabilities and facilities, clinical trial expertise, and marketing organizations with well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies that have greater resources. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated on our competitors. Competition may increase further as a result of advances in the commercial applicability of genome editing or other new technologies and greater availability of capital for investment in these industries. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient enrollment for participation in clinical trials, as well as in acquiring technologies complementary to, or necessary for, our development programs. In addition, due to the intense research and development taking place in the genome-editing field, including by us and our competitors, the intellectual property landscape is in flux and highly competitive. There may be significant intellectual property-related litigation and proceedings relating to our owned and in-licensed, and other third-party, intellectual property rights in the future. Our commercial opportunities 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 to administer, have broader acceptance and higher rates of reimbursement by third-party payors, or are less expensive than any product candidates that we may develop. Our competitors also may

obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, genome-editing technologies developed by our competitors may render our product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitor products. The key competitive factors affecting the success of our product candidates are likely to be their efficacy, safety, and availability of reimbursement.

Our focus is on the development of cell therapies using our chRDNA genome-editing technology. Our allogeneic CAR-T cell therapy product candidates face significant competition from multiple companies developing allogeneic cell therapies as well as developing and marketing autologous cell therapies. Autologous T cell therapies directed at CD19 have been commercialized by Novartis AG (Kymriah®), Kite Pharma, Inc., a Gilead Sciences, Inc. company (Yescarta®, Tecartus®), and Bristol-Myers Squibb Company (Breyanzi®) and are witnessing increased adoption in the marketplace. Autologous cell therapies directed at BCMA have been commercialized by 2seventy bio, Inc., with their partner Bristol-Myers Squibb Company, (Abecma®) and Legend Biotech Corporation with their partner, Janssen Biotech Inc., a Johnson & Johnson company, (Carvykti®). Both Abecma and Carvykti cell therapies have succeeded in pivotal trials in earlier lines of r/r MM and are expected to gain label extensions into this market.

There are numerous preclinical- and clinical-stage autologous and allogeneic anti-CD19 and anti-BCMA CAR-T programs and product candidates, some of which will be competitive with our CB-010 and CB-011 product candidates, respectively. Additionally, other companies are developing allogeneic CAR-T cell therapies for AML. Allogeneic T cell therapies are being developed by Allogene Therapeutics, Inc., Atara Biotherapeutics, Inc., AvenCell Therapuetics, Inc., Cellectis S.A., Celyad Oncology SA, CRISPR Therapeutics AG, Fate Therapeutics, Inc., Gracell Biotechnologies, an AstraZeneca PLC company, Imugene Limited, Kite Pharma, Inc.(a Gilead Sciences, Inc. company), Legend Biotech Corporation, March Biosciences, Inc., F. Hoffman-La Roche Ltd (through its acquisition of Poseida Therapeutics, Inc.), Sana Biotechnology, Inc., and Vor Biopharma Inc., among others. Autologous T cell therapies are being developed by a number of additional companies, including but not limited to, 2seventy bio, Inc., Adaptimmune Therapeutics PLC, Alaunos Therapeutics, Inc., Arcellx, Inc., Arsenal Biosciences, Inc., Astellas Pharma Inc. Autolus Therapeutics plc, AvenCell Therapeutics, Inc., Bristol-Myers Squibb Company, Cabaletta Bio, Inc., CARGO Therapeutics, Inc., Eureka Therapeutics, Inc., Gracell Biotechnologies Inc., (an AstraZeneca PLC company), Iovance Biotherapeutics, Inc., Janssen Biotech, Inc., Kite Pharma, Inc. (a Gilead Sciences, Inc. company), Kyverna Therapeutics, Inc., Legend Biotech Corporation, Lyell Immunopharma, Inc., March Biosciences, Inc., Miltenyi Biotec, Mustang Bio, Inc., Novartis AG, Precigen, Inc., Regeneron Pharmaceuticals, Inc. (through its acquisition of 2seventy bio, Inc. research pipeline), F. Hoffman-La Roche Ltd (through its acquisition of Poseida Therapeutics, Inc.), TCR² Therapeutics Inc., Triumvira Immunologics Inc., TScan Therapeutics, Inc., and Vor Biopharma Inc. Multiple biotechnology and pharmaceutical companies are developing other directly competitive technologies, such as small molecule, antibody, bi-specific antibody, and antibody-drug conjugates.

Several companies are also exploring the use of CAR-T cell therapies for the treatment of autoimmune diseases, often including against the same targets as in the oncology field (e.g., CD19, BCMA). Such autoimmune disorders include LN, SLE, pemphigus vulgaris, myasthenia gravis, and multiple sclerosis. These companies include, but are not limited to, BRL Medicine Inc., Fate Therapeutics, Inc., Kite Pharma, Inc. (a Gilead Sciences, Inc. company), Kyverna Therapeutics, Inc., Luminary Therapeutics, Inc., Nkarta, Inc., and Sana Biotechnology, Inc. in allogeneic cell therapies; and Atara Biotherapeutics, Inc., Autolus Therapeutics plc, Bristol-Myers Squibb Company, Cabaletta Bio, Inc., Cartesian Therapeutics, Inc., Century Therapeutics, Inc., iCell Gene Therapeutics Inc., JW (Cayman) Therapeutics, Co. Ltd, Kyverna Therapeutics, Inc., Lyell Immunopharma, Inc., and Novartis AG in autologous cell therapies. We also face competition from non-cell-based treatments for autoimmune diseases offered by companies such as Amgen Inc., AstraZeneca PLC, Bristol-Myers Squibb Company, F. Hoffman-La Roche Ltd., GlaxoSmithKline Capital plc, Merck & Co., Inc., and Pfizer Inc.

Although we believe that our scientific expertise, novel technologies, and intellectual property position in genome editing offer competitive advantages, we face competition from multiple other genome-editing technologies and companies. Other companies developing CRISPR-based technologies include, among others, Arbor Biotechnologies, Inc., Beam Therapeutics Inc., CRISPR Therapeutics AG, Editas Medicine, Inc., Intellia Therapeutics, Inc., Mammoth Biosciences, Inc., Metagenomi, Inc., and Scribe Therapeutics, Inc. Companies developing other genome-editing technologies include, among others, Allogene Therapeutics, Inc., Cellectis S.A., Precision BioSciences, Inc., Prime Medicine, Inc., Sangamo Therapeutics, Inc., and Wave Life Sciences Ltd.

To become and remain profitable, we must develop and eventually commercialize product candidates with significant market potential, which will require us to be successful in a range of challenging activities. These activities may include completing preclinical studies and clinical trials of our product candidates; obtaining marketing and reimbursement

approval for these product candidates; manufacturing, marketing, and selling those products that are approved; and satisfying any post-marketing requirements. We may never succeed in any or all these activities and, even if we do, we may never generate revenues that are significant enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the price of our common stock and could impair our ability to raise capital, maintain our research and development efforts, expand our business, or continue our operations. A decline in the price of our common stock also could cause stockholders to lose all or part of their investments.

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

Our business operations and current and future arrangements with clinical site investigators, healthcare professionals, consultants, third-party payors, patient organizations, and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we market, sell, and distribute our product candidates, if approved. Such laws include, but are not limited to, the U.S. Anti-Kickback Statute, U.S. civil and criminal false claims laws, the U.S. Beneficiary Inducement Statute, HIPAA, and state and local laws and regulations. Some of these laws may apply differently to, and may have different requirements for, and effects on, our business, rendering compliance complex and possibly burdensome. We cannot predict how future changes to these laws may impact our business.

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

Our business activities will be subject to U.S. export control licensing requirements, as well as other U.S. and foreign trade regulations, sanctions laws, anti-corruption laws, and anti-money laundering laws and regulations including the Foreign Corrupt Practices Act, which could expose us to penalties.

We develop product candidates that may be subject to U.S. export control licensing requirements and foreign investment regulations. Export licensing policies vary, and we may be unable to collaborate with certain countries or, if our product candidates receive regulatory approval, make sales to certain customers as a result of applicable license requirements. We also may incur increased compliance program costs in connection with U.S. export controls, and the availability of future investments from certain countries may be limited as a result of the controlled nature of our product candidates.

If we expand our business internationally or collaborate globally, we will be required to make investments in compliance programs related to U.S. international trade laws, including the FCPA and similar anti-bribery or anti-corruption laws, regulations, and rules of other countries in which we may choose to operate. Anti-corruption laws are interpreted broadly.

Our business is heavily regulated and therefore involves significant interaction with public officials, including, potentially in the future, officials of non-U.S. governments. Additionally, in many other countries, the healthcare providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, if our product candidates receive regulatory approval, our dealings with these prescribers and purchasers will be subject to regulation under the FCPA. We may engage third parties to sell our product candidates outside the United

States if we receive regulatory approval in such jurisdictions for our product candidates. We may also have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. The SEC and the DOJ have increased their FCPA enforcement activities with respect to biotechnology and pharmaceutical companies. For these reasons, we may be required to expend resources related to training and compliance under FCPA and other anti-corruption laws. There is no certainty that all our employees, suppliers, CMOs, CROs, or other third parties providing services to us will comply with all applicable laws and regulations, particularly given the high level of complexity of these laws. We can be held liable for the corrupt or other illegal activities of our employees, consultants, and other collaborators, even if we do not explicitly authorize or have actual knowledge of these activities.

If we have international activities in the future, we may be required to invest in compliance programs and resources related to U.S. import and export regulations, anti-money laundering laws, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls.

Violations of these international trade laws and regulations could result in fines; criminal sanctions against us, our management, or other employees; the closing down of facilities, including those of our suppliers and CMOs; requirements to obtain export licenses; cessation of business activities in sanctioned countries; implementation of compliance programs; and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to seek regulatory approval for our product candidates and, if such approval is received, to sell our products in one or more jurisdictions. This could materially damage our reputation, our ability to attract and retain employees, and our business, financial condition, results of operations, and prospects.

We face potential liability related to the privacy of health information we may obtain from the patients in our clinical trials if we fail to comply with privacy laws.

Most healthcare providers are subject to privacy and security regulations promulgated under HIPAA, as amended by HITECH. We are not currently classified as a covered entity or business associate under HIPAA and thus are not subject to its requirements or penalties. Any person may be prosecuted under HIPAA's criminal provisions either directly or under aiding-and-abetting or conspiracy principles. Consequently, depending on the facts and circumstances, we could face substantial criminal penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA's requirements for disclosure of individually identifiable health information.

In addition, if we receive sensitive personally identifiable information, including health information, we may be subject to state laws requiring notification of affected individuals and state regulators if a breach of personal information occurs, which is a broader class of information than the health information protected by HIPAA. Some state health information privacy laws carry a private right of action in addition to regulatory enforcement actions that can be brought by state attorneys general.

We cannot assure you that we, our CROs, our clinical trial sites, and our clinical trial principal investigators with access to personally identifiable and other sensitive or confidential information relating to the patients in our clinical trials will not breach contractual obligations, or that we or they will not experience data security breaches or attempts thereof. This could have a corresponding effect on our business, including putting us in breach of our obligations under federal and state privacy laws and regulations as discussed above, which could in turn adversely affect our business, financial condition, results of operations, and prospects. We cannot assure you that our contractual measures and our own privacy and security-related safeguards will protect us from the risks associated with the third-party processing, storage, and transmission of such information.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which could have a material adverse effect on our business, financial condition, results of operations, or prospects.

The regulatory framework for the collection, use, safeguarding, sharing, transfer, and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, many jurisdictions have established their own data security and privacy frameworks. In the United States, there are a broad variety of data protection laws that are either currently in place or under way and a wide range of enforcement agencies at both the state and federal levels have the authority to review companies for privacy and data security concerns based on general consumer protection laws. The FTC, and state attorneys general have been aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For

example, the CCPA, which went into effect on January 1, 2020, provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Many other states are considering similar legislation. A broad range of legislative measures also have been introduced at the federal level. There also is the threat of consumer class actions related to these laws and the overall protection of personal data.

Additionally, the CCPA was amended by the California Privacy Rights Act ("CPRA"), which significantly amends the CCPA and imposes additional data protection obligations on covered businesses, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It will also create a new California data protection agency authorized to issue substantive regulations, which could result in increased privacy and information security enforcement. The majority of the provisions went into effect on January 1, 2023, and additional compliance investment and potential business process changes may be required. Similar laws have passed in, or are being considered by, other states. Certain other states have enacted similar comprehensive privacy and security laws. The enactment of these laws in other states results in potentially conflicting requirements, which would make compliance challenging and costly.

The FTC and many state attorneys general continue to enforce federal and state consumer protection laws against companies for online collection, use, dissemination and security practices that appear to be unfair or deceptive. For example, according to the FTC, failing to take appropriate steps to keep consumers' personal information secure can constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act. The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. We may also be subject to new state laws governing the privacy of consumer health data, including information concerning individual health conditions and treatment.

The data privacy laws in the EU have also been significantly reformed. The collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the EU, including personal health data, is subject to the General Data Protection Regulation, (EU) 2016/679 (the "GDPR"). The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR has expanded the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial patients and investigators. In addition, the GDPR also imposes strict rules on the transfer of personal data to countries outside the EU, including the United States and, as a result, increases the scrutiny that clinical trial sites located in the European Economic Area should apply to transfers of personal data from such sites to countries that are considered to lack an adequate level of data protection, such as the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information or impose substantial fines for violations of the GDPR, which can be up to 4% of global revenues or €20 million, whichever is greater, and it also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that EU member states may make their own additional laws and regulations limiting the processing of personal data, including genetic, biometric, or health data.

Furthermore, since the United Kingdom is no longer part of the EU, its data protection regulatory regime will be independent of the EU. From January 1, 2021, companies have had to comply with the GDPR and also the United Kingdom GDPR ("UK GDPR"), which, together with the amended United Kingdom Data Protection Act 2018, retains the GDPR in UK national law. The relationship between the United Kingdom and the EU in relation to certain aspects of data protection law remains unclear. In addition, the longer term economic, legal, political, regulatory, and social framework to be put in place between the United Kingdom and the EU has had, and may continue to have, a material and adverse effect on global economic conditions and the stability of global financial markets and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict our access to capital, which could materially and adversely affect our business, financial condition, and results of operations.

Risks Relating to Intellectual Property

If we do not possess the necessary intellectual property rights covering our CRISPR chRDNA genome-editing technologies, our product candidates, or other proprietary technologies, we may not be able to block competitors or to compete effectively in the market.

Our industry is subject to rapid technological change and our success depends in large part on our ability to obtain and maintain intellectual property protection in the United States and other jurisdictions with respect to our CRISPR chRDNA platform technologies and product candidates. We rely upon a combination of patents, owned by us or in-licensed from third parties, and trade secrets to protect our technology and product candidates. We seek to protect our intellectual property by filing patent applications in the United States and in other jurisdictions related to our genome-editing technologies and product candidates that are important to our business. We also rely on know-how and continuing technological innovation to develop and maintain our competitive position. If we are unable to obtain or maintain intellectual property protection with respect to our CRISPR chRDNA genome-editing platform technologies and product candidates, our business, financial condition, results of operations, and prospects will be materially harmed.

The strength of patents in the biotechnology and pharmaceutical fields generally, and the genome-editing field in particular, involves complex legal and scientific questions and can be uncertain. For example, the scope of patent protection that will be available to us in the United States is uncertain. Changes in either the patent laws or their interpretation may diminish our ability to protect our intellectual property; obtain, maintain, defend, and enforce our intellectual property rights; and, more generally, could affect the value of our intellectual property or narrow the scope of our owned or in-licensed patents. With respect to both owned and in-licensed intellectual property, we cannot predict whether the patent applications we and our licensors are currently pursuing will grant as patents, whether the claims of any granted patents will provide sufficient protection, or whether, if these patents are challenged by our competitors, they will be found to be invalid, unenforceable, or not infringed.

The patent prosecution process is expensive, time-consuming, and complex, and we or our licensors may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patents at a reasonable cost or in a timely manner or in all jurisdictions. It is also possible that we will fail to identify patentable aspects of our research and development in time to obtain patent protection before public disclosures are made. Although we may enter into non-disclosure or confidentiality agreements with parties who may have access to patentable aspects of our research and development, such as our employees, collaborators, CMOs, suppliers, consultants, CROs, clinical trial site investigators and personnel, and other third parties, any one of these parties may breach their confidentiality agreements and disclose innovations before we can file a patent application, thereby jeopardizing our ability to seek patent protection.

The USPTO requires compliance with various procedural, documentary, fee payment, and other similar provisions during the patent application process. The ultimate outcome of our pending patent applications is uncertain and the coverage claimed in a patent application can be significantly reduced before the patent is granted. Even as our patent applications, or those of our licensors, currently or in the future, grant as patents, they may not grant in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, dissuade companies from collaborating with us, or otherwise provide us with any competitive advantage. Periodic maintenance fees on granted patents are also required to be paid over the lifetime of the patent. Although an inadvertent lapse can, in many cases, be cured by payment of a late fee or by other means in accordance with applicable laws and regulations, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in the loss of patent rights. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, nonpayment of fees, failure to properly legalize and submit formal documents, and the like. If we experience noncompliance events that cannot be corrected and we lose our patent rights, competitors could enter the market, which would have a material adverse effect on our business.

Composition of matter patents for biological and pharmaceutical products, such as CAR-based cell therapy products, often provide a strong form of intellectual property protection as such patents provide protection without specifying any particular method of use or manufacture. Methods of use patents can protect particular applications of a product or the manufacturing of a product; however, such method claims do not prevent a competitor from using a product that is identical to our product for an indication that is outside the scope of the patented method of use or making a product that is identical to our product using a different method of manufacturing. Our allogeneic CAR-T cell therapy product candidates do not contain our chRDNA genome-editing technology; rather, our chRDNA guides are used in manufacturing our CAR-T cell therapy product candidates. It is virtually impossible to determine whether a competitor has infringed our

chRDNA patents in making their products. Thus, even if we obtain patent protection on certain aspects of our technologies, such protection may not be enough to block our competitors from entering the market.

Third-party claims of intellectual property infringement may prevent or delay our ability to commercialize our product candidates.

The fields of CAR-T cell therapies and genome editing are relatively new. Due to the widespread research and development that is taking place in these fields, including by us and our competitors, the intellectual property landscape is in flux and may remain uncertain for the foreseeable future. There may be significant litigation and administrative proceedings that could affect our genome-editing technologies and product candidates.

Our commercial success depends upon our ability to develop, manufacture, market, and sell product candidates that we may develop or license without infringing, misappropriating, or otherwise violating the intellectual property rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Numerous U.S. and foreign granted patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates. As industry, government, academia, and other biotechnology and pharmaceutical research expands and more patents are granted, the risk increases that our genome-editing technologies or product candidates may give rise to claims of infringement of the patent rights of others. Our genome-editing technologies, current and future product candidates, or the use or manufacture of such product candidates may currently or in the future infringe third-party patents. There may be third-party patents with claims to compositions, methods of manufacture, or methods of use or treatment that could cover our current or future product candidates. It is possible that we may fail to identify relevant third-party patents or applications. Furthermore, 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. Thus, although we have a substantial patent portfolio, we cannot be certain that we were the first to file any patent application related to our genome-editing technologies or product candidates. Furthermore, patent rights are granted jurisdiction-by-jurisdiction, and our freedom to practice certain genome-editing technologies, including our ability to research, develop, and commercialize our product candidates, may differ by country.

Numerous third-party U.S. and foreign granted patents and pending patent applications exist in the fields of cell therapy and CRISPR genome editing, including those relating to CAR and CAR-T cell therapy compositions, components (including specific co-stimulatory regions), and methods of use as well as those relating to CRISPR-Cas9 and CRISPR-Cas12a systems and methods of use. Our CB-010 product candidate uses Cas9 chRDNAs to insert the CD19-specific CAR into the T cell genome and for an additional edit. Numerous third parties have intellectual property relating to RNA-guided Cas9 genome editing. See Risk Factors - *"Our ability to continue to receive licensing revenue and to enter into new licensing arrangements related to the foundational CRISPR-Cas9 intellectual property will be substantially impaired if such intellectual property is limited by administrative patent proceedings or other patent challenges,"* in Item 1A of this Annual Report on Form 10-K. Our CB-011 product candidate and our CB-012 product candidate both use Cas12a chRDNAs to insert the CAR into the T cell genome and to make additional edits. We are aware of certain third-party patents relating to CRISPR-Cas12a genome-editing systems. There is ongoing patent litigation over various third-party CAR patents, and there is the potential that unexpired patents that survive that litigation could be asserted against us.

Third parties may assert that our product candidates infringe their patents, including those mentioned above. Under 35 U.S.C. 271(e)(1), conducting clinical trials and other activities related to seeking regulatory approval in the United States for therapeutic products are generally not considered act of patent infringement, and similar exemptions are present in other countries. However, third parties may claim that certain of our activities are outside of the safe harbor provision because, for example, such activities are allegedly not reasonably related to the development and submission of information to the FDA for regulatory approval. Upon regulatory approval, third parties may assert infringement claims based on existing patents or patents that may be granted prior to our BLA filing, regardless of the merit of such claims. Even if we believe third-party intellectual property claims are without merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, ownership, or priority. Patents in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing," a heightened standard of proof. In order to successfully challenge the validity of any U.S. patent in federal court, we would need to overcome this presumption of validity, and there can be no assurance that a court of competent jurisdiction would invalidate the patent. A court of competent jurisdiction could hold that these third-party patents are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any product candidates we may develop, including CB-010, CB-011, and CB-012, as well as any other product candidates or technologies covered by the asserted third-party patents.

If any third-party patents were held by a court of competent jurisdiction to cover our genome-editing technology used in manufacturing our product candidates or any product candidate itself or its indication, the holders of those patents may be able to block our ability to commercialize the product candidate unless and until we obtained a license under the applicable patents, or the patents expire, or are held to be not infringed, unpatentable, invalid, or unenforceable. We may not be able to obtain a license to the blocking patents, or the terms of the license may not be commercially viable. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same intellectual property licensed to us, and it could require us to make substantial upfront, milestone, and royalty payments. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be blocked or delayed, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We could also be forced, including by court order, to cease manufacturing and commercializing any infringing product candidates. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed the third-party patent. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations, and prospects. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of our management time and resources from our business.

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

Filing, prosecuting, maintaining, enforcing, and defending patents on our genome-editing technologies and product candidates in countries outside the United States is expensive. Prosecution of patent applications is often a longer process and patents may grant at a later date, and with a shorter term, than in the United States. The requirements for patentability differ in certain jurisdictions and countries. Additionally, the patent laws of some countries do not afford intellectual property protection to the same extent as the laws of the United States. For example, unlike patent law in the United States, patent law in most European countries and many other jurisdictions precludes the patentability of methods of treatment and diagnosis of the human body. Other countries may impose substantial restrictions on the scope of claims, limiting patent protection to specifically disclosed embodiments. Consequently, we may not be able to prevent third parties from practicing our inventions in major markets outside the United States, or from selling or importing products into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and may export otherwise infringing products to jurisdictions where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent such competition. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in intellectual property laws in various jurisdictions worldwide.

Many companies have encountered significant problems in enforcing and defending intellectual property rights in various jurisdictions globally. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property rights generally. Proceedings to enforce our intellectual property rights in various jurisdictions globally could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put related patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we file, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage against competitors.

Many jurisdictions have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties if they are not practicing the patented technology. In addition, some countries limit the enforceability of patents against third parties, including government agencies. 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 are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected. Patent protection must be maintained on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain jurisdictions or countries, and we will not have the benefit of patent protection in such jurisdictions or countries.

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

We may in the future be subject to claims that former employees, consultants, or other third parties have an interest in our patents or other intellectual property as an inventor, co-inventor, or owner of trade secrets. Although it is our policy to require our employees and consultants who may be involved in the conception or development of intellectual property to execute agreements assigning that intellectual property to us, we may be unsuccessful in executing such an agreement with each party who conceives or develops intellectual property that we regard as our own or such party may breach the assignment agreement. We may have disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to obtain ownership or to defend against claims challenging inventorship. If we or our licensors fail in that litigation, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property. Such an outcome could have a material adverse effect on our business. Even if we or our licensors are successful in defending against those claims, litigation could result in substantial costs and be a distraction to our management and other employees, and the claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

The terms of our patents may not be sufficient to effectively protect our products and business, and the expiration of our patents may subject us to increased competition.

Although various extensions may be available, the term of a patent, and the protection it affords, is limited. In most countries including the United States, the natural expiration of a patent is generally 20 years after its first effective filing date. Even if patents covering our product candidates are obtained, once the patent term has expired for a product we may be open to competition from biosimilar or generic medications. In addition, although, upon issuance in the United States the term of a patent can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by us during patent prosecution or if terminal disclaimers are filed over other co-owned patents or patent applications to avoid rejections based on obviousness-type double patenting. If we do not have sufficient patent term to protect our products, our business, financial condition, results of operations, and prospects will be adversely affected.

We may not obtain patent term extension for any product candidates we develop.

Depending upon the timing, duration, and specifics of any FDA marketing approval of any product candidates we develop, our U.S. patents may be eligible for limited PTE under the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during clinical trials and the FDA regulatory review process. A PTE cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended, and only a patent with claims covering the approved biologic, a method for its approved indication, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the clinical phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy the applicable requirements. Moreover, we may not receive PTE or we may receive less time than we requested. If we are unable to obtain PTE or if the term of any such PTE is less than we request, we will be unable to rely on our patent position to forestall the marketing of competing products following our patent expiration, and our business, financial condition, results of operations, and prospects could be materially harmed.

Changes to the patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our genome-editing technologies and product candidates.

Patent reform legislation in the United States and other countries could increase the uncertainties around patent protection, costs, and the enforcement or defense of our patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. For example, the 2011 Leahy-Smith America Invents Act included a number of significant changes to U.S. patent law. Such provisions affect the way patent applications are prosecuted, redefine prior art, and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents. In addition, the Leahy-Smith America Invents Act transformed the U.S. patent system from a first-to-invent to a first-to-file system, effective on March 16, 2013. For small companies, such as ours, this means that we must file our patent applications earlier in our development process rather than relying on proving priority of invention and it is now easier and less costly for third parties to attack our patents, all of which could harm our business, financial condition, results of operations, and prospects.

There is uncertainty regarding the patentability of certain inventions in the biotechnology and pharmaceutical areas. Recent decisions by the U.S. Supreme Court have either narrowed the scope of patent protection available in certain

circumstances or weakened the rights of patent owners in particular situations. For example, in *Association for Molecular Pathology v. Myriad Genetics, Inc*., the Supreme Court ruled that a "naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated," and invalidated Myriad Genetics' claims on isolated BRCA1 and BRCA2 genes. To the extent that our claims relate to naturally occurring antibodies or proteins, these may be deemed to be directed to natural products or to lack an inventive concept above and beyond an isolated natural product, and a court may decide the claims are invalid under the *Myriad* decision. Depending on future actions by Congress, the federal courts, the USPTO, and the relevant law-making bodies, as well as courts and patent offices in other countries, the laws and regulations governing patents could change in unpredictable ways that may weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future, which could have a material adverse effect on our existing patent portfolio and those of our licensors.

In Europe, a new unitary patent system took effect on June 1, 2023, which will significantly impact European patents, including those granted before the introduction of such a system. Under the unitary patent system, European patent applications will have the option, upon grant of a patent, of becoming a Unitary Patent, which will be subject to the jurisdiction of the Unitary Patent Court (the "UPC"). The UPC may present uncertainties for our ability to protect and enforce our patent rights against competitors in Europe. Although this new court was implemented to provide more certainty and efficiency to patent enforcement throughout Europe, it also provides our competitors with a new forum to use to centrally challenge our patents, rather than having to seek invalidity or non-infringement decisions on a country-by-country basis. It will be several years before the scope of patent rights that will be recognized by the UPC, and the strength of patent remedies that will be provided, is known.

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

Competitors may infringe our patents or our licensors' patents or challenge the validity of our or our licensors' patent rights. Even if our patents are unchallenged, they may not adequately prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by our patents and patent applications to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our or their ability to commercialize, our product candidates.

Litigation or other legal proceedings relating to intellectual property claims, with or without merit, is unpredictable and generally expensive and time-consuming and likely to divert significant resources from our core business, including distracting our management and scientific personnel from their normal responsibilities, and generally harm our business. Additionally, a defendant could counterclaim that our patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Thus, suing a third party for patent infringement puts our patents at risk and we may choose not to take such actions, thus allowing a competitor to infringe our patents. Grounds for a validity challenge in a counterclaim could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Thus, a court may decide that one or more of our patents is not valid or is unenforceable or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put one or more of our pending patent applications at risk of not issuing, all of which could negatively impact our business. Even if we establish infringement in a legal proceeding against a third party, the court may decide not to grant an injunction against further infringing activity by the defendant and may only award money damages, which may or may not be an adequate remedy for us depending on the circumstances. Furthermore, because of the substantial amount of discovery required in connection with U.S. patent litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation.

Third parties may also raise similar claims of invalidity before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include inter partes review, ex parte reexamination, and post grant review in the United States, and equivalent proceedings in foreign jurisdictions, including opposition proceedings before the EPO. These proceedings could result in revocation or amendment to our patents, which potentially could result in our patents no longer protecting our genome-editing technologies or our product candidates. A loss of patent protection could have a material adverse impact on our business.

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 greater financial resources. There can be no assurance that we will have sufficient financial or other resources for such litigation or proceedings, which may continue for several years. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing or misappropriating or successfully challenging our intellectual property rights. In addition, if securities analysts or investors perceive litigation results to be negative, it could have a substantial adverse effect on the price of our common stock. There could be public announcements of the results of litigation or patent challenge hearings, motions, or other interim proceedings or developments, which also could affect the price of our stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. Any of the foregoing could allow third parties to develop and commercialize competing technologies and products and have a material adverse impact on our business, financial condition, results of operations, and prospects.

Our product candidates are biologics, and as such, we may enter into a settlement agreement with a biosimilar manufacturer seeking to market a product highly similar to our product; such a settlement agreement may be reviewed by the Federal Trade Commission and such review could result in a fine or penalty and substantial expense.

The FTC reviews patent settlement agreements between biologics companies and biosimilar manufacturers to evaluate whether these agreements include, among other things, anti-competitive reverse payments that slow or defeat the introduction of lower-priced medicines, including biosimilars. If we are faced with an FTC challenge of a settlement agreement with a biosimilar manufacturer, such challenge could impact how or whether we settle the case and, even if we strongly disagree with the FTC's position, we could face a penalty or fine and substantial expense. Any litigation settlements we enter into with biosimilar manufacturers could also be challenged by third parties adversely affected by the settlement. These kinds of follow-on lawsuits, which may be class action suits, can be expensive and can continue over multiple years. If we were to face lawsuits of this nature, we may not be successful in defeating these claims and we may, therefore, be subject to large payment obligations, which we may not be able to satisfy in whole or in part.

Our rights to develop and commercialize our product candidates are subject to the terms and conditions of our licenses and assignments with third parties. If we fail to comply with our obligations under these agreements, we could lose intellectual property rights and be subject to litigation from our licensors or assignors.

We license, or have taken assignment to, patents related to certain of our product candidates and genome-editing technologies from third parties. These licenses and assignments typically impose obligations on us, including diligence and payment obligations. If we fail to comply with our obligations under these agreements, our licensors and assignors may have the right to terminate our agreements, in which case we would not be able to commercialize any product that is covered by the patent rights at issue. Additionally, we may be subject to litigation for breach of these agreements. Moreover, if disputes over intellectual property that we have licensed, or taken assignment of, prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the product candidates or technologies covered by such patents, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects. In addition, intellectual property rights that we license in the future may include sublicenses under intellectual property owned by third parties, in some cases through multiple tiers. The actions of our licensors may therefore affect our rights to use our sublicensed intellectual property, even if we are in compliance with all of the obligations under our license agreements. Should our licensors or any of the upstream licensors fail to comply with their obligations under the agreements pursuant to which they obtain the rights that are sublicensed to us, or should those agreements be terminated or amended, our ability to develop and commercialize our product candidates may be materially harmed.

Our CRISPR chRDNA genome-editing patent family was developed under a three-year research collaboration between us and Pioneer, now Corteva Agriscience. Initially, this patent family was owned by Pioneer under the terms of the Pioneer Agreement with Pioneer (then a DuPont company), and Pioneer granted us an exclusive license to the chRDNA patent family in the fields of human and animal therapeutics and research tools as well as a non-exclusive license in certain other fields outside the Pioneer Exclusive Field. Through an amendment to the Pioneer Agreement, dated December 18, 2020, Pioneer assigned the chRDNA patent family to us in exchange for an upfront payment and potential future milestones. As part of this amendment, Pioneer also granted a covenant not to sue for our licensees of our chRDNA technologies under certain other Pioneer intellectual property (to which we already have a license that, in this situation, we cannot sublicense to licensees of our chRDNA technologies in the field of human therapeutics) that might cover our chRDNA genome-editing technology, provided that we make the required payments. Thus, if we do not make such payments, our licensees could be sued by Pioneer, which could result in our licensees suing us for breach of contract.

Additionally, under the Pioneer Agreement, we licensed certain Pioneer background CRISPR-Cas9 intellectual property, particularly a patent family owned by Vilnius University and exclusively licensed to Pioneer, that we have sublicensed to several third parties as part of our CRISPR-Cas9 out-licensing program. Although the Vilnius patent family does not cover our chRDNA genome-editing technologies or product candidates, if we were to materially breach the Pioneer Agreement and not cure the breach, Pioneer could terminate the Pioneer Agreement, which would expose us to possible lawsuits from a number of our sublicensees to the Vilnius University patent family.

For our CB-011 product candidate, an allogeneic anti-BCMA CAR-T cell therapy, we took assignment of an anti-BCMA scFv from ProMab under the ProMab Agreement. Although we own the patent family that covers this scFv and its methods of use, if we materially breach, and do not cure, the ProMab Agreement, ProMab could terminate the ProMab Agreement and we would be required to immediately cease any and all manufacture, sale, offer for sale, use, import, or export of products comprising the anti-BCMA scFv (provided that, if our product is approved for commercial sale, we may sell any remaining existing inventory of such products for a short period of time). If this were to happen prior to regulatory approval, we would not be able to continue the development of CB-011 and, if this were to happen after regulatory approval, we would lose all future revenues from CB-011.

The scFv in our CB-012 product candidate, an allogeneic anti-CLL-1 CAR-T cell therapy, is exclusively licensed to us in the field of allogeneic cell therapy by MSKCC. To maintain the license, we are required to pay annual license fees and to meet certain diligence milestones within specified periods of time. We may extend these periods by a certain number of months upon payment of additional fees. If we materially breach, and do not cure, the MSKCC Agreement, MSKCC may terminate the MSKCC Agreement, in which case we would not be able to continue the development of CB-012 or any other licensed CLL-1 product candidate.

Thus, we are reliant upon the above licenses to and assignments of certain intellectual property from third parties that is important or necessary to the development of our genome-editing technologies and product candidates. In spite of our best efforts, our licensors or assignors might conclude that we have materially breached our license or assignment agreements, respectively, and might terminate these agreements, thereby removing our ability to develop and commercialize products and technology covered by the agreements. To the extent such third parties fail to meet their obligations under these agreements, which we are not in control of, we may lose the benefits of the agreements. If these agreements are terminated, or if the underlying patents fail to provide the intended exclusivity, competitors could have the freedom to seek regulatory approval of, and to market, products identical to ours. Any of these events could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Disputes may arise with the third parties from whom we license or take assignment of our intellectual property rights from for a variety of reasons, including:

- the scope of rights granted under the license or assignment agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on, or derive from, intellectual property of the licensor that is not subject to the license or assignment agreement and is not covered by a covenant not to sue;
- the sublicensing of rights and the obligations to our licensors associated with sublicensing;
- our diligence obligations under license or assignment agreements and what activities satisfy those diligence obligations; and
- whether payments are due and when.

We may not be successful in obtaining or maintaining necessary rights to any future product candidates that we acquire through acquisitions or in-licenses.

Our future programs may involve additional product candidates that may require the use of intellectual rights held by third parties, and the growth of our business could depend, at least in part, on our ability to acquire or in-license these intellectual property rights. We may be unable to acquire or in-license intellectual property rights from third parties that we identify. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, which would harm our business. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that case, we may be required to expend significant time and resources to develop or license other product candidates. We may need to cease development of a future product candidate covered by such third-party intellectual property rights.

The licensing and acquisition of third-party intellectual property rights is a competitive area, 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 develop product candidates. More established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates or new genome-editing or other technologies that we may seek to acquire. If we are unable to successfully obtain rights to required third party intellectual property rights, we may not be able to expand our product pipeline, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our ability to continue to receive licensing revenue and to enter into new licensing arrangements related to the foundational CRISPR-Cas9 intellectual property will be substantially impaired if such intellectual property is limited by administrative patent proceedings or other patent challenges.

We have an exclusive license from UC and Vienna in all fields to the CVC IP, having as inventors Drs. Jennifer A. Doudna, Emmanuelle Charpentier, Martin Jinek, and Krzysztof Chylinski. We have entered into over 30 sublicenses, both exclusive and non-exclusive, to this CRISPR-Cas9 intellectual property in combination with licenses to our own Cas9 intellectual property (and sometimes in combination with a sublicense to the Vilnius Cas9 patent family we licensed from Pioneer) in a variety of fields (e.g., human therapeutics, forestry, agriculture, research reagents, transgenic animals, certain livestock targets, internal research, bioproduction, cell lines, and microbial applications, etc.). We are also required to share with UC/Vienna a percentage of sublicensing revenue we receive including cash and equity. These sublicense agreements are an important source of revenues for us while we are developing our own product candidates. Furthermore, we must reimburse UC/Vienna for the patent prosecution and maintenance costs associated with the CVC IP, which are substantial in light of all the disputes outlined below.

The CVC IP that we have exclusively licensed from UC/Vienna is co-owned with Dr. Charpentier, and Dr. Charpentier has not granted us any rights to the CVC IP, either directly or indirectly. On December 15, 2016, we entered into the IMA with UC, Vienna, Dr. Charpentier, CRISPR Therapeutics AG (the exclusive licensee of Dr. Charpentier in the field of human therapeutics), ERS Genomics Ltd (the exclusive licensee of Dr. Charpentier in all fields outside human therapeutics), and Intellia, our exclusive licensee in a defined field of human therapeutics. Under the IMA, the co-owners provided reciprocal worldwide cross-consents to each of the other co-owners' existing licensees and sublicensees as well as future licensees and sublicensees, with no accounting to the other owners. The IMA includes a number of other commitments and obligations with respect to supporting and managing the CVC IP, including a cost-sharing agreement. In the United States, each co-owner has the freedom to license and exploit the technology. As a result, although our license from UC/Vienna is exclusive, we do not have any rights from Dr. Charpentier and thus our license to the CVC IP from UC/Vienna is non-exclusive with respect to such co-owned rights. Furthermore, in the United States, each co-owner is required to be joined as a party to any claim or action we may wish to bring to enforce those patent rights. Although we have entered into the IMA, which provides for, among other things, notice of and coordination in the event of third-party infringement of the patent rights within the CVC IP, there can be no assurance that all parties will cooperate in any future infringement. In addition, the parties to the IMA may dispute certain provisions and the resolution of any contract interpretation disagreement could increase what we believe to be our financial obligations to UC/Vienna.

The CVC IP is, and has been, the source of several disputes in the USPTO, the EPO, and other patent offices. At the time the CVC IP was first filed (May 25, 2012), the United States was under a first-to-invent patent system; thus, if two or more patent applications or one or more patents and one or more patent applications claimed the same invention, the USPTO would determine the inventorship. Specifically, the Broad Institute Inc. and Massachusetts Institute of Technology and, in some instances, the President and Fellows of Harvard College (individually and collectively, "Broad"), owns a patent family (having an earliest filing date of December 12, 2012) that includes granted patents in the United States and Europe that claim certain aspects of CRISPR-Cas9 systems to edit DNA in eukaryotic (i.e., plant and animal) cells, including human cells. In January 2016, the Patent Trial and Appeal Board ("PTAB") of the USPTO declared an interference (Interference No. 106,048, or the '048 interference) between one of the then-pending U.S. patent applications (now U.S. Patent No. 10,266,850) included in the CVC IP and 12 granted U.S. patents owned jointly by the Broad to determine which set of inventors invented first and, thus, was entitled to patents on the invention in the United States. The PTAB concluded at the end of the motions phase that the declared interference should be discontinued (and not progress to the priority phase) because the involved claim sets were considered patentably distinct from each other. Following appeal by the CVC group, in September 2018, the U.S. Court of Appeals for the Federal Circuit ("CAFC"), affirmed the PTAB's

decision to terminate the interference proceeding without determining which inventors actually invented the use of the CRISPR-Cas9 genome-editing technology in eukaryotic cells. In June 2019, the PTAB declared another interference (Interference No. 106,115, or the ’115 interference) between 14 pending U.S. patent applications in the CVC IP and 13 patents and a patent application co-owned by the Broad. The Broad patents include those that were the subject of the ’048 interference. In February 2022, the PTAB issued its decision that the Broad inventors were the first to invent the use of CRISPR-Cas9 genome editing in eukaryotic cells. The owners of the CVC IP appealed this decision to the CAFC, which held an oral hearing on May 7, 2024, and the parties are waiting for a decision from the CAFC.

In addition to the Broad, ToolGen, Inc., MilliporeSigma (a subsidiary of Merck KGaA), and Harvard University, each filed patent applications claiming CRISPR-Cas9-related inventions after the CVC IP was first filed (October 23, 2012 in the case of ToolGen patent family; December 6, 2012 in the case of the MilliporeSigma patent family; and December 17, 2012 in the case of the Harvard University patent family) and have each alleged that they invented one or more of the inventions claimed in the CVC IP before the CVC inventors did. In December 2020, the PTAB declared an interference (Interference No. 106,127, or the ’127 interference) between a ToolGen patent application that claims certain aspects of CRISPR-Cas9 systems to edit DNA in eukaryotic cells, including human cells, and the same 14 pending U.S. patent applications in the CVC IP that are involved in the appeal of the ’115 interference. The motions phase of this interference has concluded, and the priority phase is suspended until the CAFC appeal is decided. Additionally, the PTAB declared an interference (Interference No. 106,126) at the same time between the same ToolGen patent application and the Broad patents and patent application in the appeal of the ’115 interference; the motions phase has concluded, and this interference is also suspended until the CAFC appeal is decided. In June 2021, the PTAB declared an interference (Interference No. 106,132 or the ‘132 interference) between a MilliporeSigma patent application that claims methods for using CRISPR-Cas9 systems to edit DNA in eukaryotic cells, including human cells, and the same 14 pending U.S. applications in the CVC IP that are involved in the ‘115 and ‘127 interferences. This interference completed the motions phase and is also suspended until the CAFC appeal is decided. Also in June 2021, the PTAB declared an interference (Interference No. 106,133) between the same MilliporeSigma patent application and the Broad patents and patent applications in the ‘115 and ‘126 interferences; the motions phase has concluded, and this interference is also suspended until the CAFC appeal is decided. We do not know the impact of a decision by the CAFC in the appeal of the ‘115 interference on these suspended interferences.

Opposition and appeal proceedings in the EPO are ongoing against patents owned by the Broad, ToolGen, and MilliporeSigma as well as against the CVC IP. Additionally, invalidation trials or appeals thereof of the CVC IP are ongoing in China, India, and Japan. Such proceedings are often lengthy and can lead to the revocation of a patent in its entirety, the maintenance of the patent as granted, or, depending upon the jurisdiction, the maintenance of a patent in amended form. These CVC IP will expire in 2033 without PTA or PTE.

In light of the uncertainty surrounding the CVC IP, certain third parties have negotiated royalty-stacking provisions in their sublicenses with us, whereby they can deduct from what they owe to us a certain percentage of royalties they pay to other parties with CRISPR-Cas9 patents (such as to the Broad). Furthermore, other third parties have adopted a “wait and see” approach and are not entering into license agreements with us or third parties until all the uncertainty surrounding inventorship and priority among the groups with CRISPR-Cas9 patents is resolved. If patents in the CVC IP are invalidated, certain of our sublicensees may wish to renegotiate their license agreements with us or may terminate for convenience. If this happens prior to commercialization of our own product candidates, we could lose a source of revenues while still remaining responsible for reimbursing UC for costs of prosecuting and maintaining the remaining CVC IP.

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

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets and confidentiality agreements to protect our know-how that is not patentable, processes for which patents are difficult to enforce, and any other elements of our product discovery and development processes that involve confidential know-how, information, or technology that is not covered by patents. Trade secrets and know-how can be difficult to protect.

We seek to protect these trade secrets and other confidential information, in part, by entering into non-disclosure or confidentiality agreements with parties who have access to them, such as our employees, collaborators, CMOs, CROs, clinical trial site personnel and investigators, consultants, and other third parties. We also enter into confidentiality and invention assignment agreements with our employees and our agreements with consultants include invention assignment obligations. We seek to preserve the integrity and confidentiality of our data, know-how, and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. Although we have confidence in these individuals, organizations, and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breaches. Monitoring unauthorized uses and disclosures is difficult, and we do

not know whether the steps we have taken to protect our confidential information will be effective. Our trade secrets and other confidential information may be inadvertently or illegally disclosed and competitors may gain access to our trade secrets.

Despite these efforts, any of these parties may breach agreements and disclose our confidential information, including our trade secrets, and we may not be able to obtain adequate remedies for any breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, some courts both within and outside the United States may be less willing or unwilling to protect confidential information, including trade secrets. If a competitor lawfully obtains or independently develops any of our trade secrets, we will have no right to prevent that competitor from using such information to compete with us, which could harm our competitive position. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, or misappropriation of our intellectual property by third parties, we may not be able to establish or maintain a competitive advantage in our markets, which could materially adversely affect our business, operating results, financial condition, and prospects. Additionally, it is possible that our genome-editing technology platform, our trade secrets, and our know-how will over time be disseminated within the industry through the publication of journal articles and the movement of personnel from our company into academia or into other companies that may be our competitors.

Furthermore, others may independently discover our trade secrets or other confidential information. For example, the FDA, as part of its Transparency Initiative, is currently considering whether to make additional information publicly available on a routine basis, including information that we consider to be confidential, including trade secrets, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position will be materially harmed.

Intellectual property rights do not necessarily address all potential competitive threats and may not adequately protect our business or permit us to maintain our competitive advantage.

The degree of future protection afforded by our intellectual property rights, whether through patents or trade secrets, is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make, use, and sell cell therapy products that are similar to our product candidates without infringing our intellectual property rights;
- others may independently develop similar or alternative genome-editing technologies without infringing our intellectual property rights;
- we may not detect that a third-party is infringing our intellectual property rights;
- we may not develop additional patentable technologies;
- others may misappropriate our trade secrets, or independently develop or acquire our trade secrets lawfully; and
- our patents may have expired, whether or not PTE was granted.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If our trademarks 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 are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected. Our unregistered trademarks may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our unregistered trademarks. Over the long term, if we are unable to successfully register our trademarks and establish name recognition based on our trademarks,

then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our trademarks, domain names, copyrights, or other intellectual property rights may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our business, financial condition, results of operations, and prospects.

Risks Relating to our Relationships with Third Parties

We rely on third parties to supply the materials for, and the manufacturing of, our clinical product candidates, and, if such product candidates receive regulatory approval, we may continue our reliance on third parties for manufacturing our commercial products. Our continued success is subject to the performance of these third parties.

We currently do not have clinical-scale manufacturing capabilities, nor do we have any immediate plans to develop such capabilities; thus, we must rely on third-party CMOs to manufacture clinical supplies for our product candidates. We currently rely on five different CMOs to supply materials to additional CMOs that manufacture CB-010, CB-011, and CB-012 product candidates for our phase 1 clinical trials. We anticipate that we may need to engage other suppliers and CMOs for our clinical trials with our product candidates.

We receive the CRISPR chRDNA guides used for genome editing from one CMO, the Cas proteins (Cas9 in the case of CB-010 and Cas12a in the case of CB-011 and CB-012) from another CMO, the virus used to insert the CAR into the T cell genome from another CMO located outside the United States, and our healthy donor cells from multiple sources. The CMO that supplies the virus receives plasmid from another supplier used in the manufacture of the viral material. Other CMOs use all of these materials to manufacture the CAR-T products. Coordination is essential to ensure that the various materials are received in time by the CMOs manufacturing the T cell products for us, and in the correct amounts, for manufacturing runs. The manufactured CAR-T products then undergo a series of release testing. There can be no assurance that we will not experience supply or manufacturing issues in the future; particularly, given our reliance on single-source suppliers, some of which are small companies with limited resources and experience to support clinical, and ultimately commercial, products. We cannot ensure that these suppliers will remain in business or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purposes. In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand if we must switch to a new supplier or CMO. The time and effort to qualify a new supplier or CMO, including to meet any regulatory requirements for such qualification, could result in additional costs, diversion of resources, or reduced manufacturing yields, any of which would negatively impact our operating results. Furthermore, we may be unable to enter into agreements with a new supplier on commercially reasonable terms, which could have a material adverse impact on our business, financial condition, results of operations, and prospects.

If our CMOs and suppliers cannot successfully manufacture materials that conform to our specifications and the strict regulatory requirements of the FDA or other regulatory authorities, they will not be able to secure or maintain regulatory approval for their manufacturing facilities. In addition, we have no direct control over the ability of our CMOs and suppliers to maintain adequate quality control, quality assurance, and corresponding maintenance of records and documents, or to hire and retain trained personnel. If the FDA or a foreign regulatory authority inspects these third-party facilities for compliance with regulations for the manufacture and testing of materials or product candidates and, if these facilities fail inspection and cannot adequately correct deficiencies, we may need to find alternative CMOs, which would significantly impact our ability to develop and obtain regulatory approval for our product candidates, and if approved, to market our products.

One of our CMOs that manufacturers our CAR-T cell therapy product candidates is a company that currently has ties to China, and we expect to continue to use this CMO for some of our manufacturing in the near future. U.S. lawmakers have urged the U.S. government to investigate CMOs and CROs that have ties to China to ensure that sensitive U.S. biotechnology intellectual property is not transferred to China. Any such investigations or other regulatory actions could affect the ability of this CMO to provide services to us in a timely manner. Although the BIOSECURE Act was not passed by Congress, given the current uncertain political and legislative environment, particularly under the new Administration, it is unclear what form the BIOSECURE Act or similar legislation will take in the future and whether or when it will be enacted into law. As a result, we may need to seek additional alternative CMOs. Although we believe we will be able to identify and contract with one or more alternative CMOs, we cannot predict the terms of any such alternative arrangement nor what actions may ultimately be taken with respect to trade relations between the United States and China or other countries, what products and services may be subject to such actions or what actions may be taken by China or the other countries in retaliation. Additionally, any unfavorable government policies on international trade, such as export controls, capital controls or tariffs, new legislation or regulations, renegotiation of existing trade agreements, or any retaliatory trade actions due to recent or future trade tension, may impede, delay, limit, or increase the cost of manufacturing our CAR-T

cell therapy product candidates, including recently imposed tariffs by the new Administration. Such events could result in a lack of supply for our clinical trials, which could harm our business.

In addition, if our CMOs and suppliers are unable to timely perform or have operations temporarily halted as a result of inspection or enforcement actions taken by the FDA or other regulatory authorities, or as a result of pandemics or other public health crises, we may experience manufacturing delays or delays in receiving healthy donor cells used in manufacturing our product candidates or may need to find alternative CMOs or suppliers, which in each case would significantly impact our ability to develop, obtain regulatory approval for, and market our product candidates, if approved.

We do not yet have sufficient information to reliably estimate the cost of manufacturing our product candidates for commercialization, and the actual cost to manufacture and process our product candidates could materially and adversely affect the commercial viability of our product candidates. Our product candidates have not been manufactured at commercial scale, may not be able to achieve commercial manufacturing, and we may be unable to create a product inventory necessary to satisfy demands for any of our product candidates following approval. As a result, we may never be able to develop a commercially viable product. We recently incorporated partial HLA matching in our ANTLER phase 1 clinical trial and we believe that we will be able to manufacture sufficient materials to support this effort; however, there can be no assurances that we will be successful in manufacturing additional batches in a timely manner in order to supply our clinical trials.

In addition, our current reliance on a limited number of CMOs and suppliers exposes us to a variety of risks, each of which could delay our preclinical studies, clinical trials, the approval, if any, of our product candidates by the FDA or foreign regulatory authorities, or the commercialization of our product candidates or result in higher costs or deprive us of potential product revenue. These risks include:

- our CMOs and suppliers may be unable to timely manufacture our product candidates or produce the quantity and quality required to meet our preclinical, clinical, and commercial needs, if any;
- our CMOs and suppliers may not be able to execute our manufacturing procedures appropriately;
- our CMOs and suppliers have their own proprietary methods, which we may not have access to if we wish to, or are required to, switch CMOs or suppliers. Additionally, we may not own, or may have to share, the intellectual property rights to any improvements made by our CMOs in the manufacturing process for our product candidates;
- our CMOs and suppliers may not perform as agreed or may not remain in business for the time required to supply our clinical trials or to successfully manufacture, store, and distribute our commercial products;
- our CMOs and suppliers could breach or terminate their agreements with us;
- we face competition for supplies from other gene and cell therapy companies, which may make it difficult for us to secure materials or the testing of such materials on commercially reasonable terms or in a timely manner;
- our CMOs may fail to adequately store the various components received from our suppliers and any damage or loss of such materials could materially impact our ability to manufacture and supply our product candidates;
- our product candidates may be damaged or otherwise made unfit for use in clinical trials during shipment from our CMOs to clinical trial sites;
- we rely on third parties to perform release tests on our product candidates prior to delivery to clinical trial sites. If these tests are not appropriately done and test data are not reliable, patients could be put at risk of serious harm;
- we may be unable to identify additional CMOs or suppliers on acceptable terms or at all because the number of potential manufacturers is limited and the FDA or foreign regulatory authorities may have questions regarding any replacement CMO or supplier. This may require new testing and regulatory interactions. In addition, a new CMO would have to be educated in, or develop substantially equivalent processes for, production of our product candidates; and
- as a result of pandemics or other public health crises, our CMOs and suppliers may experience production delays and shutdowns.

Our CMO that supplies the virus we use to insert the CAR into our CAR-T product candidates is located outside the United States. To date, our virus CMO has not been audited by the FDA, but it has received the cGMP certification for

the manufacture of recombinant viral vectors from an EU national regulatory authority. There are additional risks with using a non-U.S. vendor, including:

- economic weakness, including inflation, or political instability in particular non-U.S. economies and markets;
- difficulties in compliance with non-U.S. laws and regulations;
- changes in non-U.S. regulations and customs, tariffs, and trade barriers;
- changes in non-U.S. currency exchange rates and currency controls;
- trade protection measures, import, or export licensing requirements, or other restrictive actions by U.S. or non-U.S. governments;
- negative consequences from changes in tax laws;
- difficulties in managing international logistics and transportation;
- the CMO's potential unfamiliarity with FDA requirements when shipping into the United States; and
- workforce uncertainty in countries where labor unrest is more common than in the United States.

For our allogeneic CAR-T product candidates, we rely on receiving safe and healthy donor material to manufacture our product candidates. Variation in quality of donor T cells, and potential challenges in procuring appropriate donor material, could impact the safety or efficacy of our product candidates, result in insufficient product supply, or cause us to be unable to initiate or continue clinical trials on the timelines we expect.

We are reliant on receiving healthy donor material to manufacture our product candidates. Healthy donor T cells vary in quality, and this variation requires us to release batches with the highest integrity based on specifications confirmed by regulatory authorities, which makes producing standardized product candidates more likely. However, this step may slow the development and commercialization pathway of those product candidates if releasable batches are not identified sufficiently rapidly. We and our CMOs have developed a screening process designed to enhance the quality and consistency of T cells used in the manufacture of our CAR-T cell product candidates, but our screening process may fail to identify suitable donor material and we may discover failures or issues impacting the safety or efficacy of our product candidates after production or during clinical trials. We may also have to develop new testing methods and update our specifications for new risks, such as screening for new viruses or developing additional screening for known viruses. We have strict specifications for donor material, which include specifications required by regulatory authorities as well as requirements for additional screening, for example, HLA matching and donor age and health. We recently incorporated partial HLA matching in our ANTLER and GALLOP phase 1 clinical trials and there may be other beneficial donor characteristics that could affect the efficacy and durability of our product candidates, which we may need to incorporate into our screening processes.

If we are unable to (i) identify and obtain donor material that satisfies specifications, (ii) agree with regulatory authorities on appropriate specifications, or (iii) address variability of donor T cells, there may be insufficient material or we may be unable to initiate or continue clinical trials on the timelines we expect, which could harm our reputation and adversely impact our business and prospects. Although our suppliers are currently able to provide us with donor material, if, in the future, our suppliers are unable to secure donor material due to pandemics or other public health crises or for any other reasons, we may no longer have sufficient donor material to manufacture our cell therapy product candidates. Additionally, our donor-derived product candidates may be subject to rapid recognition by a patient's immune system, thus limiting their potential efficacy.

We rely and will continue to rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or do not meet deadlines, we may not be able to obtain regulatory approval of, or commercialize, our product candidates.

We depend, and will continue to depend, on CROs, clinical trial sites and clinical trial principal investigators, contract laboratories, and other third parties to conduct our ongoing and future clinical trials. We will rely heavily on these third parties over the course of our clinical trials, and we control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the protocol and applicable legal, regulatory, and scientific standards and regulations, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with cGCPs, which are regulations and guidelines

enforced by the FDA and comparable foreign regulatory authorities for the conduct of clinical trials on product candidates in clinical development. Regulatory authorities enforce cGCPs through periodic inspections and for-cause inspections of clinical trial principal investigators and trial sites. If we or any of these third parties fail to comply with applicable cGCPs or fail to enroll a sufficient number of patients, we may be required to conduct additional clinical trials to support our marketing applications, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal, state, or foreign fraud and abuse or false claims laws and regulations or healthcare privacy and security laws, or provide us or government agencies with inaccurate, misleading, or incomplete data.

Although we design the clinical trials for our product candidates, our CROs facilitate and monitor our clinical trials. As a result, many important aspects of our clinical development programs, including site and investigator selection, and the conduct and timing and monitoring of the study, are partly or completely outside our direct control. Our reliance on third parties to conduct and monitor the progress of clinical trials also results in less direct control over the collection, management, and quality of data developed through clinical trials than would be the case if we were relying entirely upon our own employees. Communicating with third parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities.

Any third parties conducting our clinical trials are not, and will not be, our employees and, except for remedies available to us under our agreements with these third parties, we cannot control whether they devote sufficient time and resources to our ongoing preclinical, clinical, and nonclinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug and biologic development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet deadlines, if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or if there are other difficulties with such third parties, such as staffing difficulties, changes in priorities, or financial distress, our clinical trials may be extended, delayed, or terminated.

Unauthorized access or manipulation of our clinical trial data in databases maintained or utilized by third parties may adversely affect the validity of the data from our clinical trials and, ultimately, our clinical trials. There have been instances in the biotechnology industry of clinical trial investigators acting improperly, including data fabrication and unauthorized manipulation of data. In addition, a growing number of cybersecurity incidents are being reported, during which certain organizations gain access to databases that contain clinical trial data and demand a ransom. In such instances, it may be difficult to determine whether the validity of our clinical trial data has been compromised, thereby jeopardizing the entire clinical trial. As a result, we may not be able to complete development of, obtain regulatory approval of, or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for our product candidates will be harmed, our costs could increase, and our ability to generate revenue could be delayed.

If any of our relationships with trial sites, or any CRO that we may use in the future, terminates, we may not be able to timely enter into arrangements with alternative trial sites or CROs, or do so on commercially reasonable terms. Switching or adding clinical trial sites or CROs to conduct our clinical trials involves substantial cost and requires extensive management time, training, and focus. In addition, there is a natural transition lag when a new third party must learn about our product candidates and protocols, which can result in delays that may materially impact our ability to meet our desired clinical development timelines.

We also are required to register certain ongoing clinical trials and post the results of completed clinical trials on a U.S. government-sponsored database, www.ClinicalTrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity, and civil and criminal sanctions. Our ANTLER phase 1 clinical trial for our CB-010 product candidate, our CaMMouflage phase 1 clinical trial for our CB-011 product candidate, and our AMpLIFY phase 1 clinical trial for our CB-012 product candidate are posted on www.ClinicalTrials.gov. For any violations of laws and regulations during the conduct of our preclinical studies and clinical trials, we could be subject to warning letters or enforcement action that may include civil and other penalties, up to and including criminal prosecution.

We may form or seek collaborations or strategic alliances in the future for the development and commercialization of one or more of our product candidates or for new product candidates. We may not be successful in those efforts and, even if we do enter into any collaborations, they may not be successful.

Our product candidate development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. To date, we have not partnered with a third party with respect to commercializing of any of our product candidates. We have entered into agreements with Pfizer with respect to certain

information rights and rights of first negotiation with Pfizer regarding a BCMA Product Candidate, including our CB-011 product candidate. In the future, we may choose to partner with third parties for one or more of our product candidates. If we are unable to negotiate and enter into partnerships, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market, if approved, and generate product revenue.

If we decide to collaborate with pharmaceutical or biotechnology companies for the development and potential commercialization of any of our product candidates, or new product candidates, we may not be able to negotiate collaborations for such product candidates on a timely basis, on acceptable terms, or at all. We may also be restricted under existing agreements from entering into future collaborations. Collaborations are complex and time-consuming to negotiate and document. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the potential collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the potential collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by FDA or comparable regulatory authorities outside the United States, the potential market for the subject product candidate or candidates, the costs and complexities of manufacturing and delivering such product candidates to patients, the potential of competing biologics or other therapeutic approaches, 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 potential 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 one with us for our product candidate or for a new product candidate. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. Thus, we may face significant competition in seeking appropriate collaborators.

Furthermore, the terms of any collaborations or other arrangements that we may establish may not be favorable to us. Even if we are able to enter into a collaboration, the following are some of the risks associated with doing so:

- collaborators have significant discretion in determining the efforts and resources that they will apply to collaborations and may not devote sufficient resources to the development, manufacturing, marketing, or sale of collaboration products;
- collaborators may not pursue development and commercialization of any product candidates we may develop or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding, or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials, or require further development of a product candidate for clinical testing;
- collaborators may adopt alternative technologies, which could decrease the marketability of our product candidates and genome-editing technologies;
- collaborators may independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours, that may result in the withdrawal of the collaborator support for our collaboration product candidates;
- collaborators with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of our product candidates;
- collaborators may not properly obtain, maintain, enforce, or defend our intellectual property if we grant such rights or may use our intellectual property in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or expose us to potential litigation;

- we may lose certain valuable rights under circumstances identified in our collaborations, including if we undergo a change in control;
- disputes may arise between our collaborator and us that may cause the collaborator to act in a manner adverse to us and could result in the delay or termination of the research, development, or commercialization of our product candidates or that result in costly litigation or arbitration that diverts our management's attention and resources;
- collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner, if at all. For example, if a collaborator 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 be terminated and, if terminated, we may find it more difficult to find a suitable replacement collaborator or attract new collaborators, resulting in a need for additional capital to pursue further development or commercialization of the applicable product candidates we may develop.

We may not realize the benefits of acquired assets or other strategic transactions.

We evaluate various strategic transactions on an ongoing basis. We may acquire other businesses, products or product candidates, intellectual property, or technologies as well as pursue joint ventures or investments in complementary businesses. The success of any future strategic transaction depends on various risks and uncertainties, including:

- unanticipated liabilities related to acquired companies or joint ventures;
- difficulties integrating acquired personnel, technologies, and operations into our existing business;
- retention of key employees;
- diversion of management's time and focus from operating our business to management of strategic alliances or joint ventures or acquisition integration challenges;
- increases in our expenses and reductions in our cash available for operations and other uses;
- disruption in or termination of our relationships with collaborators or suppliers as a result of such a transaction; and
- possible write-offs or impairment charges relating to acquired businesses or joint ventures.

Foreign acquisitions and joint ventures are subject to additional risks, including those related to integration of operations across different cultures and languages, currency risks, potentially adverse tax consequences of overseas operations, and the particular economic, political, and regulatory risks associated with specific countries.

Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We could also incur losses resulting from undiscovered liabilities that are not covered by the indemnification we may obtain from the seller.

If we in-license product candidates or products or acquire businesses, we may not be able to realize the benefit of those transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the results, revenue, or specific net income that justifies the transaction. Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, or amortization expenses or write-offs of goodwill, any of which could harm our financial condition.

Risks Relating to Employee Matters, Managing Growth, and Other Risks Relating to our Business

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

We are highly dependent upon our executive officers, particularly our president and chief executive officer, Rachel E. Haurwitz, Ph.D., as well as other members of our senior management team. Although we have entered into

employment agreements with all our executive officers, each of them may terminate their employment with us at any time, which could result in disruption to our business while we find, negotiate with, and hire an executive officer to serve in the same function or while we reorganize our departmental reporting structures.

All our non-officer employees are "at will," which means that any of our employees could leave our employment at any time, with or without notice. We conduct substantially all our research activities at our facilities in Berkeley, California. The San Francisco Bay Area is headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our industry is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms, if at all. Certain of our scientists have greatly contributed to our intellectual property and are critical as we move our CRISPR-Cas12a chRDNA technology platform forward. Many of the biotechnology companies and research institutions that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles, and a longer history in the industry than we do.

Recruiting and retaining qualified research, development, manufacturing, regulatory, and clinical personnel is critical to our success. Our success also depends on our ability to continue to attract, retain, and motivate entry-level, mid-level, and senior scientific personnel as well as managers. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies, as well as academic and research institutions, for similar personnel. If we are unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which we can discover and develop product candidates and operate our business will be limited. To induce employees to remain at our company, in addition to salary and cash incentives, we provide equity awards that vest over time, the value of which may be significantly affected by movements in our stock price that are beyond our control and may be insufficient to counteract more lucrative offers from other companies.

Since the COVID pandemic, many of our non-researchers work remotely or on a hybrid work schedule. This may lead to employees not feeling as connected to our company and thus more inclined to pursue other opportunities. Additionally, on July 16, 2024, we announced that we had discontinued preclinical research activities associated with our allogeneic CAR-NK platform and reduced our workforce by 21 positions, or approximately 12%, primarily in the research group. This reduction in force, as well as any others we may need to implement in the future, may have a detrimental impact on company culture and employee morale, which may hurt our ability to retain employees.

We rely on consultants and advisors, including our co-founders and SAB, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors, including Drs. Jennifer A. Doudna and Martin Jinek, who are among our founders and who are pioneers in CRISPR genome-editing technology, are not employed by us, are employed by employers other than us, and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

The inability to recruit or retain certain executive officers, key employees, consultants, or advisors may impede the progress of our research, development, and commercialization objectives and have a material adverse effect on our business, intellectual property, financial condition, results of operations, and prospects.

We must continue developing and expanding our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of March 1, 2025, we had 147 full-time employees, and we expect to continue to increase our number of employees and the scope of our operations in 2025 and beyond as we seek to advance development, and if successful, commercialization, of our product candidates. To manage our anticipated development and expansion, we must continue to implement and improve our managerial, operational, and financial systems; expand our facilities; and continue to recruit and train additional qualified personnel. Current and future growth imposes significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, motivating, and integrating additional employees;
- managing our internal development efforts effectively, including clinical trials and FDA or foreign regulatory authority review for our product candidates, while complying with our contractual obligations to third parties; and
- improving our operational, financial and management controls, reporting systems, and procedures.

Also, our management may need to divert a disproportionate amount of its attention away from their day-to-day activities and devote a substantial amount of time to managing these expansion activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel.

This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees, and reduced productivity among our remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage this expansion, our expenses may increase more than expected, our ability to generate or increase our revenue 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, if approved, and compete effectively will depend, in part, on our ability to effectively manage the continuing development and expansion of our company.

Our internal computer systems, or those of third parties with which we interact, may fail or suffer security breaches, which could result in a material disruption of the development of our product candidates and research programs, compromise sensitive information related to our business, or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.

Our internal computer systems, and those of third parties with which we interact, including our clinical sites, governmental agencies, CMOs, suppliers, CROs, clinical sites, and the like, are vulnerable to damage from computer viruses, ransomware, malware, data corruption, cyber-based attacks, phishing attacks, unauthorized access, natural disasters, terrorism, war, and telecommunication and electrical failures. Attacks on information technology systems are increasing in their frequency, levels of persistence, sophistication and intensity, and they are being conducted by increasingly sophisticated and organized groups and individuals with a wide range of motives and expertise. The prevalent use of mobile devices and unauthorized applications also increases the risk of data security incidents. Additionally, remote work has become more common and has increased risks to our information technology systems and data, as more of our employees utilize network connections, computers, and devices outside our premises or network, including working at home, while in transit, and in public locations. 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. 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.

Although we have not experienced any such material system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our product candidate development and our business operations, whether due to a loss of our trade secrets or other confidential information or other similar disruptions. For example, the loss of clinical trial data from our current or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in the theft, loss, or destruction of intellectual property, data, or other misappropriation of assets; financial loss; or otherwise compromise our confidential information, including trade secrets, and disrupt our operations, our competitive position could be harmed, and the further development and commercialization of our product candidates could be delayed, any of which could materially adversely affect our business, financial condition, results of operations, and growth prospects.

We could be subject to risks caused by misappropriation, misuse, leakage, falsification, or intentional or accidental release or loss of information maintained in the information systems and networks of our company, our third-party service providers and vendors, and clinical sites, including personal information of our employees and, potentially, our clinical trial patients, and company and vendor confidential data. In addition, third parties may attempt to penetrate our systems or those of our vendors or fraudulently induce our personnel or the personnel of our vendors to disclose sensitive information to gain access to data and systems. We may experience threats to our data and systems, including malicious codes and viruses, phishing, and other cyberattacks. The number and complexity of these threats continue to increase over time. If a material breach of our information technology systems or those of our vendors occurs, the market perception of the effectiveness of our security measures could be harmed and our reputation and credibility could be damaged. We could be required to expend significant amounts of money and other resources to repair or replace information systems or networks.

In addition, we could be subject to regulatory actions or claims made by individuals and groups in litigation involving privacy issues related to data collection and use practices and other data privacy laws and regulations, including claims for misuse or inappropriate disclosure of data, as well as unfair or deceptive practices. Although we develop and maintain systems and controls designed to prevent these events from occurring, and we have a process to identify and mitigate threats, the development and maintenance of these systems, controls, and processes is costly and requires ongoing

monitoring and updating as technologies change and efforts to overcome security measures become increasingly sophisticated.

Moreover, despite our efforts, the possibility of these events occurring cannot be eliminated entirely. As we outsource more of our information systems to vendors, engage in more electronic transactions with clinical sites and collaborators, and rely more on cloud-based information systems, the related security risks will increase and we will need to expend additional resources to protect our technology and information systems. In addition, there can be no assurance that our internal information technology systems, or those of third parties with which we conduct business, will be sufficient to protect us against breakdowns, service disruption, data deterioration, or loss in the event of a system malfunction, or prevent data from being stolen or corrupted in the event of a cyberattack, security breach, industrial espionage attacks, or insider threat attacks, which could result in financial, legal, business, or reputational harm.

Our employees, clinical trial principal investigators, and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, clinical trial principal investigators, and consultants. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in other jurisdictions, to provide accurate information to the FDA and other regulatory authorities, to comply with healthcare fraud and abuse laws and regulations in the United States and in other jurisdictions, to report financial information or data accurately, or to disclose unauthorized activities to us. Such misconduct could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. We may also be subject to federal, state, and foreign laws governing the privacy and security of identifiable patient information. If our operations are found to be in violation of any of these laws that apply to us, we may be subject to significant administrative, civil, and criminal penalties. If we commercialize our products, 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 restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs, and other business arrangements.

We have adopted a Code of Business Conduct, Scientific and Data Integrity, and Ethics that is applicable to all of our employees, but it is not always possible to identify and deter employee misconduct. The precautions we take to detect and prevent misconduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations, and prospects, including the imposition of administrative, civil, and criminal penalties; damages; monetary fines; contractual damages; reputational harm; and curtailment of our operations, any of which could adversely affect our business, financial condition, results of operations, and prospects.

We may be subject to claims that our employees, consultants, or third parties performing services for us have wrongfully used or disclosed confidential information of third parties.

Many of our employees were previously, and our consultants are or were previously, employed at universities or research institutions, or at other biotechnology or pharmaceutical companies. Although we try to ensure that our employees, consultants, and third parties performing services for us do not use the confidential information of former employers or other companies in their work for us, we may be subject to claims that we or these individuals have used or disclosed confidential information or intellectual property, including trade secrets, of any such individual's current or former employer or other third party. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to our management and employees.

If we fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business; additionally, our business could be shut down until we are in compliance with those laws and regulations.

We are subject to numerous federal, state, and local environmental, health, and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment, and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and

biological materials. Our operations also produce hazardous waste products. We contract with third parties for the disposal of these materials and wastes. We will not be able to eliminate the risk of contamination or injury from these materials. If contamination or injury results from any use by us of hazardous materials, we could be held liable for any resulting damages. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with these laws and regulations. In addition, we may incur substantial costs to comply with current or future environmental, health, and safety laws and regulations. These current or future laws and regulations may impair our product candidate development and research program efforts.

Moreover, there is increasing stakeholder pressure on companies to diligence environmental, social, and governance matters in the supply chain. Negative publicity regarding production methods, alleged practices, or workplace or related conditions of any of our CMOs, suppliers, CROs, clinical sites, or third parties who perform services for us could adversely affect our reputation. We could be forced to locate alternatives, which could increase our costs and result in delayed supply of components for, and manufacturing of, our product candidates, or other disruptions to our operations.

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

Although we have obtained product liability insurance coverage for our clinical trials, it may not be adequate to cover all expenses or liabilities that we may incur. Furthermore, we anticipate that we will need to increase our insurance coverage if we successfully commercialize any product candidate. Product insurance coverage is increasingly expensive, and we may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. Once, and if, we obtain marketing approval for a product candidate, we intend to acquire product liability insurance coverage for our commercial products; however, we may be unable to obtain such product liability insurance on commercially reasonable terms or in adequate amounts. Our insurance policies may also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. Additionally, we may have to pay amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Many of our license agreements require us to indemnify our licensors or licensees against certain third-party claims; we may not have insurance for those indemnifications or our insurance may be inadequate should any claim arise.

As a public company, it is expensive for us to maintain and, in the future, increase our levels of director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our cash position and results of operations. As a result, it may be more difficult for us to attract and retain qualified people to serve on our board of directors, our board committees, or as executive officers.

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

We will face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if such product candidates receive marketing approval and are sold commercially. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing, or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against claims that our product candidates caused injuries, we could incur substantial liabilities. Even a successful defense would require significant financial and management resources. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial patients;
- significant costs to defend any related product liability litigation;
- initiation of investigations by regulators;
- diversion of our management’s time and resources;

- substantial monetary awards to clinical trial patients;
- product recalls, withdrawals, or labeling, marketing, or promotional restrictions;
- exhaustion of any available insurance and our capital resources;
- loss of revenue;
- the inability to commercialize any product candidates that we may develop; and
- a decline in our stock price.

As a public company, we are obligated to develop and maintain proper and effective internal controls over financial reporting, and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act"), to furnish a report by management on, among other things, the effectiveness of our internal controls over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal controls over financial reporting. In addition, our independent registered public accounting firm will be required to attest to the effectiveness of our internal controls over financial reporting in our first annual report required to be filed with the SEC following the date we are no longer an emerging growth company if we are not a non-accelerated filer at such time.

If we or our independent registered public accounting firm determines we have a material weakness in our internal controls over financial reporting, investors could lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities. Internal control deficiencies could also result in a restatement of our financial results in the future. Failure to remedy any material weakness or significant deficiency in our internal controls over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our effective tax rate may fluctuate, and we may incur obligations in tax jurisdictions in excess of amounts accrued on our financial statements.

In addition to federal income tax, we are subject to taxation in various state and local tax jurisdictions. As a result, our effective tax rate is derived from a combination of applicable tax rates in the locations in which we operate. In preparing our financial statements, we estimate the amount of tax that will become payable in each jurisdiction using enacted tax rates as of the balance sheet date. Nevertheless, our effective tax rate may change from year to year due to numerous factors, including changes in the mix of our profitability, if any, from jurisdiction to jurisdiction, the results of examinations and audits of our tax filings, our inability to secure or sustain acceptable agreements with tax authorities, and changes in tax laws. For example, the new Administration and Congress are discussing various proposals that would renew, modify, or eliminate the international and other corporate provisions of the 2017 Tax Act and federal tax laws more generally. Any of these factors could result in an effective tax rate significantly different from previous periods and may result in tax obligations in excess of amounts accrued in our financial statements.

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

We have generated, and expect to continue to generate in the future, significant federal and state net operating loss ("NOL") carryforwards that are available to offset taxable income in future years, if any. We have also generated, and expect to continue to generate in the future, significant federal and state research and development tax credit carryforwards, and, beginning in 2022, we began to generate orphan drug credit carryforwards that are available to potentially offset federal and state income taxes, respectively, in future years, if any.

Under the Tax Cuts and Jobs Act of 2017 ("TCJA"), as modified by the Coronavirus Aid, Relief and Economic Security Act ("CARES Act"), our federal NOLs incurred in taxable years beginning after December 31, 2017 may be carried forward indefinitely. Additionally, for tax years beginning after December 31, 2020, the deductibility of federal NOLs incurred in taxable years beginning after December 31, 2017 is limited to 80% of our taxable income. It is uncertain if and to what extent various states will conform to the NOL changes contained in the TCJA and the CARES Act. Federal research and development credit and orphan drug credit carryforwards may only be carried forward for 20 years and therefore could expire unused. As a result, they may be unavailable to offset future taxes.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended ("Tax 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 by certain stockholders over a rolling three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes (such as research and development tax credits) to offset its post-change income or taxes may be limited. We have experienced prior ownership changes in 2014, 2016, and most recently in July 2021 upon our IPO. We do not expect any permanent limitations on our tax attributes. We have recorded a full valuation allowance for deferred tax assets, including NOLs and tax credits as of December 31, 2024. The issuance of common stock in the future, or shifts in the ownership of our common stock among certain stockholders, either separately or in combination, over time may result in a limitation under Sections 382 and 383 of the Code. In addition, at the state level, there may be periods during which the use of NOL carryforwards is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, California imposed limits on the use of California state NOLs and tax credits to offset California taxable income in years beginning after 2019 and before 2022. If an ownership change occurs and we earn taxable income in future years, the limitation on our ability to use our NOLs and other tax attribute carryforwards could adversely affect our future operating results by increasing our future income tax liabilities. See Note 13 to the consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

Pandemics or other public health crises may adversely impact our business, financial condition, and results of operations, including our preclinical studies and clinical trials, and may cause substantial disruption in the financial markets and adversely impact economies worldwide.

We may experience disruptions related to pandemics or other public health crises that could severely impact our business, preclinical studies, clinical trials, and commercialization activities, including:

- halting or suspending enrollment in our clinical trials;
- delays or difficulties in enrolling and retaining patients in our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site data monitoring and efficacy, safety and translational data collection, and processing and analyses, due to limitations on travel imposed or recommended by federal, state, or local governments, employers and others or interruption of clinical trial subject visits, which may impact the collection and integrity of subject data and clinical trial endpoints;
- requirements to change the ways in which our preclinical studies and clinical trials are conducted due to governmental regulations as part of a response to pandemics or other public health crises, which may result in unexpected costs, delays, or discontinuation of our preclinical studies and clinical trials altogether;
- increased adverse events and deaths in our clinical trials due to pandemic-related infections;
- increased rates of patients withdrawing from our clinical trials following enrollment as a result of contracting certain diseases or being forced to quarantine due to other public health crises;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption or delays in the operations of the FDA and comparable foreign regulatory agencies and necessary interactions with such regulatory agencies due to limitations in employee resources, limitations on travel, forced furlough of government employees, or diversion of resources, which would impact review and approval timelines;
- interruption of, or delays in receiving, supplies of components for our product candidates from our suppliers, including the supply of healthy donor cells, and delays or suspension in manufacturing by our CMOs due to staffing shortages, production slowdowns or stoppages, and disruptions in delivery systems, or due to prioritization of production for pandemic-related therapies or vaccines;
- limitations on employee resources that would otherwise be focused on advancing our business, including because of sickness of employees or their families, including our executive officers and other key employees, the desire of employees to avoid contact with large groups of people, an increased reliance on working from home, or mass transit disruptions; and
- significant disruptions and volatility in the financial markets.

The extent to which pandemics or other public health crises may impact our business, research, preclinical studies and clinical trials, productivity of our employees, supply chains, and access to capital or business development activities will depend on future developments, which are highly uncertain at this time. To the extent pandemics or other public health crisis adversely affects our business, financial condition, results of operations, and prospects, it may also have the effect of amplifying many of the other risks described in this "Risk Factors" section, such as those relating to the timing and results of our current and future clinical trials and our financing needs.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

In addition to the business disruptions caused by public health crises or potential cybersecurity attacks, our operations, and those of our CMOs, suppliers, CROs, and clinical trial sites, could be subject to disruptions, including those caused by earthquakes, power shortages or outages, telecommunications failures, water shortages or outages, floods, hurricanes, typhoons, fires, extreme weather conditions, epidemics and pandemics, and other natural or man-made disasters or business interruptions. The occurrence of any of these business disruptions could seriously harm our business, financial condition, results of operations, and prospects, and increase our costs and expenses. Our ability to manufacture our product candidates could be disrupted if our operations or those of our CMOs, suppliers, CROs, or clinical trial sites are affected by a natural or man-made disaster or other business interruption. Our corporate headquarters are located in California near major earthquake faults and fire zones. The ultimate impact on us and our general infrastructure of being located near major earthquake faults and fire zones and being consolidated in certain geographical areas is unknown, but our business, financial condition, results of operations, and prospects could suffer in the event of a major earthquake, fire, or other natural disaster. Furthermore, our preclinical work involves studies in mice. In the past, vivarium sites have been shut down by animal activists, and any disturbance or shut down at sites where our preclinical work is being conducted could jeopardize our data and affect our product candidate timelines.

Furthermore, we interact with the FDA and other federal, state, and regulatory agencies, and lack of funding for such agencies or temporary shutdowns can affect our operations. Over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, and has had to furlough critical government employees and stop critical activities. The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels; ability to hire and retain key personnel; statutory, regulatory, and policy changes; and public health crises. Average review times at the agency have fluctuated in recent years as a result. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions for our product candidates, which could have a material adverse effect on our business.

Adverse developments affecting the financial services industry could adversely affect our current and projected business operations and our financial condition and results of operations.

Adverse developments that affect financial institutions, such as events involving liquidity that are rumored or actual, have in the past and may in the future lead to bank failures and market-wide liquidity problems. For example, on March 10, 2023, Silicon Valley Bank ("SVB") was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. Similarly, on March 12, 2023, Signature Bank and Silvergate Capital Corp. were each put into receivership. Although the U.S. Department of Treasury, FDIC, and Federal Reserve Board have implemented a program to provide up to $25 billion of loans to financial institutions secured by certain of such government securities held by financial institutions to mitigate the risk of potential losses on the sale of such instruments, widespread demands for customer withdrawals or other liquidity needs of financial institutions for immediate liquidity may exceed the capacity of such program, there is no guarantee that such programs will be sufficient. Additionally, it is uncertain whether the U.S. Department of Treasury, FDIC, and Federal Reserve Board will provide access to uninsured funds in the future in the event of the closure of other banks or financial institutions, or that they would do so in a timely fashion. Although we have not experienced any adverse impact to our liquidity or to our current and projected business operations, financial condition, or results of operations as a result of the matters relating to these banks, uncertainty remains over liquidity concerns in the broader financial services industry, and our industry as a whole may be adversely impacted in ways that we cannot predict at this time. As of December 31, 2024, substantially all our cash on deposit was maintained at four financial institutions in the United States, and our current deposits are in excess of federally insured limits. If further failures in financial institutions where we hold deposits occur, we could experience additional risk. Any loss or limitation on our cash, cash equivalents, or marketable securities would adversely affect our business. In addition, if any of the third parties on which we rely to conduct our preclinical studies or clinical trials are unable to access funds pursuant to a failure at a financial institution, the ability for such party to fulfill its obligations to us could be adversely affected.

Although we assess our banking relationships as we believe necessary or appropriate, our access to cash in amounts adequate to finance our current and projected future business operations could be significantly impaired by factors that affect the financial institutions with which we have banking relationships. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry. These factors could also include factors involving financial markets or the financial services industry generally. The results of events or concerns that involve one or more of these factors could include a variety of material and adverse impacts on our current and projected business operations and our financial condition and results of operations. These could include, but may not be limited to, delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets, termination of cash management arrangements, and/or delays in accessing or actual loss of funds subject to cash management arrangements.

In addition, widespread investor concerns regarding the U.S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other obligations, result in breaches of our financial and/or contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above, could have material adverse impacts on our liquidity and our current and/or projected business operations and financial condition and results of operations.

We maintain our cash at financial institutions, often in balances that exceed federally insured limits.

We maintain the majority of our cash and cash equivalents in accounts at banking institutions in the United States that we believe are of high quality. Cash held in these accounts often exceed the FDIC insurance limits. If such banking institutions were to fail, we could lose all or a portion of amounts held in excess of such insurance limitations. As noted above, the FDIC recently took control of certain banks. In the event of failure of any of the financial institutions where we maintain our cash and cash equivalents, there can be no assurance that we would be able to access uninsured funds in a timely manner or at all. Any inability to access or delay in accessing these funds could adversely affect our business and financial position.

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

Our business, financial condition, results of operations, or prospects could be adversely affected by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn, including as a result of pandemics or other public health crises, the ongoing war between Russia and Ukraine, conflict in the Middle East, and tension between China and Taiwan, interest rate fluctuations, rising inflation, recession, or other global financial, geopolitical crises or macroeconomic factors, could result in a variety of risks to our business, including weakened demand for our product candidates, if approved, or our ability to raise additional capital when needed on acceptable terms, if at all. Recent global events such as supply chain constraints have led to higher inflation, which, if sustained, could have a negative impact on our product development and operations. If inflation or other factors were to significantly increase our business costs, our ability to develop our current pipeline and new therapeutic product candidates may be negatively affected. A significant worsening of global economic conditions could precipitate or materially amplify the other risks described herein. Furthermore, the range of actions the new Administration has taken, and may take, around tariffs and trade and the associated uncertainty of how such actions may be implemented, may have adverse effects on the global economic environment and could also amplify such other risks. Global conflicts or a weak or declining economy may increase the likelihood disruptions of our clinical trials or manufacturing and supply of our product candidates. We are currently conducting our ANTLER clinical trial at sites in Israel and, although we have not experienced delays or interruptions to date, given the conflict in the Middle East, we may experience disruptions at these sites in the future. Additionally, any supply disruptions could make it more difficult for us to find favorable pricing and reliable sources for the materials we need, which would increase pressure on our costs and increase the risk that we may be unable to acquire the necessary materials to successfully manufacture our product candidates. Current capital market conditions, including the impact of inflation, have increased borrowing rates and can be expected to significantly increase the cost of capital as compared to prior periods and could also affect our ability to raise capital on favorable terms, or at all, in order to fund our operations. Similarly, these macroeconomic factors could affect the ability of our third-party suppliers and CMOs to manufacture clinical trial materials for our product candidates. Furthermore, we currently conduct some clinical trials

outside of the United States, and unfavorable global conditions could affect these trials. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which such conditions could adversely impact our business.

Risks Relating to Ownership of our Common Stock

The market price of our common stock has been, and may continue to be, volatile, and our investors may suffer substantial losses if the price of our common stock drops significantly.

Due to the volatility of the market price for our common stock, investors may suffer substantial losses if the price drops significantly. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the timing and results of preclinical studies and clinical trials for any product candidates that we develop;
- delay, failure, or discontinuation of any of our product candidates or research programs;
- results of preclinical studies, clinical trials, or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- adverse regulatory decisions, including failure to receive regulatory approval of one or more of our product candidates;
- unanticipated or serious safety concerns related to our product candidates;
- developments or changing views regarding the use of biologics, including those that involve genome editing;
- commencement or termination of collaborations;
- regulatory or legal developments in the United States and other countries;
- assertions that our product candidates infringe third-party patents;
- invalidity challenges to our intellectual property, including intellectual property that we have in-licensed;
- manufacturing delays and delays caused by supply chain issues;
- acceptance or lack of acceptance of allogeneic CAR-T cell therapies as compared with autologous CAR-T cell therapies and perceptions that allogeneic CAR-T cell therapies do not maintain a durable response;
- inability to obtain collaboration partners;
- the recruitment and retention of key personnel;
- the level of expenses related to any of our product candidates, including preclinical studies and clinical trials, as well as the level related to our research programs;
- the results of our efforts to develop additional product candidates or technologies;
- actual or anticipated changes in estimates as to financial results, development timelines, or recommendations by securities analysts;
- announcements or expectations of additional financing efforts;
- significant lawsuits, including contract disputes with our licensors, licensees, assignors, assignees, suppliers, CMOs, CROs, clinical sites, or securities class action litigation;
- sales of our common stock by us, our insiders, or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;

- general economic and political conditions such as recessions, inflationary pressures, interest rates, fuel prices, elections, drug pricing policies, international currency fluctuations, acts of war or terrorism, geopolitical events, and public health crises; and

- the other factors described in this "Risk Factors" section.

Our failure to meet the continued listing requirements of Nasdaq could result in the delisting of our common stock.

Our common stock is currently listed on the Nasdaq Global Select Market. The trading price of our common stock has been volatile and has traded between $1.00 and below $2.00 for the past three months and at various times over the past nine months. On March 7, 2025, the closing price of our stock was $1.16. In order to maintain our listing on the Nasdaq Global Select Market, we must continue to satisfy minimum financial and other continued listing requirements and standards, including a minimum closing bid price of $1.00 per share. A failure to meet the minimum closing bid price requirement occurs when a company's security has a closing bid price below $1.00 for a period of 30 consecutive trading days.

There can be no assurance that we will continue to be able to comply with the applicable Nasdaq Global Select listing requirements, or, if transferred, the Nasdaq Capital Market listing standards. If we fail to comply with the continued listing requirements of Nasdaq, Nasdaq may take steps to delist our common stock. If we fail to meet the minimum closing bid price requirement, we may need to implement a reverse stock split, which would require stockholder approval; there is no guarantee that such approval could be obtained and, even if it is obtained, we may fail to comply with applicable listing requirements thereafter. In the event that our common stock is delisted from Nasdaq and is not eligible for quotation or listing on another market or exchange, trading of our common stock could be conducted only in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. If this were to occur, it could become more difficult to dispose of, or obtain accurate price quotations for, our common stock and there would likely also be a reduction in our coverage by securities analysts and the news media, which could cause the price of our common stock to decline further. Furthermore, if we were to be delisted from Nasdaq, our common stock would cease to be recognized as "covered securities" and we would be subject to regulation in each state in which we offer our securities. Additionally, if Nasdaq delists our securities from trading on its exchange, we and our stockholders could face significant negative consequences, including reduced liquidity for our securities, a determination that shares of our common stock are "penny stock," which will require brokers to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our securities, and a decreased ability to issue additional securities or obtain additional financing in the future.

We are subject to securities class action litigation, and our officers and directors may be subject to shareholder derivative lawsuits, which may result in substantial costs and a diversion of management's attention and resources, which could harm our business.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities, and we recently settled one such class action and are currently defending another in the U.S. District Court for the Northern District of California, filed by purported stockholders against us and certain of our current and former officers. Additionally, a shareholder derivative complaint has been filed against our directors and certain of our current and former officers in the same court relating to the pending securities class action litigation. See Legal Proceedings in Item 3 of this Annual Report on Form 10-K for additional information. There is no guarantee that we will be able to settle this new securities class action litigation and, if we are able to settle, for what amount. We may face additional securities class action litigation, and our officers and directors may be subject to shareholder derivative suits, in the future. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years, and we expect to experience continued stock price volatility. Defending against the current litigation and any future litigation could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

We currently have research coverage by several biotechnology research analysts. If any of those analysts discontinue coverage, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline. If one or more of the analysts covering our business downgrade or adjust the price target as part of their evaluations of our stock, the price of our stock could decline.

We are an "emerging growth company" under the JOBS ACT and a "smaller reporting company" and the reduced disclosure requirements and exemptions from certain governance 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 for up to five years following our IPO (until the end of 2026). For as long as we remain an emerging growth company, we are permitted and plan to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act; not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board ("PCAOB") 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. As a result, the information we provide stockholders will be different than the information that is available with respect to some other public companies.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our consolidated financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

We are also a "smaller reporting company," as defined by applicable rules of the SEC. Even after we no longer qualify as an emerging growth company, we may still qualify as a smaller reporting company and would be permitted to continue to take advantage of many of the same reporting exemptions, including the exemption from the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act as long as we do not otherwise also qualify as an "accelerated filer" or "large accelerated filer" for SEC reporting purposes, and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. In addition, 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.

We cannot predict if investors will find our common stock less attractive if we rely on emerging growth company or smaller reporting company exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

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

As a public company, we have and will continue to incur legal, accounting, and other expenses that we did not incur as a private company. The Dodd-Frank Wall Street Reform and Consumer Protection Act, the Sarbanes-Oxley Act, the listing requirements of Nasdaq, 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. We have had to hire additional accounting, finance, legal, and other personnel in connection with our efforts to comply with the requirements of being, a public company. Our management and other personnel devote a substantial amount of time toward maintaining compliance with these requirements. These requirements have increased our legal and financial compliance costs and have made some activities more time-consuming and costly. Operating as a public company also makes it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain coverage. This may make it more difficult for us to attract and retain qualified people to serve on our board of directors or as executive officers.

As a public company, we are subject to Section 404 of the Sarbanes-Oxley Act and the related rules of the SEC, which generally require our management and independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting. However, for so long as we remain an emerging growth company as defined in the JOBS Act or a smaller reporting company, we intend to take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not emerging growth companies or smaller reporting companies, including, but not limited to, not being required to comply with the auditor attestation requirements of

Section 404. Once we are no longer either an emerging growth company or a smaller reporting company or, if prior to such date, we opt to no longer take advantage of the applicable exemption, we will be required to include an opinion from our independent registered public accounting firm on the effectiveness of our internal control over financial reporting.

During the course of our review and testing, we may identify deficiencies and be unable to remediate them before we must provide the required reports. Furthermore, if we identify any material weaknesses, we may not detect errors on a timely basis and our financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could materially and adversely affect our business, financial condition, results of operations, and prospects; cause investors to lose confidence in our reported financial information; and cause the trading price of our stock to fall. In addition, as a public company we are required to file accurate and timely quarterly and annual reports with the SEC under the Exchange Act. In order to report our results of operations and financial statements on an accurate and timely basis, we depend in part on third parties to provide timely and accurate notice of their costs to us. Any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from Nasdaq, or other adverse consequences that would materially and adversely affect our business, financial condition, results of operations, and prospects.

We do not expect to pay any dividends for the foreseeable future. Investors may never obtain a return on their investment.

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not invest in our common stock.

Provisions in our amended and restated certificate of incorporation, our amended and restated bylaws, and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders. These provisions may prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation, amended and restated bylaws, and Delaware law contain provisions that may have the effect of discouraging, delaying, or preventing a change in control of us or changes in our management that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. Our amended and restated certificate of incorporation and bylaws include provisions that:

- authorize “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend, and other rights superior to our common stock;
- established a classified board of directors whose members serve staggered three-year terms;
- specify that special meetings of our stockholders can be called only by our board of directors, the chair of our board, or our chief executive officer;
- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder matters to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- provide that our directors may be removed only for cause;
- expressly authorized our board of directors to make, alter, amend, or repeal our amended and restated bylaws; and
- require supermajority votes of the holders of our common stock to amend our amended and restated bylaws and specified provisions of our amended and restated certificate of incorporation.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock.

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

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws, or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the federal district courts will be 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, executive officers, or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative claim or action or proceeding brought on our behalf;
- any claim or action asserting a breach of fiduciary duty or aiding and abetting a breach of fiduciary duty;
- any claim or action against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Securities Act or the Exchange Act. 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 claims. 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 the federal district courts will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. This exclusive federal forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, executive officers, or other employees, which may discourage lawsuits against us and our directors, executive officers, and other employees.

Although 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 federal forum provisions. In March 2023, a putative class action lawsuit was filed in Superior Court of the State of California for the County of Alameda against our company and certain of our officers and current and former members of our board of directors, *Lowry v. Caribou Biosciences, Inc., et al.*, case number T23-1084 ("Lowry Case"), for alleged violations of Sections 11 and 15 of the Securities Act. In February 2024, the California state court granted our motion to dismiss on the grounds that our amended and restated certification of incorporation mandates that Securities Act claims against us be brought in federal court. Although we were successful in the Lowry Case and we will vigorously assert the validity and enforceability of our exclusive federal forum provision in any future litigation in other jurisdictions, this may require significant additional costs associated with resolving the action and there can be no assurance that the federal forum provision will be enforced by a court in the future or in other jurisdictions.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 1C. Cybersecurity.

Cybersecurity Risk Management and Strategy

We recognize the importance of assessing, identifying, and managing material risks associated with cybersecurity threats, as such term is defined in Item 106(a) of Regulation S-K. These risks include operational risks, intellectual property or trade secret theft, improper disclosure of confidential information, fraud, extortion, harm to employees or third parties with which we do business, and violation of data privacy or security laws.

Identifying and assessing cybersecurity risk is integrated into our overall risk management systems and processes. Cybersecurity risks related to our business, technical operations, privacy, and compliance issues are identified and addressed through a multi-faceted approach including third-party assessments, internal information technology ("IT") audits, and IT security reviews. To defend, detect, and respond to cybersecurity incidents, we perform cybersecurity reviews of systems and applications; audits of applicable data policies; regular vulnerability assessments and penetration testing using external third-party tools to test security control; security incident and event management; continuous monitoring, and threat intelligence gathering; conduct employee training; and implement appropriate changes.

We also leverage third-party expertise to audit and test our cybersecurity program. These include periodic reviews of cybersecurity threats and related controls, including reviews of periodic penetration tests conducted by independent third parties. We have implemented processes to manage the cybersecurity risks associated with our use of third-party service providers. This includes proactive monitoring of third party's configurations, risk questionnaires for new technology vendors, and other processes to minimize risks associated with our third-party providers.

Security events and data incidents are evaluated, ranked by severity, and prioritized for response and remediation. Incidents are evaluated to determine materiality as well as operational and business impact, and reviewed for privacy impact.

Our risk management program also assesses third-party risks, and we perform third-party risk management to identify and mitigate risks from third parties such as vendors and suppliers. Cybersecurity risks are evaluated when determining the selection and oversight of applicable third-party service providers and potential fourth-party risks when handling and/or processing our confidential information and data. In addition to new vendor onboarding, we perform risk management during third-party cybersecurity compromise incidents to identify and mitigate risks to us from third parties.

We do not believe that there are currently any risks from known cybersecurity threats that have materially affected or are reasonably likely to materially affect us, including our business strategy, results of operations, or financial condition. For additional information regarding risks we face, see Risk Factors - *"Our internal computer systems, or those of third parties with which we interact, may fail or suffer security breaches, which could result in a material disruption of the development of our product candidates and research programs, compromise sensitive information related to our business, or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business,*" in Item 1A of this Annual Report on Form 10-K.

Cybersecurity Governance

Cybersecurity is an important part of our risk management processes and an area of focus for our board of directors and management. The board's audit committee is responsible for the oversight of risks from cybersecurity threats and receives updates on a quarterly basis from management, including representatives from our IT, finance, and legal departments regarding matters of cybersecurity. These updates include existing and new cybersecurity risks, status on how management is addressing and/or mitigating those risks, cybersecurity and data privacy incidents (if any) and status on key information security initiatives. Our board members also engage in ad hoc conversations with management on cybersecurity-related news events and updates to our cybersecurity risk management and strategy programs.

Our day-to-day cybersecurity risk management and strategy processes are overseen by representatives from our IT, finance, and legal departments. Such individuals have an average of over 15 years of prior work experience in various roles involving IT security, auditing, compliance, data protection, privacy, risk management, systems, and programming. These individuals are informed about and monitor the prevention, mitigation, detection, and remediation of cybersecurity incidents through their management of, and participation in, our cybersecurity risk management and strategy processes, and report to the audit committee on any appropriate items.

Item 2. Properties.

Our corporate headquarters are located in Berkeley, California, where we lease approximately 71,735 square feet of laboratory and office space under two leases. These leases expire in March 2031, and July 2032. We have the ability to extend these leases for an additional five years each. See Note 8 to the consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

We believe that our existing facilities are adequate for our near-term needs and that suitable additional facilities will be available in the future if and when needed.

Item 3. Legal Proceedings.

From time to time, we may become involved in litigation arising in the ordinary course of business. Regardless of the outcome, litigation can have a material adverse effect on us due to defense and settlement costs, diversion of our management resources, and other factors.

On April 11, 2023, a putative class action lawsuit was filed in the U.S. District Court for the Northern District of California against our company and certain of our officers and current and former members of our board of directors, *Bergman v. Caribou Biosciences, Inc., et al.,* case number 3:23-cv-01742 ("Bergman Case"). The Bergman Case complaint challenged disclosures regarding our company's business, operations, and prospects, specifically with respect to the alleged durability of CB-010's therapeutic effect and the product candidate's clinical and commercial prospects, in alleged violation of Sections 11 and 15 of the Securities Act and Sections 10(b) and 20(a) of the Exchange Act. On September 18, 2023, plaintiffs filed an amended complaint adding the IPO underwriters as defendants and making substantially the same allegations as the original complaint. On November 14, 2023, we filed a motion to dismiss the amended complaint for failure to state a claim. Motion to dismiss briefing was completed on February 21, 2024. On April 22, 2024, we reached an agreement in principle with plaintiffs to settle the Bergman Case for $3.9 million in exchange for a full release of the putative class's claims against us and all our current and former officers, current and former members of our board of directors, the IPO underwriters, and the other named defendant. On February 18, 2025, the court issued an order granting final approval of the settlement.

On December 24, 2024, a putative class action lawsuit was filed in the U.S. District Court for the Northern District of California against our company and certain of our current and former officers, *Saylor v. Caribou Biosciences, Inc., et al., c*ase number 3:24-cv-09413 ("Saylor Case"). The alleged class period is July 14, 2023, to July 16, 2024. The Saylor Case complaint challenges disclosures regarding our business, operations, and prospects, specifically with respect to the alleged safety, efficacy, and durability of CB-010, CB-010's clinical results and commercial prospects, and our financial statements, in alleged violation of Sections 10(b) and 20(a) of the Exchange Act. The lawsuit is at the preliminary stage of the proceedings.

On March 3, 2025, a shareholder derivative complaint was filed in the U.S. District Court for the Northern District of California against our directors and certain of our current and former officers, *Moisio, derivatively on behalf of Caribou Biosciences, Inc. v. Haurwitz, et al,* case number 4:25-cv-02199 ("Derivative Case"), alleging, among other things, that the named directors and officers breached their fiduciary duties by causing our company to make the disclosures being challenged in the Saylor Case and seeking unspecified monetary damages for our company as well as that we make certain changes to our corporate governance. The Derivative Case is at the preliminary stage of the proceedings.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 4A. Information about our Executive Officers.

The following table contains certain information about our current executive officers as of March 1, 2025. Biographical information for our executive officers is listed in the table below.

Name	Age	Position(s)
Rachel Haurwitz, Ph.D.	39	President and chief executive officer; director

Tina Albertson, M.D., Ph.D.	52	Chief medical officer
Steven Kanner, Ph.D.	66	Chief scientific officer
Tim Kelly, M.B.A.	56	Chief technology officer
Ruhi Khan, M.B.A.	50	Chief business officer
Barbara McClung, J.D.	70	Chief legal officer and corporate secretary
Sriram Ryali, M.B.A.	44	Chief financial officer

Rachel Haurwitz, Ph.D., is a co-founder of Caribou and currently serves as our president and chief executive officer and as a director of our Company, positions she has held since our Company's inception in October 2011. Dr. Haurwitz is an inventor on patents and patent applications covering multiple CRISPR-based technologies and has co-authored several scientific papers characterizing CRISPR-Cas systems, including in *Science*. From July 2014 until November 2016, Dr. Haurwitz served on the Board of Directors of Intellia Therapeutics, Inc., of which she is a co-founder. From November 2021 until July 2024, she served on the Board of Directors of Seer, Inc, Since February 2020, Dr. Haurwitz has served on the Board of Directors of the Biotechnology Innovation Organization (BIO). She received her A.B. degree in Biological Sciences from Harvard College and her Ph.D. in Molecular and Cell Biology from the University of California, Berkeley, where she completed her thesis research in the laboratory of Dr. Jennifer A. Doudna.

Tina Albertson, M.D., Ph.D., has served as our chief medical officer since August 2024. Prior to joining Caribou, Dr. Albertson was most recently the Chief Medical Officer and Head of Development for Lyell Immunopharma, where she built and led the clinical development function. At Lyell, she initiated two Phase 1 clinical trials evaluating CAR-T cell and TIL therapies in solid tumors. Previously, Dr. Albertson was Vice President of Global Drug Development at Juno Therapeutics, a Bristol-Myers Squibb company, where she led the global development of Breyanzi(®) (lisocabtagene maraleucel) from IND to filing of the initial BLA that resulted in FDA approval in LBCL. At Juno, she led strategic development and execution of nine global clinical trials, including four registrational trials of Breyanzi(®) in other B cell malignancies and earlier lines of therapy. Dr. Albertson previously served as Medical Director of Clinical Development and Experimental Medicine at Seagen (formerly Seattle Genetics). Dr. Albertson earned her M.D. from Stanford University and completed a clinical fellowship in pediatric hematology/oncology at Seattle Children's Hospital and a residency in pediatrics at Denver Children's Hospital. She earned her Ph.D. in Cancer Biology from University of Washington and her B.S. in Molecular Biology from the University of Oregon.

Steven Kanner, Ph.D., has served as our chief scientific officer since June 2017. Before joining Caribou, Dr. Kanner served as Vice President, Head of Biology at Arrowhead Pharmaceuticals, Inc., a pharmaceutical company, from September 2013 to June 2017, leading a department in discovery of RNAi therapeutics for oncology, genetic diseases, and other indications. Prior to joining Arrowhead, he served in various positions of increasing responsibility in oncology and inflammation/immunology drug discovery at Bristol-Myers Squibb, from July 1990 to May 2003; Agensys Corporation, a pharmaceutical company (acquired by Astellas Pharma, Inc. in 2007), from May 2003 to June 2010; and Astex Pharmaceuticals, Inc., from December 2010 to July 2012. Dr. Kanner currently serves on the Board of Directors of Specific Biologics and, since 2024, serves on the Board of Directors of RegCell. He has authored over 90 publications in both peer-reviewed journals and books and is an inventor on numerous U.S. and foreign patents. Dr. Kanner received his A.B. degree in Genetics from the University of California, Berkeley, and earned his Ph.D. in Immunology and Microbiology from the University of Miami Miller School of Medicine. He was awarded an NIH post-doctoral fellowship grant that he completed in the Cancer Center at the University of Virginia.

Tim Kelly, M.B.A., has served as our chief technology officer since January 2024. Before joining Caribou, Mr. Kelly served from March 2022 to July 2023 as Chief Executive Officer and Board Chair at Oxford Biomedica Solutions, a spin-out of Homology Medicines, Inc. that provides adeno-associated virus product development and manufacturing services. Prior to Oxford Biomedica Solutions, he was Chief Operating Officer at Homology Medicines, Inc., from May 2017 to March 2022, where he led operations, process and platform development strategy, and product manufacturing strategy for gene therapy and gene editing technology. Prior to joining Homology Medicines, Inc., Mr. Kelly held various positions of increasing responsibility at Biogen Inc., from 1998 to 2004, at UCB Pharmaceuticals from 2005 to 2009, at Shire Pharmaceuticals LLC from June 2009 to January 2017, and at Sarepta from January to May 2017. Mr. Kelly holds a B.S., with emphasis in engineering mechanics, from the U.S. Air Force Academy and an M.S./M.B.A. from Troy State University.

Ruhi Khan, M.B.A., has served as our chief business officer since November 2021. Most recently Ms. Khan served as Head of Business Development at Tempest Therapeutics, Inc. and Adastra Pharmaceuticals, Inc., both biotechnology companies, from 2019 to 2021, and she provided business development and finance advice to multiple biotechnology companies from 2015 to 2021. From 2009 to 2014, she was the Vice President of Business Development for Acorda Therapeutics, Inc., a biotechnology company. Prior to Acorda, Ms. Khan worked in a similar capacity at Lexicon Pharmaceuticals, Inc., a biotechnology company. Since May 2024, Ms. Khan has served on the Board of Directors of Edge

Animal Health. She started her career in venture capital with Fidelity Biosciences Group (now F-Prime Capital) and MPM Capital Advisors. Ms. Khan holds an A.B. in Biology from Harvard College and an M.B.A. in healthcare management from The Wharton School, University of Pennsylvania.

Barbara McClung, J.D., has served as our chief legal officer and corporate secretary since April 2015. Prior to joining Caribou, she was Vice President, General Counsel, and Corporate Secretary of Intarcia Therapeutics, Inc., from January 2007 to May 2013. Ms. McClung was Chief Legal Officer and Corporate Secretary at Cygnus, Inc., from January 1998 to December 2005. She began her career as a patent attorney with E.I. du Pont de Nemours and Company from May 1987 to May 1989, and then was an associate at the law firm of Townsend & Townsend from June 1989 to August 1990. Ms. McClung was Corporate Patent Counsel for the Vaccines Division at Chiron Corporation from August 1990 to January 1998. Ms. McClung teaches biotechnology law at the University of California, Berkeley, School of Law. She received her B.A. in Anthropology from the University of California, San Diego, her M.A. in Anthropology from the University of Pennsylvania, and her J.D. from the University of Pennsylvania Law School. Ms. McClung is a member of the California, Delaware, and Pennsylvania state bars and is a registered patent attorney before the United States Patent and Trademark Office.

Sriram Ryali, M.B.A., has served as our chief financial officer since January 2025. Prior to joining Caribou, Mr. Ryali served as the Chief Financial Officer of Codexis, Inc., a publicly traded provider of enzymatic solutions for therapeutics manufacturing, from January 2023 to October 2024. Prior to that, he served as the Chief Financial Officer of Eiger BioPharmaceuticals, Inc., then a publicly traded commercial-stage biopharmaceutical company, from December 2018 to January 2023. Prior to that, Mr. Ryali served as Vice President, Finance from December 2017 to December 2018, and Senior Director, Finance from 2015 to 2017, at Aimmune Therapeutics, Inc., then a publicly traded biopharmaceutical company (subsequently acquired by Nestlé Health Science in 2020). Before then, Mr. Ryali served as Director, R&D Finance at Onyx Pharmaceuticals, Inc., a subsidiary of Amgen Inc., from 2013 to 2015, after having held a series of corporate finance positions of increasing responsibility at Onyx Pharmaceuticals, Inc., then a publicly traded biopharmaceutical company, from 2011 until its acquisition by Amgen, Inc. in 2013. Prior to that, Mr. Ryali held a series of different finance positions of increasing responsibility at Amgen, Inc. from 2004 to 2011. Mr. Ryali holds a B.A. from the University of California, Los Angeles with a double-major in Economics and Microbiology, Immunology, and Molecular Genetics, and an M.B.A. from the UCLA Anderson School of Management.

PART II

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

Market Information

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

Holders

As of March 4, 2025, we had 35 holders of record of our common stock. This number does not include beneficial owners whose shares were held in street name by banks, brokers, and other financial institutions.

Dividend Policy

We have not declared or paid cash dividends on our capital stock since our inception. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends to holders of common stock in the foreseeable future.

Securities authorized for issuance under equity compensation plans

Information about securities authorized for issuance under our equity compensation plans is incorporated herein by reference to Part III, Item 12 of this Annual Report on Form 10-K.

Recent Sales of Unregistered Securities

We had no sales of unregistered equity securities during the period covered by this Annual Report that were not previously reported in a Current Report on Form 8-K (or on Form 10-Q in lieu of Form 8-K).

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. [Reserved]

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

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and the related notes included in this Annual Report on Form 10-K. This discussion and analysis contain forward-looking statements, including statements regarding our intentions, plans, projections and expectations for our business. Forward-looking statements are based upon current beliefs, plans and expectations related to future events and our future financial performance and are subject to risks, uncertainties and assumptions. Our actual results and the timing of certain events could differ materially from those described in or implied by these forward-looking statements as a result of various factors, including those set forth the "Risk Factors" section in Part I, Item 1A of this Annual Report on Form 10-K. See also the Special Note Regarding Forward-Looking Statements section of this Annual Report on Form 10-K.

We are a clinical-stage **C**lustered **R**egularly **I**nterspaced **S**hort **P**alindromic **R**epeats ("CRISPR") genome-editing biopharmaceutical company dedicated to developing transformative therapies for patients with devastating diseases. Our genome-editing platform, including our novel chRDNA (**C**RISPR **h**ybrid **R**NA-**DNA**, or "chRDNA," pronounced "chardonnay") technology, enables more precise genome editing of allogeneic cell therapies.

Our allogeneic chimeric antigen receptor ("CAR") -T ("CAR-T") cell therapy product candidates are manufactured in advance with cells from healthy donors, with the goal of enabling broad patient access, rapid patient treatment, and increased manufacturing scale. Our allogeneic CAR-T cell therapy product candidates in clinical development are directed at established cell surface targets against which autologous CAR-T cell therapeutics have already demonstrated clinical proof of concept, including CD19 and B cell maturation antigen ("BCMA"), as well as targets such as C-type lectin-like molecule-1 ("CLL-1"). We use our chRDNA technologies to armor our cell therapies through multiple genome-editing strategies, such as checkpoint disruption, immune cloaking, or a combination of these two strategies, to enhance allogeneic CAR-T cell therapy activity against diseases.

We are advancing our pipeline of allogeneic CAR-T cell therapies with the following four clinical development programs targeting the treatment of hematologic malignancies and autoimmune diseases:

- CB-010: an allogeneic anti-CD19 CAR-T cell therapy, being evaluated in patients with relapsed or refractory B cell non-Hodgkin lymphoma ("r/r B-NHL") in our ANTLER phase 1 clinical trial
- CB-010: also being evaluated in patients with lupus nephritis ("LN") and in patients with extrarenal lupus ("ERL") in our GALLOP phase 1 clinical trial
- CB-011: an allogeneic anti-BCMA CAR-T cell therapy, being evaluated in patients with relapsed or refractory multiple myeloma ("r/r MM") in our CaMMouflage phase 1 clinical trial
- CB-012: an allogeneic anti-CLL-1 CAR-T cell therapy, being evaluated in patients with relapsed or refractory acute myeloid leukemia ("r/r AML") in our AMpLify phase 1 clinical trial

Since our founding in 2011, we have devoted substantially all of our resources to organizing and staffing, business planning, raising capital, expanding our genome-editing platform technologies, developing our product candidates and building our pipeline, creating and maintaining our intellectual property portfolio, and establishing arrangements with third parties for the manufacture, testing, and clinical trial evaluations of our product candidates. We do not have any products approved for commercial sale and have not generated any revenue from product sales. We have incurred operating losses since commencement of our operations.

To date, we have primarily funded our operations through proceeds from the sales of our capital stock, revenue from our license and collaboration agreements, and proceeds from the sale of shares of Intellia Therapeutics, Inc. ("Intellia") common stock.

Our net losses for the years ended December 31, 2024, and 2023 were $149.1 million and $102.1 million, respectively. We had an accumulated deficit of $448.4 million as of December 31, 2024. Our net losses and operating losses may fluctuate from quarter to quarter and year to year depending primarily on the timing of expenses associated with our clinical trials and nonclinical studies and our other research and development expenses. We anticipate that our expenses will increase substantially as we:

- advance clinical trials for our CAR-T cell therapy product candidates;

- continue our current research programs and our preclinical and clinical development of our other current product candidates and any other product candidates we identify and choose to develop;
- hire additional personnel, as needed;
- seek to identify additional research programs and additional product candidates;
- further develop our genome-editing technologies;
- acquire or in-license intellectual property or new technologies;
- expand, maintain, enforce, and defend our intellectual property portfolio;
- seek regulatory and marketing approvals for any of our product candidates that successfully complete clinical trials, if any;
- expand manufacturing capabilities and supply chain capacity for our product candidates;
- experience any delays, challenges, or other issues associated with any of the above, including the failure of clinical trials meeting endpoints, unanticipated preclinical results, or clinical trial data subject to differing interpretations, or the occurrence of potential safety issues or other development or regulatory challenges;
- make royalty, milestone, or other payments under current, and any future, agreements with third parties;
- establish a sales, marketing, and distribution infrastructure to commercialize any product candidates for which we obtain marketing approval; and
- continue to operate as a public company, including defending against any class action securities litigation.

We do not own or operate any manufacturing facilities. We use multiple contract manufacturing organizations ("CMOs") to individually manufacture, under current good manufacturing processes, our chRDNA guides, Cas9 and Cas12a proteins, plasmids, and adeno-associated virus serotype 6 ("AAV6") vectors used in the manufacture of our cell therapy product candidates as well as the CAR-T cell therapy product candidates themselves. We expect to continue to rely on our CMOs for manufacturing our preclinical study and clinical trial materials, and most of these CMOs have capabilities for commercial manufacturing. Additionally, we may decide to build our own manufacturing facility in the future to provide greater flexibility and control over our clinical or commercial manufacturing needs.

Because of the numerous risks and uncertainties associated with therapeutic product development, we may never achieve profitability and, unless and until we are able to develop and commercialize our product candidates, we will need to continue to raise additional capital. Until we can generate significant revenue from product sales, if ever, we expect to finance our operations through equity offerings (including our at-the-market equity offering program), debt financings, collaborations and strategic alliances, licensing arrangements, and/or other sources. There are no assurances that we will be successful in obtaining an adequate level of financing to support our business plans as needed on acceptable terms, or at all. If we raise additional funds through collaborations, strategic alliances, or licensing arrangements with third parties, 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. If we are unable to raise capital as and when needed or on attractive terms, we may have to significantly delay, reduce, or discontinue the development and commercialization of our product candidates or scale back or terminate our pursuit of new in-licenses and acquisitions.

Components of Results of Operations

Licensing and Collaboration Revenue

We have not generated any revenue from product sales to date and do not expect to generate any revenue from the sale of products in the foreseeable future. We cannot predict if, when, or to what extent we will generate revenue from the commercialization and sale of our product candidates if we succeed in obtaining regulatory approval for these product candidates.

To date, all of our revenue consists of licensing and collaboration revenue earned from collaboration and/or licensing agreements entered into with third parties, including related parties. Under these agreements, we license rights to certain intellectual property controlled by us. The terms of these arrangements typically include payments to us of one or

more of the following: nonrefundable, upfront license fees or exclusivity fees; annual maintenance fees; regulatory and/or commercial milestone payments; research and development payments; and royalties on the net sales of products and/or services. Each of these payments results in licensing and collaboration revenue. Revenue under such licensing and collaboration agreements was $10.0 million and $34.5 million for the years ended December 31, 2024, and 2023, respectively. See Note 4 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

For the foreseeable future, we expect substantially all our revenue will be generated from licensing and collaboration agreements.

Operating Expenses

Research and Development Expenses

Our research and development expenses consist of internal and external expenses incurred in connection with the development of our product candidates and our platform technologies, and our in-licensing, assignment, and other third-party agreements.

External costs include:

- costs associated with acquiring technology and intellectual property licenses that have no alternative future uses, sublicensing revenues, and milestones;
- costs incurred in connection with the preclinical and clinical development and manufacturing of our product candidates, including under agreements with CMOs, suppliers, clinical research organizations ("CROs"), and clinical sites; and
- other research and development costs, including laboratory materials and supplies, and consulting services.

Internal costs include:

- personnel-related costs, including salaries, benefits, and stock-based compensation expense, for our research and development personnel; and
- allocated facilities and other overhead expenses, including expenses for rent, facilities maintenance, and depreciation.

We expense research and development costs as incurred. Costs of certain activities are recognized based on an evaluation of the progress to completion of specific tasks. However, payments made prior to the receipt of goods or services that will be used or rendered for future research and development activities are deferred and capitalized as prepaid expenses and other current assets on our consolidated balance sheets. The capitalized amounts are recognized as expenses as the goods are delivered or as related services are performed. We separately track certain external costs on a program-by-program basis; however, we do not track costs that are deployed across multiple programs. We do not allocate internal costs as several of our departments support multiple programs and our payroll and other personnel expenses are not tracked on a program-by-program basis.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will increase substantially for the foreseeable future as we continue to implement our business strategy; advance our product candidates through clinical trials and commercialization; conduct preclinical studies and clinical trials for our other product candidates; seek regulatory approvals for any product candidates that successfully complete clinical trials; expand our research and development efforts and incur expenses associated with hiring additional personnel to support our research and development efforts; and seek to identify, in-license, acquire, and/or develop additional product candidates.

The successful development of our CAR-T product candidates, as well as other potential future product candidates, is highly uncertain. Accordingly, at this time, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the development of our product candidates. We are also unable to predict when, if ever, we will generate revenue and material net cash inflows from the commercialization and sale of any of our product candidates for which we may obtain marketing approval. We may never succeed in achieving regulatory

approval for any of our product candidates. The duration, costs, and timing of preclinical studies, clinical trials, and development of our product candidates will depend on a variety of factors, including:

- sufficiency of our financial and other resources;
- acceptance of our CRISPR chRDNA genome-editing technology;
- ability to develop differentiating features so that our products have a competitive edge;
- completion of preclinical studies;
- establishment, maintenance, enforcement, and defense of our patents and other intellectual property rights;
- our ability to not infringe, misappropriate, or otherwise violate third-party intellectual property rights;
- timely clearance of IND applications to initiate clinical trials of new product candidates;
- successful enrollment in, and completion of, our clinical trials of our product candidates;
- data from our clinical trials that support an acceptable risk-benefit profile of our product candidates for the intended patient populations and that demonstrate safety and efficacy;
- entry into collaborations to further the development of our product candidates or for the development of new product candidates;
- successful development of our internal process development and transfer to larger-scale facilities;
- establishment of agreements with CMOs and suppliers for clinical and commercial supplies and scaling up manufacturing processes and capabilities to support our clinical trials;
- receipt of timely responses and marketing approvals from applicable regulatory authorities;
- grant of regulatory exclusivity for our product candidates;
- establishment of sales, marketing, and distribution capabilities necessary for commercialization of our product candidates if and when approved, whether by us or in collaboration with third parties;
- maintenance of a continued acceptable safety profile of our products post-approval;
- acceptance of our product candidates, if and when approved by the applicable regulatory authorities, by patients, the medical community, and third-party payors;
- ability of our products to compete with other therapies and treatment options;
- establishment and maintenance of healthcare coverage and adequate reimbursement; and
- expanded indications and patient populations for our products.

The following table summarizes our research and development expenses for the periods indicated:

	Year Ended December 31,		
	2024	2023	Change
	(in thousands)		
External costs:			
Expenses related to licenses, sublicensing revenue, and milestones	$ 4,828	$ 2,777	$ 2,051
Services provided by CROs, CMOs, and third parties that conduct preclinical studies and clinical trials on our behalf	49,261	45,777	3,484
Other research and development expenses	23,560	16,967	6,593
Total external costs	77,649	65,521	12,128
Internal costs:			
Personnel-related expenses	39,531	35,411	4,120
Facilities and other allocated expenses	12,973	11,143	1,830
Total internal costs	52,504	46,554	5,950
Total research and development expenses	$ 130,153	$ 112,075	$ 18,078

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel-related costs, intellectual property costs, consulting costs, and allocated overhead, including rent, equipment depreciation, and utilities. Personnel-related costs consist of salaries, benefits, and stock-based compensation for our general and administrative personnel. Intellectual property costs include expenses for filing, prosecuting, and maintaining patents and patent applications, including certain patents and patent applications that we license from third parties. We are entitled to receive reimbursement from third parties of a portion of the costs for filing, prosecuting, and maintaining certain patents and patent applications. We accrue for these reimbursements as the respective expenses are incurred and classify such reimbursements as a reduction of general and administrative expenses. During the years ended December 31, 2024, and 2023, we recorded $1.2 million and $1.5 million, respectively, of patent cost reimbursements as a reduction to general and administrative expenses.

We expect that our general and administrative expenses will increase in the future as a result of expanding our operations, including hiring personnel, preparing for potential commercialization of our product candidates, and additional facility occupancy costs, as well as other expenses necessary to support the growth and operations of a clinical-stage public company.

Other Income (Expense)

Other income (expense) consists primarily of interest income earned on cash and marketable securities and the change in fair value of the Memorial Sloan Kettering Cancer Center (“MSKCC”) success payments liability under our Exclusive License Agreement, dated November 13, 2020, with MSKCC (as amended, “MSKCC Agreement”).

Results of Operations

Comparison of the Years Ended December 31, 2024, and 2023

The following table summarizes our results of operations for the periods indicated:

	Years Ended December 31,		Change
	2024	2023	$
	(in thousands)		
Licensing and collaboration revenue	$ 9,994	$ 34,477	$ (24,483)
Operating expenses:			
Research and development	130,153	112,075	18,078
General and administrative	46,457	38,461	7,996
Total operating expenses	176,610	150,536	26,074
Loss from operations	(166,616)	(116,059)	(50,557)
Other income (expense)			
Change in fair value of the MSKCC success payments liability	2,154	(1,288)	3,442
Other income, net	15,348	15,470	(122)
Total other income	17,502	14,182	3,320
Net loss before (benefit from) provision for income taxes	(149,114)	(101,877)	(47,237)
(Benefit from) provision for income taxes	(9)	193	(202)
Net loss	$ (149,105)	$ (102,070)	$ (47,035)

Licensing and Collaboration Revenue

Licensing and collaboration revenue decreased by $24.5 million to $10.0 million for the year ended December 31, 2024, from $34.5 million for the year ended December 31, 2023. This decrease primarily relates to a $24.8 million decrease in revenue recognized under the now-terminated Collaboration and License Agreement (as amended, "AbbVie Agreement") with AbbVie Manufacturing Management Unlimited Company ("AbbVie"). In connection with the termination of the AbbVie Agreement, we recognized the remaining deferred revenue of $20.8 million during the year ended December 31, 2023.

The following table summarizes our revenue by licensee for the years ended December 31, 2024, and 2023:

	Years Ended December 31,		Change
	2024	2023	
	(in thousands)		
AbbVie	$ —	$ 24,802	$ (24,802)
Edge Animal Health, related party	1,623	1,150	473
Pfizer, related party	2,487	1,243	1,244
Other licensees	5,884	7,282	(1,398)
Total licensing and collaboration revenue	$ 9,994	$ 34,477	$ (24,483)

Research and Development Expenses

Research and development expenses increased by $18.1 million to $130.2 million for the year ended December 31, 2024 from $112.1 million for the year ended December 31, 2023. This increase was primarily related to (i) an increase of $6.6 million in other research and development expenses to advance preclinical and clinical development for our programs, as well as other consulting services related to research and development; (ii) an increase of $4.1 million in personnel-related expenses, including an increase in salary and benefit expense of $2.5 million, an increase in stock-based compensation expense of $1.1 million, and $0.5 million of one-time expenses associated with the reduction in force that occurred during the third quarter of 2024; (iii) a net increase of $3.5 million in external CMO and CRO activities for our clinical CAR-T cell therapy product candidates, driven by (a) an increase of $9.8 million in CRO activities for clinical trials; partially offset by (b) a decrease of $6.3 million due to timing of CMO activities; (iv) an increase of $2.1 million in

expenses related to licenses, sublicensing revenue, and milestones; and (v) an increase of $1.8 million in other facilities and allocated expenses.

General and Administrative Expenses

General and administrative expenses increased by $8.0 million to $46.5 million for the year ended December 31, 2024, from $38.5 million for the year ended December 31, 2023. This increase was primarily related to increases of $5.7 million in legal and other service-related expenses, including $3.9 million of costs related to a securities class action litigation settlement, and $2.3 million in personnel-related expenses, including an increase in salary and benefit expense of $0.4 million, an increase in stock-based compensation expense of $1.8 million, and $0.1 million of one-time expenses associated with the reduction in force that occurred during the third quarter of 2024.

Total Other Income

Total other income increased by $3.3 million for the year ended December 31, 2024, as compared to the year ended December 31, 2023.

We recognized a gain related to the change in the fair value of the MSKCC success payments liability in the amount of $2.2 million for the year ended December 31, 2024. We recognized a loss related to the change in the fair value of the MSKCC success payments liability in the amount of $1.3 million for the year ended December 31, 2023.

Income Tax

An income tax benefit of less than $0.1 million was recognized for the year ended December 31, 2024, which was primarily related to deferred state taxes. An income tax expense of $0.2 million was recognized for the year ended December 31, 2023, which was primarily related to deferred state taxes.

Liquidity, Capital Resources, and Capital Requirements

Sources of Liquidity

Since our inception through December 31, 2024, we have raised an aggregate net proceeds of $836.2 million to fund our operations through our initial public offering ("IPO"); sales of convertible preferred stock; follow-on public offering; proceeds from our licensing, licensing and collaboration, service, and patent assignment agreements, including sales of Intellia stock; private placements; at-the-market equity offerings; and government grants.

As of December 31, 2024, we had cash, cash equivalents, and marketable securities of $249.4 million.

On August 9, 2022, we filed a universal shelf registration statement on Form S-3 ("Shelf Registration Statement") with the U.S. Securities and Exchange Commission ("SEC"), which allows us to, from time to time, sell up to $400.0 million of common stock, preferred stock, debt securities, warrants, rights, or units comprised of any combination thereof (including the $100.0 million of common stock reserved for our at-the-market equity offering program described below). The Shelf Registration Statement was declared effective by the SEC on August 16, 2022, and will expire after three years.

At-the-Market Equity Offering Program

On August 9, 2022, we entered into an Open Market Sale Agreement℠ (the "ATM Sales Agreement") with Jefferies LLC ("Jefferies"), pursuant to which, upon the terms and subject to the conditions and limitations set forth in the ATM Sales Agreement, we may, from time to time, in our sole discretion, issue and sell, through Jefferies, acting as sales agent, up to $100.0 million of our shares of common stock, by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415(a)(4) of the Securities Act of 1933, as amended ("Securities Act"). Jefferies uses commercially reasonable efforts consistent with its normal sales and trading practices to sell shares from time to time, based upon our instructions (including any price or size limits or other customary parameters or conditions we may impose). We pay Jefferies a commission equal to 3.0% of the aggregate gross proceeds of any shares sold through Jefferies pursuant to the ATM Sales Agreement. Through December 31, 2024, we sold an aggregate of 3,588,696 shares of our common stock under the ATM Sales Agreement at an average price per share of $4.71 for aggregate gross proceeds of $16.9 million ($16.2 million net of offering expenses).

During the year ended December 31, 2024, we sold 3,420,061 shares of our common stock, in a series of sales, at an average price of $4.58 per share under the ATM Sales Agreement for aggregate gross proceeds of $15.7 million ($15.2 million net of offering expenses).

During the year ended December 31, 2023, we sold 168,635 shares of our common stock, in a series of sales, at an average price of $7.32 per share under the ATM Sales Agreement for aggregate gross proceeds of $1.2 million ($1.0 million net of offering expenses).

Follow-on Public Offering

In July and August 2023, we issued and sold a total of 22,115,384 shares of our common stock in an underwritten follow-on public offering at a price of $6.50 per share, which included the full exercise of the underwriters' right to purchase 2,884,615 additional shares of our common stock. The total net proceeds from the offering were approximately $134.4 million, after deducting underwriting discounts and commissions and offering expenses. The shares were sold under the Shelf Registration Statement.

Funding Requirements

We expect that our existing cash, cash equivalents, and marketable securities will be sufficient to fund our current operating plan for at least the next 12 months from the date this Annual Report on Form 10-K is filed. We have based these estimates on our current assumptions, which may require future adjustments based on our ongoing business decisions.

We will continue to be dependent upon equity financing, debt financing, collaboration and licensing arrangements, and/or other forms of capital raises at least until we are able to generate significant positive cash flows from our operations. We have no current ongoing material financing commitments, such as lines of credit or guarantees, that are expected to affect our liquidity over the next five years, except for our lease commitments, and payments under certain of our license agreements as described in Note 4 and Note 9, respectively, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Our primary use of cash is to fund operating expenses and research and development expenditures. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our outstanding accounts payable, accrued expenses, and prepaid expenses.

Our future funding requirements will depend on many factors, including the following:

- the initiation, progress, timing, costs, and results of preclinical studies for our programs and clinical trials for our product candidates;
- the clinical development plans we establish for these product candidates;
- the number and characteristics of the product candidates that we develop;
- increases in the number of our employees and expansion of our physical facilities to support growth initiatives;
- the outcome, timing, and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities;
- the potential impact of proposed reductions in government spending and personnel under the new Administration;
- whether we enter into any collaboration agreements and the terms of any such agreements;
- the cost of filing and prosecuting our patent applications, and maintaining and enforcing our patents and other intellectual property rights;
- the extent to which we acquire or in-license other product candidates, intellectual property, and new technologies;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against our products after we receive regulatory approval;
- the effect of competing technological and market developments;

- the cost and timing of completion of commercial-scale outsourced manufacturing activities or the cost and timing of completion of clinical-scale and commercial-scale internal manufacturing activities;
- the cost of establishing sales, marketing, and distribution capabilities for any product candidates for which we may receive regulatory approval in regions where we choose to commercialize our products without a partner;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- the achievement of milestones or occurrence of other developments that trigger payments by or to third parties;
- our implementation of various computerized informational systems and efforts to enhance operational systems;
- the impact of public health crises or geopolitical events on our clinical development or operations;
- the impact of inflationary pressures on the cost of our operations; and
- the costs of operating as a public company, including defending against class action securities litigation.

Furthermore, our operating plans may change, and we expect to need additional funds to meet operational needs and capital requirements for clinical trials and other research and development expenditures.

Because of the numerous risks and uncertainties associated with the development of human therapeutics, we may never achieve profitability and, unless and until we are able to develop and commercialize our product candidates, we will need to continue to raise additional capital; however, funding may not be available to us on acceptable terms, or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of, or suspend one or more of our preclinical studies, clinical trials, research and development programs, and/or commercialization efforts. We may seek to raise any necessary additional capital through a combination of equity offerings (including our at-the-market equity offering program), debt financings, collaborations and strategic alliances, licensing arrangements, or other sources. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. The disruption and volatility in the global and domestic capital markets resulting from heightened inflation, capital market volatility, interest rate and currency rate fluctuations, artificial intelligence, government agency changes under the new Administration, any potential economic slowdown or recession, including trade wars or civil or political unrest (such as the ongoing war between Ukraine and Russia, conflict in the Middle East, and tension between China and Taiwan) may
increase the cost of capital and limit our ability to access capital. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in dilution to our stockholders. If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances, or licensing arrangements with third parties or other sources, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams, or research programs or grant licenses on terms that may not be favorable to us.

Contractual Obligations and Commitments

We enter into contracts in the normal course of business with suppliers, CMOs, CROs, clinical trial sites, licensors, assignors, and the like. These agreements provide for termination at the request of either party generally with less than one-year's notice and, therefore, we believe that our non-cancelable obligations under these agreements are not material. Some of these agreements include contingent payments that will become payable if and when we achieve certain development, regulatory, clinical, and/or commercial milestones. As of December 31, 2024, the satisfaction and timing of such contingent payments is uncertain and is not reasonably estimable.

We have milestones, royalties, and/or other payments due to third parties under our existing license and assignment agreements. See Note 9 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K. We cannot estimate when such payments will be due and none of these events is probable as of December 31, 2024.

MSKCC Agreement Success Payments

Under the MSKCC Agreement, we are obligated to make success payments to MSKCC of up to $35.0 million if our stock price increases by certain multiples of increasing value based on a comparison of the fair value of our common stock with $5.1914 per share, adjusted for future stock splits, during a specified time period. The relevant time period commenced on February 13, 2024, when the first patient was dosed with our anti-CLL-1 product candidate (CB-012) in our AMpLify phase 1 clinical trial and ends upon the earlier of the third anniversary of approval of our biologics license application ("BLA") by the FDA or 10 years from February 13, 2024. As of December 31, 2024, the timing and likelihood of triggering the MSKCC success payments are uncertain. See Note 4 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for more information about the MSKCC success payments liability.

Leases

We have two operating lease agreements for our laboratory and office space. As of December 31, 2024, we had lease payment obligations totaling $38.1 million, of which $4.3 million is due within 12 months.

Strategic Investment

On June 29, 2023, we entered into a Securities Purchase Agreement ("Securities Purchase Agreement") with Pfizer, Inc. ("Pfizer") pursuant to which we, in a private placement transaction, agreed to issue and sell to Pfizer 4,690,431 shares of our common stock, par value $0.0001 per share, at a purchase price of $5.33 per share, for aggregate gross proceeds of approximately $25.0 million ("Pfizer Investment"). The issuance and sale of the shares to Pfizer closed on June 30, 2023. We granted certain registration rights to Pfizer under the Securities Purchase Agreement covering the resale of the shares. Unless otherwise agreed by Pfizer, we have agreed to use the proceeds from the Pfizer Investment solely in connection with (i) the development program for our allogeneic anti-BCMA CAR-T cell therapy product candidate (CB-011) that is being evaluated in our CaMMouflage phase 1 clinical trial and/or (ii) any other single-targeted anti-BCMA CAR-T cell therapy using an anti-BCMA single-chain variable fragment owned or controlled by us (collectively, cell therapies described in clauses (i) and (ii) are referred to as a "BCMA Product Candidate"), for 36 months beginning on June 29, 2023.

On June 29, 2023, in connection with the Pfizer Investment, we and Pfizer also entered into an Information Rights Agreement, having a 36-month term. Under the Information Rights Agreement, we granted Pfizer a 30-calendar day right of first negotiation ("ROFN") if we commence or engage with any third party with respect to a potential grant of rights to develop and/or commercialize a BCMA Product Candidate, including, without limitation, a license agreement, a co-promotion/co-commercialization agreement, a profit share agreement, a joint venture agreement, or an asset sale agreement (a "Grant of Program Rights"). If we and Pfizer do not reach an agreement with respect to a Grant of Program Rights within the 30-day period, then we may pursue negotiations and enter into an agreement with any third party. If we and such third party do not reach agreement on the Grant of Program Rights within a specified time period, Pfizer's right of first negotiation will be reinstated. Under the Information Rights Agreement, we also granted Pfizer the right to designate one representative to serve on our scientific advisory board ("SAB"). Through an information sharing committee, we provide calendar quarter updates to Pfizer regarding the development program for a BCMA Product Candidate. Additionally, we agreed to provide Pfizer access to any preclinical or interim or final clinical data (including raw data) and results generated as part of the development program for a BCMA Product Candidate at the same time that we provide such data to a third party (other than to our service providers or the FDA or other regulatory authorities), subject to certain confidentiality exceptions.

Cash Flows

Comparison of the Years Ended December 31, 2024, and 2023

The following table summarizes our cash flows for the periods indicated:

	Years Ended December 31,		
	2024	2023	Change
	(in thousands)		
Cash used in operating activities	$ (138,200)	$ (93,291)	$ (44,909)
Cash provided by (used in) investing activities	86,607	(68,183)	154,790
Cash provided by financing activities	16,724	154,298	(137,574)
Net decrease in cash, and cash equivalents, and restricted cash	$ (34,869)	$ (7,176)	$ (27,693)

Cash Used in Operating Activities

Net cash used in operating activities was $138.2 million and $93.3 million for the years ended December 31, 2024, and 2023, respectively.

Cash used in operating activities in the year ended December 31, 2024, was primarily due to our net loss of $149.1 million, adjusted by non-cash charges of $16.0 million and net changes in our net operating assets and liabilities of $5.1 million. Our 2024 non-cash charges were primarily comprised of (i) $16.7 million of stock-based compensation, (ii) $3.9 million of depreciation and amortization expense, (iii) $2.2 million of non-cash lease expense, and (iv) $1.6 million of acquired in-process research and development; which were partially offset by (i) accretion of discounts on marketable securities of $4.7 million, (ii) change in the fair value of the MSKCC success payments liability of $2.2 million, and (iii) non-cash consideration for licensing and collaboration revenue of $1.6 million. The changes in our net operating assets and liabilities were primarily due to (i) increases of $3.9 million in other assets and $0.4 million in prepaid expenses and other current assets, and (ii) decreases of $2.5 million in deferred revenue, current and long-term, $0.6 million in operating lease liabilities, and $0.4 million in accounts payable; partially offset by (i) decreases of $0.5 million in other receivables and $0.3 million in contract assets, and (ii) an increase of $2.1 million in accrued expenses and other current liabilities.

Cash used in operating activities in the year ended December 31, 2023, was primarily due to our net loss of $102.1 million, adjusted by non-cash charges of $16.1 million and net changes in our net operating assets and liabilities of $7.3 million. Our 2023 non-cash charges were primarily comprised of (i) $13.8 million of stock-based compensation, (ii) $3.5 million of depreciation and amortization expense, (iii) $2.0 million of non-cash lease expense, and (iv) change in the fair value of the MSKCC success payments liability of $1.3 million, which were partially offset by accretion of discounts on marketable securities of $4.4 million. The changes in our net operating assets and liabilities were due to decreases of $16.9 million in deferred revenue and $0.6 million in operating lease liabilities, partially offset (i) by increases of $5.7 million in accrued expenses and other current liabilities, $1.8 million in accounts payable, and (ii) decreases of $1.8 million in prepaid expenses and other current assets and $0.8 million in contract assets.

Cash Provided by (Used in) Investing Activities

Net cash provided by investing activities was $86.6 million for the year ended December 31, 2024. Net cash used in investing activities was $68.2 million for the year ended December 31, 2023.

Cash provided by investing activities for the year ended December 31, 2024, was primarily due to proceeds from the maturities of marketable securities of $397.5 million; partially offset by purchases of marketable securities of $304.4 million, purchases of property and equipment of $4.9 million, and payments to acquire in-process research and development of $1.6 million.

Cash used in investing activities for the year ended December 31, 2023, was primarily due to purchases of marketable securities of $394.8 million and purchases of property and equipment of $11.6 million, partially offset by the proceeds from sales and maturities of marketable securities of $338.2 million.

Cash Provided by Financing Activities

Net cash provided by financing activities was $16.7 million and $154.3 million for the years ended December 31, 2024, and 2023, respectively.

Cash provided by financing activities for the year ended December 31, 2024, was primarily due to net proceeds from our at-the-market equity offering program of $15.2 million, the issuances of common stock under the 2021 Employee Stock Purchase Plan ("ESPP") of $0.9 million, and the exercises of stock options of $0.6 million.

Cash provided by financing activities for the year ended December 31, 2023, was due to proceeds from a follow-on public offering, net of offering expenses, of $134.4 million, proceeds from issuance of common stock in a private placement with Pfizer of $17.3 million, the exercise of stock options and purchases of common stock under the ESPP of $1.6 million, and proceeds from issuance of common stock related to our at-the-market equity offering program, net of offering expenses, of $1.0 million.

Critical Accounting Policies and Significant Judgments and Estimates

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

Although our significant accounting policies are described in more details in Note 2 to our consolidated financial statements included in this Annual Report on Form 10-K, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We recognize revenue when a licensee or assignee, or a customer, obtains control of the promised goods or services (e.g., an intellectual property license), in an amount that reflects the consideration that we have received or expect to receive in exchange for those goods or services.

We apply judgment to determine whether agreements are within the scope of revenue for customers or other accounting guidance at an agreement's effective date. Our revenues are primarily derived through our license agreements and license and collaboration agreements. The terms of these types of agreements may include (i) licenses for our technology, (ii) research and development services, and (iii) services or obligations in connection with participation in research or governance committees. Payments to us under these arrangements typically include one or more of the following: nonrefundable upfront license or exclusivity fees; annual maintenance fees; regulatory and/or commercial milestone payments; research and development payments; and royalties on the net sales of licensed products and/or services.

We assess whether the promises in our arrangements with customers are considered as distinct performance obligations that should be accounted for separately. Judgment is required to determine whether the license to intellectual property is distinct from the research and development services or participation on steering committees.

If the license to intellectual property controlled by us is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenues allocated to the license at the point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are combined with other promises, we utilize our judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Certain of our license agreements have two performance obligations: a license and a material right for annual license renewals. Such license agreements require payments of non-refundable annual license fees by the licensees (referred to as maintenance fees in the license agreements), which are accounted for as material rights for license renewals. We recognize revenue when the license is delivered and the term commences. Revenue for the material right for license renewals is recognized at the point in time the annual license fee is paid by the licensee and the renewal period begins.

Our collaboration and license agreements may include contingent milestone payments. Such milestone payments are typically payable when the collaboration partner or licensee achieves certain predetermined clinical, regulatory, and/or commercial milestones. Milestone payments that are not within our or the licensee's control, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. At each reporting date, we re-evaluate whether the milestones are considered probable of being achieved and estimate the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price in such period of determination.

Our collaboration and license agreements may also include contingent payments related to sales-based milestones. Sales-based milestones are typically payable when annual sales of a covered product reach specified levels. Sales-based milestones are recognized at the later of when the associated performance obligation has been satisfied or when the sales occur. Unlike other contingency payments, such as regulatory milestones, sales-based milestones are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when the sales or usage occur.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate and accrue expenses. Research and development expenses are expensed as incurred. Research and development expenses include those for certain payroll and personnel; laboratory supplies; consulting; manufacturing; external clinical; and allocated overhead, including rent, equipment depreciation, and utilities.

We record accrued liabilities for estimated costs of research and development activities conducted by third-party CMOs, CROs, and other third-party service providers. We accrue for these costs based on factors such as estimates of the work completed and in accordance with service agreements established with these third-party service providers.

We make significant judgments and estimates in determining the accrual balance in each reporting period. As actual costs become known, we adjust our accruals. Although we do not expect our estimates to be materially different than the actual amounts incurred, the estimates for the status and timing of services performed relative to the actual status and timing of services performed may vary and could result in us reporting amounts that are too high or too low in any one period. Our accrual is dependent, in part, upon the receipt of timely and accurate reporting from CROs, CMOs, and other third-party service providers. Variations in the assumptions used to estimate accruals including, but not limited to, the number of patients enrolled, the rate of patient enrollment and the actual services performed, may vary from our estimates, resulting in adjustments to clinical trial and manufacturing expenses in future periods. Changes in these estimates that result in material changes to our accruals could materially affect our financial condition and results of operations. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid expense accordingly.

Recently Issued Accounting Pronouncements

See Note 2 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for more information regarding recently issued accounting pronouncements.

Emerging Growth Company and Smaller Reporting Company Status

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 Act ("JOBS Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our consolidated financial statements may not be comparable to those of companies that comply with the new or revised accounting pronouncements as of public company effective dates.

We expect to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company.

We are also a "smaller reporting company." 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 consolidated 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 had cash, cash equivalents, and marketable securities of $249.4 million as of December 31, 2024, consisting of cash, money market funds, government securities, commercial paper, and corporate debt securities, and we had cash and cash equivalents of $372.4 million as of December 31, 2023, consisting of cash, money market funds, government securities, commercial paper, and corporate debt securities.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our consolidated financial statements. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates.

We do not have any foreign currency. Inflation generally affects us by increasing our cost of labor, manufacturing, and clinical trial costs. We do not believe that inflation had a material effect on our results of operations during the year ended December 31, 2024.

Item 8. Financial Statements and Supplementary Data.

The information required by this item is presented at the end of this Annual Report on Form 10-K beginning on page F-1 and is incorporated herein by reference. An index of those financial statements is found in Part IV, Item 15, Exhibits, Financial Statement Schedules, of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We have established disclosure controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and is accumulated and communicated to management, including the principal executive officer (our president and chief executive officer) and principal financial officer (our chief financial officer), to allow timely decisions regarding required disclosure.

Our management, under the supervision and with the participation of our president and chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K.

Management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs. Based on such evaluation, our president and chief executive officer (principal executive officer) and our chief financial officer (principal financial officer) have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2024.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2024, based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in its 2013 Internal Control - Integrated Framework. Based on this assessment, our management has concluded that our internal control over financial reporting was effective as of December 31, 2024.

Attestation Report of the Registered Public Accounting Firm

Our independent registered accounting firm is not required to opine on the effectiveness of our internal control over financial reporting pursuant to Section 404 of Sarbanes-Oxley Act of 2002 until we are no longer either an "emerging growth company" as defined in the JOBS Act or a smaller reporting company as defined by Rule 12b-2 of the Exchange Act that does not otherwise also qualify as an "accelerated filer" or "large accelerated filer" for SEC reporting purposes.

Changes in Internal Control

There were no changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(f) or 15d-15(f) of the Exchange Act during our fourth fiscal quarter ended December 31, 2024, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

(a) Retirement of Chief Scientific Officer

On March 5, 2025, Steven B. Kanner, Ph.D., our chief scientific officer, informed us that he will retire from his position effective June 30, 2025. We and Dr. Kanner intend to enter into an arrangement whereby Dr. Kanner would serve as an advisor to us on research and development initiatives for a period of time after his retirement date. We do not plan on hiring a new chief scientific officer at this time, and the research functions will report to certain members of our existing executive leadership team.

(b) Rule 10b5-1 Trading Arrangements

During the quarter ended December 31, 2024, no director or Section 16 officer adopted or terminated any "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement" (in each case, as defined in Item 408 of Regulation S-K).

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

Not applicable.

PART III

Certain information required by Part III is incorporated by reference herein to our definitive proxy statement for our 2025 Annual Meeting of Stockholders ("2025 Proxy Statement") pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended ("Exchange Act"), which we intend to file not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 10. Directors, Executive Officers, and Corporate Governance.

The information required by this item of Form 10-K will be included under the caption "Board of Directors and Corporate Governance" and subsections thereof, including "—Nominees for Election as Class I Directors," "—Directors Continuing in Office," "—Family Relationships," "—Classified Board of Directors," and "—Board Committees—Audit Committee" in our 2025 Proxy Statement and is incorporated by reference herein. Information about our executive officers is contained in the "Information about our Executive Officers" section in Part I, Item 4A of this Annual Report on Form 10-K. I

We have adopted a written Code of Business Conduct, Scientific and Data Integrity, and Ethics ("Code of Conduct") that applies to all of our employees, consultants, and directors. A current copy of the Code of Conduct is available on the Corporate Governance section of our website, https://investor.cariboubio.com. The audit committee of our board of directors is responsible for overseeing the Code of Conduct and must approve any waivers of the Code of Conduct for our executive officers and directors. We expect that any amendments to the Code of Conduct, or any waivers of its requirements with respect to our executive officers and directors, will be disclosed on our website at the address indicated above. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this Annual Report on Form 10-K. We have included our website address as an inactive textual reference only. We will provide to any person, without charge, a copy of the Code of Conduct. Any such request should be directed to Caribou Biosciences, Inc., 2929 7th Street, Suite 105, Berkeley, CA 94710, Attn: Chief Legal Officer and Corporate Secretary, telephone: 510-982-6030.

We have adopted an insider trading policy that governs the purchase, sale, and/or other dispositions of our securities by all of our employees, consultants, contractors, officers, and directors, as well as by our company. The insider trading policy is designed to promote compliance with insider trading laws. A copy of our insider trading policy is filed as Exhibit 19.1 to this Annual Report on Form 10-K.

Item 11. Executive Compensation.

The information required by this item of Form 10-K will be included under the caption "Executive and Director Compensation" in our 2025 Proxy Statement and is incorporated by reference herein.

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

The information required by this item of Form 10-K will be included under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance Under Equity Compensation Plans" in our 2025 Proxy Statement and is incorporated by reference herein.

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

The information required by this item of Form 10-K will be included under the captions "Certain Relationships and Related Party Transactions" and "Board of Directors and Corporate Governance—Director Independence" in our 2025 Proxy Statement and is incorporated by reference herein.

Item 14. Principal Accounting Fees and Services.

The information required by this item of Form 10-K will be included under the caption "Proposal No. 2 - Ratification of Selection of Independent Registered Public Accounting Firm" in our 2025 Proxy Statement and is incorporated by reference herein.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

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

1. The following Report and Consolidated Financial Statements of our company are included in this Annual Report on Form 10-K:

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

Consolidated Balance Sheets

Consolidated Statements of Operations and Comprehensive Loss

Consolidated Statements of Stockholders' Equity

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

See Index to Consolidated Financial Statements on page F-1 of this Annual Report on Form 10-K, incorporated into this item by reference.

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

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

Item 16. Form 10-K Summary.

Not applicable.

EXHIBIT INDEX

Exhibit Number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K (File No. 001-40631), filed with the SEC on July 28, 2021)
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K (File No. 001-40631), filed with the SEC on July 28, 2021)
4.1	Description of Common Stock (incorporated by reference to Exhibit 4.1 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No. 001-40631), filed with the SEC on March 21, 2022)
10.1†	Exclusive License Agreement, dated November 13, 2020, by and between the Registrant and Memorial Sloan Kettering Cancer Center (incorporated by reference to Exhibit 10.2 of the Form S-1) filed by the Registrant on July 1, 2021 (File No. 333-257604) (the "Form S-1")
10.2†*	Amendment No. 1 to the Exclusive License Agreement, dated February 21, 2025, by and between the Registrant and Memorial Sloan Kettering Cancer Center
10.3†	Sale and Assignment Agreement, dated January 31, 2020, by and between the Registrant and ProMab Biotechnologies, Inc. (incorporated by reference to Exhibit 10.3 of the Form S-1)
10.4†	Amendment No. 1 to Sale and Assignment Agreement, dated October 20, 2020, by and between the Registrant and ProMab Biotechnologies, Inc. (incorporated by reference to Exhibit 10.4 of the Form S-1)

10.5†	Amendment No. 2 to Sale and Assignment Agreement, dated December 15, 2020, by and between the Registrant and ProMab Biotechnologies, Inc. (incorporated by reference to Exhibit 10.5 of the Form S-1)
10.6	Amendment No. 3 to Sale and Assignment Agreement, dated May 5, 2020, by and between the Registrant and ProMab Biotechnologies, Inc. (incorporated by reference to Exhibit 10.6 of the Form S-1)
10.7†	Amended and Restated Collaboration and License Agreement, dated July 13, 2015, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.7 of the Form S-1)
10.8†	Amendment No. 1 to Amended and Restated Collaboration and License Agreement, dated January 21, 2016, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.8 of the Form S-1)
10.9†	Amendment No. 2 to Amended and Restated Collaboration and License Agreement, dated July 18, 2016, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.9 of the Form S-1)
10.10†	Amendment No. 3 to Amended and Restated Collaboration and License Agreement, dated March 13, 2017, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.10 of the Form S-1)
10.11†	Amendment No. 4 to Amended and Restated Collaboration and License Agreement, dated June 26, 2017, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.11 of the Form S-1)
10.12†	Amendment No. 5 to Amended and Restated Collaboration and License Agreement, dated May 25, 2018, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.12 of the Form S-1)
10.13†	Amendment No. 6 to Amended and Restated Collaboration and License Agreement, dated June 2, 2019, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.13 of the Form S-1)
10.14†	Amendment No. 7 to Amended and Restated Collaboration and License Agreement, dated December 18, 2020, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.14 of the Form S-1)
10.15†	Amendment No. 8 to Amended and Restated Collaboration and License Agreement, dated December 18, 2020, by and between the Registrant and Pioneer Hi-Bred International, Inc. (incorporated by reference to Exhibit 10.15 of the Form S-1)
10.16†	License Agreement, dated July 16, 2014, by and between the Registrant and Intellia, LLC (incorporated by reference to Exhibit 10.16 of the Form S-1)
10.17†	Amendment No. 1 to the License Agreement, dated February 2, 2016, by and between the Registrant and Intellia Therapeutics, Inc. as successor in interest to Intellia, LLC (incorporated by reference to Exhibit 10.17 of the Form S-1)
10.18†	Addendum to License Agreement, dated February 2, 2016, by and between the Registrant and Intellia Therapeutics, Inc. as successor in interest to Intellia, LLC (incorporated by reference to Exhibit 10.18 of the Form S-1)
10.19†	Leaseback Agreement, dated June 16, 2021, by and between the Registrant and Intellia Therapeutics, Inc. (incorporated by reference to Exhibit 10.19 of Amendment No. 1 to Form S-1 registration statement filed by the Registrant on July 19, 2021 (File No. 333-257604)
10.20†	Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement for a Programmable DNA Restriction Enzyme for Genome Editing, dated December 15, 2016, by and among the Registrant and the other parties thereto (incorporated by reference to Exhibit 10.20 of the Form S-1)
10.21†	Exclusive License Agreement, dated April 16, 2013, by and among the Registrant, The Regents of the University of California, and the University of Vienna (incorporated by reference to Exhibit 10.21 of the Form S-1)
10.22†	Amendment No. 1 to the Exclusive License Agreement, dated April 16, 2013, by and among the Registrant, The Regents of the University of California, and the University of Vienna (incorporated by reference to Exhibit 10.22 of the Form S-1)

10.23†	Amendment No. 2 to the Exclusive License Agreement, dated April 17, 2013, by and among the Registrant, The Regents of the University of California, and the University of Vienna (incorporated by reference to Exhibit 10.23 of the Form S-1)
10.24†	Amendment No. 3 to the Exclusive License Agreement, dated April 16, 2021, by and among the Registrant, The Regents of the University of California, and the University of Vienna (incorporated by reference to Exhibit 10.24 of the Form S-1)
10.25†*	Amendment No. 4 to the Exclusive License Agreement, dated February 14, 2025, by and among the Registrant, The Regents of the University of California, and the University of Vienna
10.26†	Memorandum of Understanding, dated March 14, 2019, by and among the Registrant, the University of Vienna, and the Regents of the University of California (incorporated by reference to Exhibit 10.25 of the Form S-1)
10.27	Amended and Restated Office/Laboratory Lease, dated March 31, 2021, by and between the Registrant and 2929 Seventh St., LLC (incorporated by reference to Exhibit 10.26 of the Form S-1)
10.28	First Amendment, dated January 11, 2022, to Amended and Restated Office/Laboratory Lease by and between Registrant and 2929 Seventh St., LLC (incorporated by reference to Exhibit 10.27 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No. 001-40631), filed with the SEC on March 21, 2022)
10.29	Office/Laboratory Lease between the Registrant and 7th Street Property III General Partnership, having a commencement date of January 13, 2022 (incorporated by reference to Exhibit 10.1 of the Form 8-K (File No. 001-40631) filed by the Registrant on January 19, 2022)
10.30	Rider 1 to Office/Laboratory Lease between the Registrant and 7th Street Property III General Partnership, effective as of the lease commencement date of January 13, 2022 (incorporated by reference to Exhibit 10.29 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No. 001-40631), filed with the SEC on March 21, 2022)
10.31+	Officer Employment Agreement by and between the Registrant and Rachel E. Haurwitz, Ph.D., dated July 27, 2021 (incorporated by reference to Exhibit 10.1 of the Form 8-K (File No. 001-40631) filed by the Registrant on July 28, 2021)
10.32+	Compensation Letter, dated February 16, 2023, from the Registrant to Rachel E. Haurwitz, Ph.D. (incorporated by reference to Exhibit 10.34 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (File No. 001-40631), filed with the SEC on March 9, 2023)
10.33+	Compensation Letter, dated February 20, 2024, from the Registrant to Rachel E. Haurwitz, Ph.D. (incorporated by reference to Exhibit 10.32 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
10.34+*	Compensation Letter, dated February 17, 2025, from the Registrant to Rachel E. Haurwitz, Ph.D.
10.35+	Officer Employment Agreement by and between the Registrant and Barbara G. McClung, J.D., dated July 27, 2021 (incorporated by reference to Exhibit 10.3 of the Form 8-K (File No. 001-40631) filed by the Registrant on July 28, 2021)
10.36+	Compensation Letter, dated February 16, 2023, from the Registrant to Barbara G. McClung, J.D. (incorporated by reference to Exhibit 10.41 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (File No. 001-40631), filed with the SEC on March 9, 2023)
10.37+	Compensation Letter, dated February 20, 2024, from the Registrant to Barbara G. McClung, J.D. (incorporated by reference to Exhibit 10.41 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
10.38+*	Compensation Letter, dated February 17, 2025, from the Registrant to Barbara G. McClung, J.D.
10.39+	Officer Employment Agreement by and between the Registrant and Steven B. Kanner, Ph.D., dated July 27, 2021 (incorporated by reference to Exhibit 10.2 of the Form 8-K (File No. 001-40631) filed by the Registrant on July 28, 2021)
10.40+	Amendment to the Officer Employment Agreement, dated July 27, 2021, by and between the Registrant and Steven B. Kanner, Ph.D. (incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2024 (File No. 001-40631), filed with the SEC on August 6, 2024)

10.41+	Compensation Letter, dated February 16, 2023, from the Registrant to Steven B. Kanner, Ph.D. (incorporated by reference to Exhibit 10.44 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (File No. 001-40631), filed with the SEC on March 9, 2023)
10.42+	Compensation Letter, dated February 20, 2024, from the Registrant to Steven B. Kanner, Ph.D. (incorporated by reference to Exhibit 10.45 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
10.43+*	Compensation Letter, dated February 17, 2025, from the Registrant to Steven B. Kanner, Ph.D.
10.44+	Officer Employment Agreement by and between the Registrant and Ruhi Khan, dated November 8, 2021 (incorporated by reference to Exhibit 10.39 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No. 001-40631), filed with the SEC on March 21, 2022)
10.45+	Offer Letter, dated November 22, 2023, between the Registrant and Tim Kelly (incorporated by reference to Exhibit 10.54 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
10.46+	Officer Employment Agreement by and between the Registrant and Tim Kelly, dated January 1, 2024 (incorporated by reference to Exhibit 10.55 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
10.47+*	Compensation Letter, dated February 17, 2025, from the Registrant to Tim Kelly
10.48+	Offer Letter between the Registrant and Tina Albertson, M.D., Ph.D., dated May 30, 2024 (incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2024 (File No. 001-40631), filed with the SEC on November 6, 2024)
10.49+	Officer Employment Agreement by and between the Registrant and Tina Albertson, M.D., Ph.D., dated August 12, 2024 (incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2024 (File No. 001-40631), filed with the SEC on November 6, 2024)
10.50+*	Offer Letter between the Registrant and Sriram Ryali, dated December 9, 2024
10.51+*	Officer Employment Agreement by and between the Registrant and Sriram Ryali, dated January 2, 2025
10.52+	2013 Equity Incentive Plan (as originally adopted) (incorporated by reference to Exhibit 99.1 of the Form S-8 filed by the Registrant on July 26, 2021 (File No.: 333-258173) (the "Form S-8"))
10.53+	2013 Equity Incentive Plan (as amended May 12, 2016) (incorporated by reference to Exhibit 99.2 of the Form S-8)
10.54+	2013 Equity Incentive Plan of the Registrant, as amended and restated April 3, 2019 and as amended March 1, 2021 (incorporated by reference to Exhibit 10.41 of Amendment No. 1 to Form S-1 registration statement filed by the Registrant on July 19, 2021 (File No. 333-257604))
10.55+	Amendment to 2013 Equity Incentive Plan (effective December 9, 2021) (incorporated by reference to Exhibit 10.46 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No.: 333-258173), filed with the SEC on March 21, 2022)
10.56+	Form of Stock Option Agreement under the 2013 Equity Incentive Plan (as originally adopted and as amended May 12, 2016) (incorporated by reference to Exhibit 99.4 of the Form S-8)
10.57+	Form of Stock Option Agreement under the 2013 Equity Incentive Plan, as amended and restated April 3, 2019 (incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2021 (File No.: 333-258173), filed by the Registrant on November 11, 2021)
10.58+	2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 99.6 of the Form S-8)
10.59+	Form of Employee Stock Option Agreement under the 2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 10.50 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No.: 333-258173), filed with the SEC on March 21, 2022)
10.60+	Form of Non-Employee Director Stock Option Agreement under the 2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 10.51 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No.: 333-258173), filed with the SEC on March 21, 2022)

10.61+	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 10.52 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (File No.: 333-258173), filed with the SEC on March 21, 2022)
10.62+	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2022 (File No.: 333-258173), filed by the Registrant on November 8, 2022)
10.63+	Form of Performance Stock Unit Award Grant Notice and Performance Stock Unit Award Agreement under the 2021 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2022 (File No.: 333-258173), filed by the Registrant on November 8, 2022)
10.64+	2021 Employee Stock Purchase Plan (incorporated by reference to Exhibit 99.7 of the Form S-8)
10.65	Form of Indemnification Agreement between the Registrant and its directors and officers (incorporated by reference to Exhibit 10.50 of the Form S-1)
10.66	Open Market Sale Agreement[SM], dated August 9, 2022, by and between the Registrant and Jefferies LLC (incorporated by reference to Exhibit 1.2 to the Company's Registration Statement on Form S-3 (File No. 333-266712) filed with the SEC on August 9, 2022)
10.67	Securities Purchase Agreement, dated June 29, 2023, by and between the Registrant and Pfizer, Inc. (incorporated by reference to Exhibit 10.1 to the Form 8-K filed by the Registrant with the SEC on July 6, 2023)
19.1*	Insider Trading Policy
21.1*	List of Subsidiaries of the Registrant
23.1*	Consent of Deloitte & Touche LLP
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1#	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2#	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97.1	Clawback Policy (incorporated by reference to Exhibit 97.1 of the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (File No. 001-40631), filed with the SEC on March 11, 2024)
101.INS*	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Indicates filed herewith

\+ Indicates management contract or compensatory plan

† Indicates certain portions of this document that constitute confidential information have been redacted in accordance with Regulation S-K, Item 601(b)(10)

This certification is being furnished solely to accompany this Annual Report on Form 10-K pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended ("Exchange Act"), or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

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 Annual Report on Form 10-K (this "Report") to be signed on its behalf by the undersigned, thereunto duly authorized.

CARIBOU BIOSCIENCES, INC.

Date: March 10, 2025

By: /s/ Rachel E. Haurwitz
Rachel E. Haurwitz
President and Chief Executive Officer

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/ Rachel E. Haurwitz **Rachel E. Haurwitz**	President and Chief Executive Officer (*Principal Executive Officer*); Director	March 10, 2025
/s/ Sriram Ryali **Sriram Ryali**	Chief Financial Officer (*Principal Financial Officer & Principal Accounting Officer*)	March 10, 2025
/s/ Scott Braunstein **Scott Braunstein**	Director	March 10, 2025
/s/ Andrew Guggenhime **Andrew Guggenhime**	Director	March 10, 2025
/s/ Dara Richardson-Heron **Dara Richardson-Heron**	Director	March 10, 2025
/s/ David Johnson **David Johnson**	Director	March 10, 2025
/s/ Natalie R. Sacks **Natalie R. Sacks**	Director	March 10, 2025
/s/ Nancy Whiting **Nancy Whiting**	Director	March 10, 2025
/s/ Ran Zheng **Ran Zheng**	Director	March 10, 2025

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Index to Audited Financial Statements as of and for the Years Ended December 31, 2024, and 2023:

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Caribou Biosciences, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Caribou Biosciences, Inc. and subsidiaries (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows, for each of the two years in the period ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

San Francisco, California
March 10, 2025

We have served as the Company's auditor since 2016.

CARIBOU BIOSCIENCES, INC. AND ITS SUBSIDIARIES
Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	December 31, 2024	December 31, 2023
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 16,293	$ 51,162
Marketable securities, short-term	193,244	277,665
Accounts receivable	265	148
Contract assets	1,158	1,425
Other receivables	1,828	2,286
Prepaid expenses and other current assets	6,589	6,155
Total current assets	219,377	338,841
NON-CURRENT ASSETS		
Investments in equity securities	9,276	7,753
Marketable securities, long-term	39,849	43,577
Property and equipment, net	19,281	18,270
Operating lease, right of use assets	20,009	22,182
Other assets	5,521	1,586
TOTAL ASSETS	$ 313,313	$ 432,209
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 2,476	$ 3,120
Accrued expenses and other current liabilities	23,620	21,135
Operating lease liabilities, current	1,426	1,200
Deferred revenue ($2,487 from related party as of December 31, 2024, and December 31, 2023)	3,129	2,847
Total current liabilities	30,651	28,302
LONG-TERM LIABILITIES		
Deferred revenue, net of current portion ($1,243 and $3,730 from related party as of December 31, 2024, and December 31, 2023, respectively)	3,317	6,102
MSKCC success payments liability	785	2,939
Operating lease liabilities, non-current	25,061	25,908
Deferred tax liabilities	548	557
Total liabilities	60,362	63,808
COMMITMENTS AND CONTINGENCIES (Note 9)		
STOCKHOLDERS' EQUITY		
Common stock, par value $0.0001 per share, 300,000,000 shares authorized at December 31, 2024, and December 31, 2023; 92,378,577 and 88,448,948 shares issued and outstanding at December 31, 2024, and December 31, 2023, respectively	9	8
Additional paid-in-capital	701,077	667,648
Accumulated other comprehensive income	255	30
Accumulated deficit	(448,390)	(299,285)
Total stockholders' equity	252,951	368,401
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 313,313	$ 432,209

The accompanying notes are an integral part of these consolidated financial statements.

CARIBOU BIOSCIENCES, INC. AND ITS SUBSIDIARIES
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share amounts)

	Years Ended December 31,	
	2024	**2023**
Licensing and collaboration revenue (including $4,110 and $2,393 for years ended December 31, 2024, and December 31, 2023, respectively, from related parties)	$ 9,994	$ 34,477
Operating expenses:		
Research and development	130,153	112,075
General and administrative	46,457	38,461
Total operating expenses	176,610	150,536
Loss from operations	(166,616)	(116,059)
Other income (expense)		
Change in fair value of the MSKCC success payments liability	2,154	(1,288)
Other income, net	15,348	15,470
Total other income	17,502	14,182
Net loss before (benefit from) provision for income taxes	(149,114)	(101,877)
(Benefit from) provision for income taxes	(9)	193
Net loss	(149,105)	(102,070)
Other comprehensive income		
Net unrealized gain on available-for-sale marketable securities, net of tax	225	1,548
Net comprehensive loss	$ (148,880)	$ (100,522)
Net loss per share, basic and diluted	$ (1.65)	$ (1.38)
Weighted-average common shares outstanding, basic and diluted	90,317,925	73,807,597

The accompanying notes are an integral part of these consolidated financial statements.

CARIBOU BIOSCIENCES, INC. AND ITS SUBSIDIARIES
Consolidated Statements of Stockholders' Equity
(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
BALANCE—December 31, 2022	61,029,184	$ 6	$ 499,598	$ (1,518)	$ (197,215)	$ 300,871
Issuances of common stock under ESPP	138,454	—	787	—	—	787
Issuances of common stock on exercises of options	228,264	—	793	—	—	793
Issuances of common stock upon vesting of RSUs	78,596	—	—	—	—	—
Issuances of common stock in connection with follow-on public offering, net of offering expenses	22,115,384	2	134,423	—	—	134,425
Issuances of common stock in connection with ATM offering, net of offering expenses	168,635	—	1,007	—	—	1,007
Issuances of common stock pursuant to a private placement with Pfizer	4,690,431	—	17,290	—	—	17,290
Stock-based compensation expense	—	—	13,750	—	—	13,750
Other comprehensive income	—	—	—	1,548	—	1,548
Net loss	—	—	—	—	(102,070)	(102,070)
BALANCE—December 31, 2023	88,448,948	$ 8	$ 667,648	$ 30	$ (299,285)	$ 368,401
Issuances of common stock under ESPP	261,178	—	914	—	—	914
Issuances of common stock on exercises of options	182,217	—	618	—	—	618
Issuances of common stock upon vesting of RSUs	66,173	—	—	—	—	—
Issuances of common stock in connection with ATM offering, net of offering expenses	3,420,061	1	15,191	—	—	15,192
Stock-based compensation expense	—	—	16,706	—	—	16,706
Other comprehensive income	—	—	—	225	—	225
Net loss	—	—	—	—	(149,105)	(149,105)
BALANCE—December 31, 2024	92,378,577	$ 9	$ 701,077	$ 255	$ (448,390)	$ 252,951

The accompanying notes are an integral part of these consolidated financial statements.

CARIBOU BIOSCIENCES, INC. AND ITS SUBSIDIARIES
Consolidated Statements of Cash Flows
(in thousands)

	Years Ended December 31,	
	2024	2023
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (149,105)	$ (102,070)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	3,927	3,525
Gain on disposal of fixed assets	(9)	(34)
Non-cash consideration for licensing and collaboration revenue	(1,634)	(61)
Change in fair value of equity securities	111	6
Stock-based compensation expense	16,706	13,750
Change in fair value of MSKCC success payments liability	(2,154)	1,288
Acquired in-process research and development	1,625	—
Accretion of discounts on investments in marketable securities, net	(4,726)	(4,425)
Non-cash lease expense	2,173	2,048
Changes in operating assets and liabilities:		
Accounts receivable	(117)	54
Contract assets	267	822
Other receivables	458	(71)
Prepaid expenses and other current assets	(433)	1,766
Other assets	(3,935)	(48)
Accounts payable	(354)	1,819
Accrued expenses and other current liabilities	2,134	5,743
Deferred revenue, current and long-term	(2,503)	(16,943)
Operating lease liabilities	(621)	(637)
Deferred tax liabilities	(10)	177
Net cash used in operating activities	(138,200)	(93,291)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Proceeds from sales and maturities of marketable securities	397,492	338,188
Purchases of marketable securities	(304,393)	(394,758)
Purchases of property and equipment	(4,880)	(11,613)
Proceeds from sale of property and equipment	13	—
Payments to acquire in-process research and development	(1,625)	—
Net cash provided by (used in) investing activities	86,607	(68,183)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from follow-on public offering, net of offering expenses	—	134,423
Proceeds from issuances of common stock in a private placement with Pfizer	—	17,290
Proceeds from exercise of stock options	618	1,578
Proceeds from issuances of common stock under ESPP	914	—
Proceeds from issuances of common stock related to ATM, net of offering expenses	15,192	1,007
Net cash provided by financing activities	16,724	154,298
NET DECREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	(34,869)	(7,176)
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH — BEGINNING OF PERIOD	51,208	58,384
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH — END OF PERIOD	$ 16,339	$ 51,208
RECONCILIATION OF CASH, CASH EQUIVALENTS, AND RESTRICTED CASH		
Cash and cash equivalents	$ 16,293	$ 51,162
Restricted cash	46	46
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH ON THE BALANCE SHEET	$ 16,339	$ 51,208
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for income taxes	$ —	$ 170
SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Purchases of property and equipment included in accounts payable and accrued expenses	$ 754	$ 692

The accompanying notes are an integral part of these consolidated financial statements.

CARIBOU BIOSCIENCES, INC. AND ITS SUBSIDIARIES
Notes to Consolidated Financial Statements

1. Description of the Business, Organization, and Liquidity

Business and Organization

Caribou Biosciences, Inc. ("Company" or "we") is a clinical-stage **C**lustered **R**egularly **I**nterspaced **S**hort **P**alindromic **R**epeats ("CRISPR") genome-editing biopharmaceutical company dedicated to developing transformative therapies for patients with devastating diseases. Our genome-editing platform, including our novel chRDNA (**C**RISPR **h**ybrid **R**NA-**DNA**, or "chRDNA," pronounced "chardonnay") technology, enables more precise genome editing of allogeneic cell therapies. Our allogeneic chimeric antigen receptor ("CAR") -T ("CAR-T") cell therapy candidates are manufactured in advance with cells from healthy donors, thus enabling broad patient access, rapid patient treatment, and increased manufacturing scale. We use our chRDNA technologies to armor our cell therapies through multiple genome-editing strategies, such as checkpoint disruption, immune cloaking, or a combination of these two strategies, to enhance activity against devastating diseases. We are advancing our pipeline of allogeneic CAR-T cell therapies through four clinical development programs targeting the treatment of hematologic malignancies and autoimmune diseases.

We incorporated in October 2011 as a Delaware corporation and are headquartered in Berkeley, California. We have four wholly owned subsidiaries: Antler Holdco, LLC, incorporated in Delaware in April 2019; Microbe Holdco, LLC, incorporated in Delaware in June 2020; Arboreal Holdco, LLC, incorporated in Delaware in November 2020; and Biloba Holdco, LLC, incorporated in Delaware in April 2021. Our wholly owned subsidiaries hold interests in our equity investments and do not have operating activities.

Liquidity

We have incurred operating losses and negative cash flows from operations since our inception and we had an accumulated deficit of $448.4 million as of December 31, 2024. During the year ended December 31, 2024, we incurred a net loss of $149.1 million and used $138.2 million of cash in operating activities. We expect to continue to incur substantial losses, and our ability to achieve and sustain profitability will depend on the successful development, regulatory approval, and commercialization of our product candidates and on our ability to generate sufficient revenue to support our cost structure. We may never achieve profitability and, unless and until we do, we will need to continue to raise additional capital. Our management expects that existing cash, cash equivalents, and marketable securities of $249.4 million as of December 31, 2024, will be sufficient to fund our current operating plan for at least the next 12 months from the date the consolidated financial statements included in this Annual Report on Form 10-K are issued.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") and include our accounts and the accounts of our wholly owned subsidiaries. All intercompany accounts and transactions are eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities; the disclosure of contingent assets and liabilities at the date of our consolidated financial statements; and the reported amounts of revenue, income, and expenses during the applicable reporting period. On an ongoing basis, we evaluate our estimates and assumptions, including those related to revenue recognition, stock-based compensation expense, accrued research and development expenses, valuation of the Memorial Sloan Kettering Cancer Center ("MSKCC") success payments liability, and income taxes. Our management bases its estimates on historical experience and various other assumptions that they believe to be 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. Actual results may differ materially from those estimates.

Segments

Operating segments are defined as components of an entity about which separate discrete information is available for evaluation by the chief operating decision maker ("CODM") in deciding how to allocate resources and in assessing performance. The CODM is our president and chief executive officer. We view our operations as, and manage our business in, one operating segment, which is the business of developing allogeneic CAR-T cell therapies (see Note 15, "Segment Information").

Concentrations of Credit Risk and Other Uncertainties

Financial instruments that potentially subject us to concentration of credit risk consist of cash and cash equivalents, accounts receivable, contract assets, other receivables, and investments in marketable securities and equity securities. Substantially all our cash and cash equivalents are deposited in accounts at four financial institutions, and our account balances exceed federally insured limits. We mitigate the risks by investing in high-grade instruments, limiting our exposure to one issuer, and we monitor the ongoing creditworthiness of these financial institutions and issuers.

Licensees that represent 10% or more of our revenue and accounts receivable and contract assets were as follows:

	Revenue		Accounts Receivable and Contract Assets	
	Years Ended December 31,		As of December 31,	
	2024	2023	2024	2023
Licensee A	26.6 %	*	49.3 %	47.5 %
Licensee B	*	71.9 %	*	*
Licensee C	24.9 %	*	*	*
Licensee D	16.2 %	*	*	*
Total	67.7 %	71.9 %	49.3 %	47.5 %

*Less than 10%

We monitor economic conditions to identify facts or circumstances that may indicate if any of our accounts receivable are not collectible or if contract assets should be impaired. No allowance for credit losses or contract asset impairment was recorded as of December 31, 2024, or 2023.

Revenue Recognition

We determine whether agreements are within the scope of Accounting Standard Codification ("ASC") Topic 606, Revenue from contracts with customers ("ASC 606") or other topics at the effective date of an agreement. For agreements that are determined to be within the scope of ASC 606, revenue is recognized when a licensee, or customer, obtains control of promised goods or services (e.g., an intellectual property license). The amount of revenue recognized reflects the consideration that we expect to be entitled to receive in exchange for these goods and services. To achieve this core principle, we apply the following five steps (i) identify the contract with the customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as we satisfy a performance obligation.

Our revenues are primarily derived through license and/or license and collaboration agreements. The terms of these types of agreements may include (i) licenses for our technology, (ii) research and development services, and (iii) services or obligations in connection with our participation in research or governance committees. Payments to us under these arrangements typically include one or more of the following: nonrefundable upfront license fees, maintenance fees, milestones, and other contingent payments to us for the achievement of defined collaboration objectives and certain preclinical, clinical, regulatory, and sales-based events, as well as royalties on sales of any commercialized products.

We assess whether the promises in our contracts with third parties are considered distinct performance obligations that should be accounted for separately. Judgment is required to determine whether a license to our intellectual property is distinct from research and development services or participation on research or governance committees.

If a license to intellectual property controlled by us is determined to be distinct from the other performance obligations identified in the agreement, we recognize revenues allocated to the license at the point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are combined with

other promises, we utilize our judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. We evaluate the measure of progress using the input method for each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Certain of our license agreements include contingent milestone payments. Such milestone payments are typically payable when the collaborator or licensee achieves certain predetermined clinical, regulatory, and/or commercial milestones. Milestone payments that are not within our control or the control of the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. At each reporting date, we reevaluate whether the milestones are considered probable of being reached, and we estimate the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price in such period of determination.

Our license and/or collaboration and license agreements may also include contingent payments related to sales-based milestones. Sales-based milestones are typically payable when annual sales of a covered product reach specified levels. Sales-based milestones are recognized at the later of when the associated performance obligation has been satisfied or when the sales occur. Unlike other contingency payments, such as regulatory milestones, sales-based milestones are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when the sales or usage occur. We use the sales-based royalty exception because the license is a predominant item to which sales-based royalties relate.

Certain of our license agreements have two performance obligations: a license and a material right for annual license renewals. Such license agreements require payments of non-refundable annual license fees by the licensee (referred to as maintenance fees in the license agreements), which are accounted for as material rights for license renewals. We recognize revenue when the license is delivered and the term commences. Revenue for the material right for license renewals is recognized at the point in time that the annual license fee is paid by the licensee and the renewal period begins.

Payments received under third-party contracts are recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until we satisfy our performance obligations under these contracts. We record contract assets when payment is due under third-party contracts conditioned on future performance or the occurrence of other events. Amounts payable to us are recorded as accounts receivable if invoiced and if our right to consideration is unconditional.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. 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 (see Note 3, “Fair Value Measurements and Fair Value of Financial Instruments”).

Cash and Cash Equivalents

We consider all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. As of December 31, 2024, and 2023, cash and cash equivalents consisted of cash, money market funds, commercial paper, U.S. government agency bonds, and U.S. Treasury bills.

Restricted Cash

We define restricted cash as cash and cash equivalents that cannot be withdrawn or used for general operating activities. Our restricted cash consists of a letter of credit with a financial institution related to one of our workers’ compensation insurance policies. As of December 31, 2024, and 2023, we had less than $0.1 million of restricted cash, which was recorded in other assets in our consolidated balance sheets.

Marketable Securities

Our short-term and long-term marketable securities are available for sale securities and consist of U.S. Treasury bills, commercial paper, U.S. government agency bonds, and corporate debt securities. We classify those securities that mature in more than 12 months as long-term investments in the consolidated balance sheets. We record at estimated fair value based on quoted market prices or observable market inputs of almost identical assets, with the unrealized holding gains or losses recorded in other comprehensive loss in the consolidated statements of operations and comprehensive loss.

The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity, which are both recorded to interest income in the consolidated statements of operations and comprehensive loss. When the fair value of a debt security declines below its amortized cost basis, any portion of that decline attributable to credit losses, to the extent expected to be nonrecoverable before the sale of the security, is recognized in our statement of operations. When the fair value of a debt security declines below its amortized cost basis due to changes in interest rates, such amounts are recorded in other comprehensive loss, and are recognized in our statements of operations only if we sell or intend to sell the security before recovery of its cost basis.

Investments in Equity Securities

We may receive as consideration under our license agreements equity securities of private or public companies (an "investee"). If we determine that we do not have control over these investees under either the Variable Interest Entity ("VIE") or voting models, we then determine if we have an ability to exercise significant influence via voting interests, board of director representation, or other business relationships. If we conclude that we do not have an ability to exercise significant influence over an investee, we account for our investment at fair value and may elect to account for an equity security without a readily determinable fair value using a measurement alternative. This measurement alternative allows us to measure the equity investment at its cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. If we determine that we do have control over these companies under either voting or VIE models, we consolidate them in our consolidated financial statements.

As of December 31, 2024, and 2023, investments in equity securities, long-term, consisted primarily of our investment in the preferred stock of a private company, related party (see Note 7, "Related Party Transactions"). We concluded that our shares of the private company's preferred stock are not in substance common stock and, since these securities do not have readily determinable fair value, we account for our investment in the private company's preferred stock using the measurement alternative method. As of December 31, 2024, and 2023, we did not recognize any impairment loss related to this investment.

Property and Equipment

Property and equipment are recorded at cost, net of accumulated depreciation and amortization. Property and equipment are depreciated using the straight-line method over the estimated useful lives of the assets.

Computer equipment	3 years
Furniture and office equipment	5 years
Lab equipment	5 years
Leasehold improvements	Shorter of remaining lease term or estimated useful life

Upon retirement or sale of the assets, the cost and related accumulated depreciation and amortization are removed from the balance sheet and the resulting gain or loss is recorded in the statements of operations. Repairs and maintenance are expensed as incurred.

Impairment of Long-Lived Assets

We evaluate the carrying amount of our long-lived assets whenever events or changes in circumstances indicate that the assets may not be recoverable. An impairment loss is recognized when estimated future cash flows expected to result from the use of the asset and its eventual disposition is less than the carrying amount of the asset. To date, there have been no such impairment losses.

Leases

Under Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2016-02, Leases (Topic 842) and its associated amendments, we determine if an arrangement is a lease at inception. In addition, we determine whether a lease meets the classification criteria of a finance or operating lease at the lease commencement date considering whether: (i) the lease transfers ownership of the underlying asset to the lessee at the end of the lease term; (ii) the lease grants the lessee an option to purchase the underlying asset that the lessee is reasonably certain to exercise; (iii) the lease term is for a major part of the remaining economic life of the underlying asset; (iv) the present value of the sum of the lease payments and residual value guaranteed by the lessee equals or exceeds substantially all of the fair value of the underlying asset; and (v) the underlying asset is such a specialized nature that it is expected to have no alternative use to the

lessor at the end of the lease term. As of December 31, 2024, our leases consisted of real estate operating leases and we did not have any finance leases.

Operating leases are included in Operating lease right-of-use assets; Operating lease liabilities, current; and Operating lease liabilities, non-current in our consolidated balance sheets. Right-of-use assets represent our right to use the underlying assets for the lease term and lease liabilities represent our obligation to make lease payments arising from the leases. Operating lease right-of-use assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. In determining the present value of lease payments, if the rate implicit in the lease is not readily determinable, we use our incremental borrowing rate based on the information available at the lease commencement date. We determine the incremental borrowing rate based on an analysis of corporate bond yields with a credit rating similar to ours. The determination of our incremental borrowing rate requires management judgment, including development of a synthetic credit rating and cost of debt, as we currently do not carry any debt. We believe that the estimates used in determining the incremental borrowing rate are reasonable based upon facts and circumstances. Applying different judgments to the same facts and circumstances could yield a different incremental borrowing rate. The operating lease right-of-use assets also include adjustments for prepayments, accrued lease payments, and lease incentives. Right-of-use assets and lease liabilities may include options to extend or terminate leases if it is reasonably certain that we will exercise such options. Lease payments which are fixed and determinable are amortized as rent and lease expense on a straight-line basis over the expected lease term. Variable lease costs, which are dependent on usage, a rate or index, including common area maintenance charges, are expensed as incurred. Lease agreements that include lease and non-lease components are accounted for as a single lease component. Lease agreements with non-cancelable terms of less than 12 months are not recorded on our balance sheets.

MSKCC Success Payments Liability

Under the terms of our Exclusive License Agreement, dated November 13, 2020, with MSKCC (as amended, "MSKCC Agreement") (see Note 4, "Significant Agreements"), we are obligated to make success payments and a change of control payment if our stock price increases by certain multiples of increasing value based on a comparison of the fair value of our common stock with $5.1914 per share, adjusted for any future stock splits, during a specified time period. The relevant time period commenced on February 13, 2024, when the first patient was dosed with our anti- C-type lectin-like molecule-1 ("CLL-1") product candidate (CB-012) in our AMpLify phase 1 clinical trial, and ends upon the earlier of the third anniversary of approval of our biologics license application ("BLA") by the U.S. Food and Drug Administration ("FDA") or 10 years from February 13, 2024. Under the MSKCC Agreement, our common stock fair value is determined by the 45-trading day volume weighted-average trading price immediately preceding the date of determination. The success payments liability is accounted for under ASC 815, Derivatives and Hedging. The nature of the success payments liability is contingent consideration for the MSKCC exclusive license and, as such, it was accounted for as research and development expenses at estimated fair value at inception. The success payments liability is remeasured at fair value at each subsequent balance sheet date, and changes in the fair value of the success payments liability are included in other income (expense) in the consolidated statements of operations and comprehensive loss.

To determine the estimated fair value of the MSKCC success payments liability, we use a Monte Carlo simulation methodology that models the future movement of stock prices based on several key variables. This model requires significant estimates and assumptions in determining the estimated fair value of the MSKCC success payments liability at each balance sheet date. The following variables were incorporated in the estimated fair value of the success payments liability: estimated term of the success payments, fair value of common stock, expected volatility, risk-free interest rate, and estimated number and timing of valuation measurement dates on the basis of which payments may be triggered. The computation of expected volatility was estimated using a combination of available information about the historical volatility of stocks of similar publicly traded companies for a period matching the expected term assumption and projected volatility. The assumptions used to calculate the fair value of the MSKCC success payments liability are subject to a significant amount of judgment including the expected volatility that was estimated using available information about the historical volatility of stocks of publicly traded companies that are similar to us, the estimated term, and the estimated number and timing of valuation measurement dates. There are several valuation measurement dates that may trigger payments under the MSKCC Agreement and are considered in our valuation of the MSKCC success payments liability (see Note 4, "Significant Agreements").

Accrued Research and Development Expenses

Research and development expenses are expensed as incurred. Research and development expenses include those for certain payroll and personnel; laboratory supplies; consulting; manufacturing; external clinical; and allocated overhead, including rent, equipment depreciation, and utilities.

We record accrued liabilities for estimated costs of our research and development activities conducted by third-party service providers. We record the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced and include these costs in accrued liabilities in the consolidated balance sheets and within research and development expenses in the consolidated statements of operations and comprehensive loss. We accrue for these costs based on factors such as estimates of the work completed and in accordance with the third-party service agreements. If we do not identify costs that have begun to be incurred or if we underestimate or overestimate the level of services performed or the costs of these services, actual expenses could differ from our estimates. To date, we have not experienced any material differences between accrued costs and actual costs incurred.

We make payments in connection with clinical trials to contract manufacturing organizations ("CMOs") that manufacture the material for our product candidates and to clinical research organizations ("CROs") and clinical trial sites that conduct and manage our clinical trials. The financial terms of these contracts are subject to negotiation, which vary by contract and may result in payments that do not match the periods over which materials or services are provided. Generally, these agreements set forth the scope of work to be performed at a fixed fee, unit price or on a time and materials basis. In the event we make advance payments for goods or services that will be used or rendered for future research and development activities, the payments are deferred and capitalized as a prepaid expense and recognized as expense as the goods are received or the related services are rendered. These payments are evaluated for current or long-term classification based on when they are expected to be realized.

Acquisition of In-Process Research and Development Assets

We measure and recognize acquired in-process research and development assets, which include licenses, know-how, patents, and transaction fees, based on the cost to acquire the assets and the consideration that is allocated to the items based on a relative fair value methodology. Goodwill is not recognized in asset acquisitions. If acquired in-process technology is determined to not have an alternative future use, the cost is charged to research and development expenses at the acquisition date.

Patent Costs

We expense patent costs as incurred for filing, prosecuting, and maintaining patents and patent applications, including certain of the patents and patent applications that we license from third parties. We classify these costs as general and administrative expenses in our consolidated statements of operations and comprehensive loss. In addition, we are entitled to receive reimbursement from third parties for a portion of the filing, prosecution, and maintenance costs for certain patents and patent applications. We accrue for these reimbursements as the respective expenses are incurred, and we classify such reimbursements as a reduction of general and administrative expenses. During the years ended December 31, 2024, and 2023, we incurred gross patent costs of $3.8 million and $4.3 million, respectively. During the years ended December 31, 2024, and 2023, we recorded $1.2 million and $1.5 million, respectively, of patent cost reimbursements as a credit to general and administrative expenses.

Stock-Based Compensation Expense

Stock-based compensation expense related to awards to employees is measured at the grant date based on the fair value of the award. We determine the grant-date fair value of the options using the Black-Scholes option-pricing model. The fair value of restricted stock units ("RSUs") and performance-based RSUs ("PSUs") awards is determined based on the number of units granted and the closing price of our common stock as of the grant-date. The fair value of the award that is ultimately expected to vest is recognized as expense on a straight-line basis over the requisite service period of the awards, which is generally the vesting period, and is adjusted for pre-vesting forfeitures in the period in which the forfeitures occur.

We use the Black-Scholes valuation model as the method for determining the estimated fair value of stock options and stock purchases under our 2021 Employee Stock Purchase Plan ("ESPP") with the following assumptions:

Fair Market Value of Common Stock — The fair market value of our common stock is based on its closing price on Nasdaq as reported on the date of the stock option grant.

Expected Term — Expected term represents the period that our stock-based awards are expected to be outstanding and is determined using the simplified method, which represents the average of the contractual term of the stock option and its weighted-average vesting period.. The expected term for our stock purchases under our ESPP is the offering period.

Expected Volatility — Expected volatility is estimated based on the average historical volatilities of common stock of comparable publicly traded entities within the life sciences industry over a period equal to the expected term of the stock option grants, as we do not have sufficient trading history for our common stock. Comparable companies are chosen based on their size, stage in the life cycle, or area of specialty. We will continue to apply this process for stock options and ESPP stock purchases until enough historical information regarding the volatility of our stock price becomes available.

Expected Dividends — Expected dividends are zero as we have never paid dividends on our common stock and have no plans to do so for the foreseeable future.

Risk-Free Interest Rate — Risk-free interest rate is based on the U.S. Treasury zero-coupon issued in effect at the time of grant for periods corresponding with the expected term of the award.

Income Taxes

We account for income taxes using the asset and liability method. We recognize deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements or tax returns. Deferred tax assets and liabilities are determined based on the difference between the consolidated 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. Valuation allowances are provided if, based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. Tax benefits related to uncertain tax positions are recognized when it is more likely than not that a tax position will be sustained during an audit. Interest and penalties related to unrecognized tax benefits are included within the provision for income tax.

Other Income, net

We recognize fees earned from sources not considered to be within the normal course of business in other income within the statements of operations and comprehensive loss. During each of the years ended December 31, 2024, and 2023, we recognized $15.3 million of interest income from our short-term and long-term marketable securities.

Comprehensive Loss

Comprehensive loss is composed of net loss and other comprehensive income. Other comprehensive income consists of unrealized gains and losses on available-for-sale marketable securities.

Net Loss Per Share

Basic net loss per share is computed by dividing the net loss by the weighted-average number of common shares outstanding during the period, without consideration of potential dilutive securities. Diluted net loss per share is computed by dividing the net loss by the sum of the weighted-average number of common shares outstanding during the period plus the dilutive effects of potentially dilutive securities outstanding during the period. Potentially dilutive securities include common stock options, shares committed under ESPP and RSUs issued and outstanding. For all periods presented, diluted net loss per share is the same as basic net loss per share since the effect of including potential common shares is anti-dilutive.

Recently Adopted Accounting Pronouncements

From time to time, new accounting pronouncements are issued by FASB or other standard-setting bodies and adopted are by us as of the specified effective date.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*. This ASU requires public entities to disclose information about their reportable segments' significant expenses and other segment items on an interim and annual basis. Public entities with a single reportable segment are required to apply the disclosure requirements in ASU 2023-07, as well as all existing segment disclosures and reconciliation requirements in ASC 280 on an interim and annual basis. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and for interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. We adopted ASU 2023-07 for the fiscal year 2024. The impact of ASU 2023-07 resulted in additional disclosures in our notes to the consolidated financial statements (see Note 15, "Segment Information").

Recently Issued Accounting Pronouncements Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*. This ASU requires public entities, on an annual basis, to provide disclosure of specific categories in the rate reconciliation, as well as disclosure of income taxes paid disaggregated by jurisdiction. ASU 2023-09 is effective for fiscal years beginning after December 15, 2024, with early adoption permitted. We are currently evaluating the impact of the new guidance and do not expect that the adoption of ASU 2023-09 will have a material impact on our consolidated financial statements and related disclosures.

In November 2024, the FASB issued ASU No. 2024-03, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation (Subtopic 220-40): Disaggregation of Income Statement Expenses*. The amendments in ASU 2024-03 require a public business entity to disclose specific information about certain costs and expenses in the notes to its financial statements for interim and annual reporting periods. The objective of the disclosure requirements is to provide disaggregated information about a public business entity's expenses to help investors (i) better understand the entity's performance, (ii) better assess the entity's prospects for future cash flows, and (iii) compare an entity's performance over time and with that of other entities. ASU 2024-03 is effective for fiscal years beginning after December 15, 2026, and for interim periods within fiscal years beginning after December 15, 2027, with early adoption permitted. We are currently evaluating the impact of the adoption of ASU 2024-03.

Emerging Growth Company and Smaller Reporting Company Status

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 Act ("JOBS" Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our consolidated financial statements may not be comparable to those of companies that comply with the new or revised accounting pronouncements as of public company effective dates.

We expect to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company. We have early adopted certain accounting standards because the JOBS Act does not preclude an emerging growth company from adopting a new or revised accounting standard earlier than the time that such standard applies to private companies to the extent early adoption is allowed by the accounting standard.

We are also a "smaller reporting company." 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 consolidated 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.

3. Fair Value Measurements and Fair Value of Financial Instruments

The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value are classified in their entireties based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires our management to make judgments and consider factors specific to the asset or liability.

Our financial instruments consist of Level 1, Level 2, and Level 3 financial instruments. We generally classify our marketable securities as Level 1 or Level 2. Instruments are classified as Level 2 when observable market prices for identical securities that are traded in less active markets are used. When observable market prices for identical securities are not available, such instruments are priced using benchmark curves, benchmarking of like securities, sector groupings, matrix pricing, and valuation models. These valuation models are proprietary to the pricing providers or brokers and incorporate a number of inputs, including in approximate order of priority: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including market research publications. For certain security types, additional inputs may be used, or some of the standard inputs may not be applicable. Evaluators may prioritize inputs differently on any given day for any security based on market conditions, and not all inputs listed are available for use in the evaluation process for each security valuation on any given day. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy. We recognize transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs. No such transfers occurred during the years ended December 31, 2024, and 2023. Level 1 financial instruments are comprised of money market fund investments and U.S. Treasury bills. Level 2 financial instruments are comprised of commercial paper, corporate debt securities, and U.S. government agency bonds. Financial assets and liabilities are considered Level 3 when their fair values are determined using pricing models, discounted cash flow methodologies, or similar techniques, and at least one significant model assumption or input is unobservable. Level 3 financial instruments consist of the MSKCC success payments liability.

The following table sets forth our financial instruments that were measured at fair value on a recurring basis by level within the fair value hierarchy (in thousands):

	Fair Value Measurements as of December 31, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury bills ($1,293 included in cash and cash equivalents)	$ 169,615	$ 169,615	$ —	$ —
U.S. government agency bonds ($1,993 included in cash and cash equivalents)	33,482	—	33,482	—
Commercial paper ($1,499 included in cash and cash equivalents)	26,283	—	26,283	—
Money market fund investments (included in cash and cash equivalents)	11,508	11,508	—	—
Corporate debt securities	8,498	—	8,498	—
Total fair value of assets	$ 249,386	$ 181,123	$ 68,263	$ —
Liabilities:				
MSKCC success payments liability	$ 785	$ —	$ —	$ 785
Total fair value of liabilities	$ 785	$ —	$ —	$ 785

	Fair Value Measurements as of December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury bills ($23,527 included in cash and cash equivalents)	$ 262,439	$ 262,439	$ —	$ —
Commercial paper ($9,759 included in cash and cash equivalents)	40,373	—	40,373	—
U.S. government agency bonds	40,185	—	40,185	—
Money market fund investments (included in cash and cash equivalents)	17,876	17,876	—	—
Corporate debt securities	11,531	—	11,531	—
Total fair value of assets	$ 372,404	$ 280,315	$ 92,089	$ —
Liabilities:				
MSKCC success payments liability	$ 2,939	$ —	$ —	$ 2,939
Total fair value of liabilities	$ 2,939	$ —	$ —	$ 2,939

The fair value and amortized cost of cash equivalents and available-for-sale marketable securities by major security type as of December 31, 2024, and 2023 are presented in the following tables (in thousands):

	As of December 31, 2024			
	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Estimated Fair Value
U.S. Treasury bills ($1,293 included in cash and cash equivalents)	$ 169,414	$ 268	$ (67)	$ 169,615
U.S. government agency bonds ($1,993 included in cash and cash equivalents)	33,440	53	(11)	33,482
Commercial paper ($1,499 included in cash and cash equivalents)	26,274	11	(2)	26,283
Money market fund investments (included in cash equivalents)	11,508	—	—	11,508
Corporate debt securities	8,495	3	—	8,498
Total cash equivalents and marketable securities	$ 249,131	$ 335	$ (80)	$ 249,386
Classified as:				
Cash and cash equivalents				$ 16,293
Marketable securities, short-term				193,244
Marketable securities, long-term				39,849
Total cash equivalents and marketable securities				$ 249,386

	As of December 31, 2023			
	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Estimated Fair Value
U.S. Treasury bills ($23,527 included in cash and cash equivalents)	$ 262,328	$ 331	$ (220)	$ 262,439
Commercial paper ($9,759 included in cash and cash equivalents)	40,386	—	(13)	40,373
U.S. government agency bonds	40,295	1	(111)	40,185
Money market fund investments (included in cash equivalents)	17,876	—	—	17,876
Corporate debt securities	11,489	50	(8)	11,531
Total cash equivalents and marketable securities	$ 372,374	$ 382	$ (352)	$ 372,404

Classified as:	
Cash and cash equivalents	$ 51,162
Marketable securities, short-term	277,665
Marketable securities, long-term	43,577
Total cash equivalents and marketable securities	$ 372,404

During the years ended December 31, 2024, and 2023, we reviewed our impaired marketable securities and concluded that the decline in fair value was not related to credit losses and is recoverable. Accordingly, no allowance for credit losses was recorded and instead the unrealized losses are reported as a component of accumulated other comprehensive loss.

The following table presents the fair value of available-for-sale marketable securities by contractual maturities (in thousands):

	December 31, 2024
Due in less than one year	193,244
Due in one to five years	39,849
Total	$ 233,093

The following table sets forth a summary of the changes in the fair value of our Level 3 financial liability (in thousands):

	MSKCC Success Payments Liability
Balance at December 31, 2022	$ 1,651
Change in fair value	1,288
Balance at December 31, 2023	$ 2,939
Change in fair value	(2,154)
Balance at December 31, 2024	$ 785

Our liability for the MSKCC success payments is carried at fair value and changes are recognized as expense or income as part of other income (expense) until the success payments liability is paid or expires (see Note 4, “Significant Agreements”).

The table below summarizes key assumptions used in the valuation of MSKCC success payments liability:

	As of December 31, 2024	As of December 31, 2023
Fair value of common stock	$ 1.59	$ 5.73
Risk-free interest rate	4.58%	3.88%
Expected volatility	105%	79%
Probability of achieving multiple of Initial Share Price[(1)]	1.5% to 4.9%	5.2% to 18.1%
Expected term (years)	4.1 to 5.0	3.1 to 5.2

[(1)] MSKCC is entitled to certain success payments if our common stock fair value increases, during a specified time period, by certain multiples of value based on a comparison of the fair value of our common stock to $5.1914 per share, adjusted for any future stock splits ("Initial Share Price") (see Note 4, "Significant Agreements").

The computation of expected volatility was estimated using a combination of available information about the historical volatility of stocks of similar publicly traded companies for a period matching the expected term assumption and the historical and implied volatility of our stock. The risk-free interest rate, expected volatility, and expected term assumptions depend on the time period from the initiation of our AMpLify phase 1 clinical trial for our CB-012 product candidate utilizing the know-how, biological materials, and intellectual property licensed under the MSKCC Agreement until the estimated timing of marketing approval for this product candidate from the FDA. In addition, we incorporated the estimated number and timing of valuation measurement dates in the calculation of the MSKCC success payments liability.

4. Significant Agreements

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

We entered into an Exclusive License Agreement, dated April 16, 2013 (as amended, "UC/Vienna Agreement") with The Regents of the University of California ("UC") and the University of Vienna ("Vienna") (together, "UC/Vienna") wherein UC/Vienna granted us an exclusive worldwide license, with the right to sublicense, in all fields to the foundational CRISPR-Cas9 patent family co-owned by UC, Vienna, and Dr. Emmanuelle Charpentier ("CVC IP"). Dr. Charpentier has not granted us any rights, either directly or indirectly. The UC/Vienna Agreement continues until the last-to-expire patent or last-to-be-abandoned patent application within the CVC IP; provided, however, that UC/Vienna may terminate the UC/Vienna Agreement upon the occurrence of certain events and we may terminate the UC/Vienna Agreement at our sole discretion upon written notice. Without patent term adjustment ("PTA") or patent term extension ("PTE"), the CVC IP will expire in 2033. The UC/Vienna Agreement includes certain diligence milestones that we must meet. For products and services sold by us that are covered by the CVC IP, we will owe low- to mid-single-digit percent royalties on net sales, subject to a minimum annual royalty. Prior to the time that we are selling products, we owe UC/Vienna an annual license maintenance fee. We will owe UC/Vienna up to $3.1 million in certain regulatory and clinical milestone payments in the field of human therapeutics and diagnostics for products that are covered by the CVC IP. Additionally, we pay UC/Vienna a specified percentage of sublicensing revenue, including cash and equity, we receive from sublicensing the CVC IP, subject to certain exceptions. If we include intellectual property owned or controlled by us in a sublicense to the CVC IP, we pay UC/Vienna a low double-digit percentage of sublicensing revenues received under the sublicense. If we do not include intellectual property owned or controlled by us in a sublicense to the CVC IP, we pay UC/Vienna 50% of sublicensing revenues received under the sublicense. To date, we have entered into over 30 sublicensing agreements in a variety of fields such as human therapeutics, forestry, agriculture, research reagents, transgenic animals, certain livestock targets, internal research, bioproduction, cell lines, and microbial applications that include the CVC IP as well as other Cas9 intellectual property owned or controlled by us. We are obligated to reimburse UC for its prosecution and maintenance costs of the CVC IP.

For the years ended December 31, 2024, and 2023, we incurred $1.1 million and $1.6 million, respectively, for payments we owe to UC related to sublicensing revenues, which we recorded in research and development expenses in our consolidated statements of operations and comprehensive loss.

For the years ended December 31, 2024, and 2023, we reimbursed UC $1.7 million and $2.3 million, respectively, for prosecution and maintenance costs of the CVC IP, which were recorded in general and administrative expenses in our consolidated statements of operations and comprehensive loss.

On December 15, 2016, we entered into a Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement ("IMA") relating to the CVC IP. Under the IMA, CRISPR Therapeutics AG ("CRISPR") reimburses us 50% of the amounts we reimburse UC for patent prosecution and maintenance costs of the CVC IP. For the years ended December 31, 2024, and 2023, CRISPR reimbursed us $0.9 million and $1.1 million, respectively, which we recorded as reductions of general and administrative expenses in our consolidated statements of operations and comprehensive loss.

Memorial Sloan Kettering Cancer Center

On November 13, 2020, we entered into the MSKCC Agreement, under which we exclusively licensed know-how, biological materials, and patent families relating to fully-human single-chain variable fragments targeting CLL-1 for use in T cells, NK cells, and genome-edited induced pluripotent stem cells ("iPSCs") for allogeneic CLL-1-targeted cell therapies (currently used in our CB-012 product candidate). We paid MSKCC an upfront payment of $0.5 million in cash and $2.1 million in stock. For each licensed CLL-1 product, we will owe potential clinical, regulatory, and commercial milestone payments totaling $111.0 million. In addition, in the event we receive regulatory approval for a licensed CLL-1 product, we will owe low- to mid-single-digit percent royalties on net sales. Our license from MSKCC includes the right to sublicense through multiple tiers and we will owe MSKCC a percentage of upfront cash or equity received from our sublicensees. The percentage owed decreases as our licensed CLL-1 product candidate moves through development, starting at a low-double-digit percentage if clinical trials have not yet begun and decreasing to a mid-single-digit percentage if our licensed CLL-1 product candidate is in later clinical trial stages. We are also responsible for paying a percentage of licensed patent costs. The MSKCC Agreement includes certain diligence milestones that we must meet by specified dates, which may be extended by us upon payment of additional fees.

MSKCC is entitled to certain success payments if our common stock fair value increases by certain multiples of increasing value based on a comparison of the fair value of our common stock to $5.1914 per share, adjusted for any future stock splits (the "Initial Share Price"), during a specified time period. Under the MSKCC Agreement, as a publicly traded company, our common stock fair value is determined by the 45-trading day volume weighted-average trading price immediately preceding the date of determination. At our option, success payments to MSKCC may be made in cash or common stock. The relevant time period commenced on February 13, 2024, when the first patient was dosed with our anti-CLL-1 product candidate (CB-012) in our AMpLify phase 1 clinical trial, and ends upon the earlier of the third anniversary from the approval of our biologics license application ("BLA") by the FDA or 10 years from February 13, 2024. The aggregate success payments will not exceed $35.0 million. Additionally, if we undergo a change of control during the specified time period, we will owe a change of control payment, depending upon the increase in our stock price due to the change of control and also to what extent success payments have already been paid by us to MSKCC. In no event will the combination of success payments and the change of control payment owed to MSKCC exceed $35.0 million.

The following table summarizes the amounts of the MSKCC success payments:

Multiple of Initial Share Price giving rise to a success payment	5 x	10 x	15 x
MSKCC success payments (in millions)	$ 10.0	$ 10.0	$ 15.0

We may terminate the MSKCC Agreement upon 90 calendar days' prior written notice to MSKCC. MSKCC may terminate the MSKCC Agreement in the event of our uncured material breach, bankruptcy, or criminal activity. If MSKCC materially breaches the MSKCC Agreement in certain circumstances (e.g., granting a third party a license in our field) then, during the time of such uncured breach, MSKCC will not be entitled to receive any success payments or any change of control payment.

For the year ended December 31, 2024, we incurred $1.0 million in milestone payments, which we recorded in research and development expenses in our consolidated statements of operations and comprehensive loss. We did not incur any milestone payments during the year ended December 31, 2023.

As of December 31, 2024, and 2023, the estimated fair value of the total success payments obligation to MSKCC was $0.8 million and $2.9 million, respectively, which was included in long-term liabilities in our consolidated balance sheets.

Intellia Therapeutics, Inc.

On July 16, 2014, we entered into a License Agreement (as amended, "Intellia License Agreement") with Intellia, LLC, to which Intellia Therapeutics, Inc. ("Intellia") is a successor in interest. Under the Intellia License Agreement, we granted Intellia an exclusive worldwide license, with the right to sublicense, to certain CRISPR-Cas9 technology for a

defined field of human therapeutics. Intellia granted us an exclusive worldwide license, with the right to sublicense, to certain of its CRISPR-Cas9 technology for all fields outside of the defined field of human therapeutics. Under the Intellia License Agreement, each party is responsible for 30% of the other party's expenses for prosecution and maintenance of the licensed intellectual property.

During the years ended December 31, 2024, and 2023, we recognized $0.3 million and $0.1 million, respectively, of expenses in reimbursable patent prosecution and maintenance costs, which were recorded as general and administrative expenses in our consolidated statements of operations and comprehensive loss. During the years ended December 31, 2024, and 2023, Intellia reimbursed us $0.3 million and $0.4 million, respectively (including reimbursement for a portion of the patent prosecution and maintenance costs of the CVC IP paid to UC), which were recorded as reductions of general and administrative expenses in our consolidated statements of operations and comprehensive loss. The term of the Intellia License Agreement continues for the life of the licensed patents and patent applications; provided, however, either party may terminate the agreement upon the occurrence of certain events.

On June 16, 2021, we entered into a leaseback agreement with Intellia ("Leaseback Agreement"). Pursuant to the Leaseback Agreement, in exchange for Intellia's grant to us of an exclusive license to certain intellectual property relating to CRISPR-Cas9, including Cas9 chRDNAs, for use solely in the manufacture of our CB-010 product candidate, we paid Intellia an upfront cash payment of $1.0 million and we will owe up to $23.0 million in potential future regulatory and sales milestones. Additionally, we will owe Intellia low- to mid- single-digit percent royalties on net sales of our CB-010 product candidate until the expiration, abandonment, or invalidation of the last patent within the intellectual property relating to CRISPR-Cas9, including that relating to Cas9 chRDNAs (i.e., 2036, without PTA or PTE).

Pioneer Hi-Bred International, Inc. (now Corteva Agriscience)

On July 13, 2015, we and Pioneer Hi-Bred International, Inc. ("Pioneer") (now Corteva Agriscience), then a DuPont company ("DuPont"), entered into an Amended and Restated Collaboration and License Agreement (as amended, "Pioneer Agreement"). Under the terms of the Pioneer Agreement, we and Pioneer cross licensed CRISPR intellectual property portfolios. Pioneer granted us an exclusive worldwide license, with the right to sublicense, to its CRISPR intellectual property in the field of research tools, as well as a non-exclusive worldwide license to such intellectual property in human and animal therapeutics, industrial biotechnology, certain agriculture segments, and other fields; and we granted Pioneer an exclusive worldwide license, with the right to sublicense, to our CRISPR intellectual property, including the CVC IP, in a defined field of agriculture relating to specified row crops, as well as a non-exclusive worldwide license to the intellectual property in other agricultural applications, industrial biotechnology, nutrition and health, and other fields. The Pioneer Agreement continues until the expiration, abandonment, or invalidation of the last patent or patent application within the licensed intellectual property; provided, however, that the parties may terminate the Pioneer Agreement by mutual consent or either party may unilaterally terminate the Pioneer Agreement in the event of an uncured breach of a payment obligation, bankruptcy, or failure to maintain or own licensed intellectual property by the other party if the non-breaching party is materially adversely affected by the failure. We are obligated to pay low-single-digit percent royalties to Pioneer for the sales of our products in the research tools field as well as certain sublicensing revenues in that field. We are eligible to receive milestone payments from Pioneer if certain regulatory and commercial milestones are met related to specified row crops, for a total of up to $22.4 million, as well as to receive low-single-digit percent royalties for sales of defined agricultural products and certain sublicensing revenues in that field. Initially, Pioneer owned the patents and patent applications developed under the collaboration, including the chRDNA patent family, and granted us an exclusive license to these patents and patent applications in the fields of research tools and therapeutics.

In December 2020, we and Pioneer entered into an amendment to the Pioneer Agreement under which Pioneer assigned to us the chRDNA patent family developed under the research collaboration, and we paid Pioneer an upfront payment of $0.5 million. In addition to the upfront payment, we are now obligated to pay all patent prosecution and maintenance costs for the chRDNA patent family; up to $2.8 million in regulatory milestone payments for therapeutic products that are covered by the chRDNA patent family; up to $20.0 million in sales milestones over a total of four therapeutics products that are covered by the chRDNA patent family; and a low-single-digit percentage of licensing revenue we receive for licensing the chRDNA patent family after December 2020. During the years ended December 31, 2024, and 2023, we did not recognize any expense or income related to the Pioneer Agreement

AbbVie Manufacturing Management Unlimited Company

On February 9, 2021, we entered into a Collaboration and License Agreement (as amended, "AbbVie Agreement") with AbbVie Manufacturing Management Unlimited Company ("AbbVie"). Under the terms of the AbbVie Agreement, we conducted certain preclinical research and development activities under the collaboration, and AbbVie

reimbursed us for all such activities, including reimbursement for time spent by employees at a designated rate. On September 26, 2023, we received notice from AbbVie that AbbVie elected to terminate the AbbVie Agreement. By mutual agreement with AbbVie, termination of the AbbVie Agreement became effective on October 25, 2023.

The transaction price we received under the AbbVie Agreement consisted of a $30.0 million upfront, non-refundable and non-creditable, cash payment and the estimated variable consideration related to our performance of preclinical research, development, and manufacturing activities under the collaboration and developmental and regulatory milestone payments. We constrain the estimated variable consideration if we assess that it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. The transaction price was reevaluated at the end of each reporting period and as changes in circumstances occurred. We determined that the licenses we granted to AbbVie and our participation in the joint governance committee were not capable of being distinct from the preclinical research, development, and manufacturing activities and therefore were combined into one performance obligation. We recognized revenue based on the measure of progress using an estimated cost-based input method each reporting period.

Upon receipt of the termination notice, we stopped performing preclinical research and development services under the AbbVie Agreement and determined that our performance obligation to AbbVie was substantially completed as of September 30, 2023. Consequently, the remaining $20.8 million of deferred revenue from the $30.0 million upfront cash payment was recognized upon satisfaction of the performance obligation during the year ended December 31, 2023.

During the year ended December 31, 2023, we recognized $24.8 million in licensing and collaboration revenue associated with the AbbVie Agreement, of which $22.7 million had been included in deferred revenue as of the beginning of the period. As of December 31, 2024, and 2023, we had no amounts recorded in deferred revenue and in accounts receivable or contract assets in our consolidated balance sheets related to the now-terminated AbbVie Agreement.

5. Revenue

Disaggregation of Revenue

We disaggregate revenue by geographical market based on the location of research and development activities of our licensees and collaborators. The following table is a summary of revenue by geographic location for the years ended December 31, 2024, and 2023, (in thousands):

	Years Ended December 31,	
	2024	2023
United States	$ 9,270	$ 32,770
Rest of world	724	1,707
Total	$ 9,994	$ 34,477

During the year ended December 31, 2024, we recognized $7.5 million of revenue related to performance obligations satisfied at a point in time, and we recognized $2.5 million of revenue related to performance obligations satisfied over time.

During the year ended December 31, 2023, we recognized $8.4 million of revenue related to performance obligations satisfied at a point in time, and we recognized $26.1 million of revenue related to performance obligations satisfied over time that included $24.8 million in licensing and collaboration revenue associated with the now-terminated AbbVie Agreement.

Contract Balances

Accounts receivable relate to our right to consideration for performance obligations completed (or partially completed) for which we have an unconditional right to consideration. Our accounts receivable balances represent amounts that we billed to our licensees with invoices outstanding as of the end of a reporting period.

Contract assets are rights to consideration in exchange for a license that we have granted to a licensee when the right is conditional on something other than the passage of time. Our contract asset balances represent royalties and milestone payments from our other license agreements that are unbilled as of the end of a reporting period.

Contract liabilities consist of deferred revenue and relate to amounts invoiced to, or advance consideration received from, licensees that precede our satisfaction of the associated performance obligations. As of December 31, 2024, and 2023, our deferred revenue balance primarily resulted from the upfront payment received relating to our performance obligation to Pfizer, Inc. ("Pfizer"). The remaining deferred revenue relates to upfront payments received under license agreements that also include nonrefundable annual license fees, which are accounted for as material rights for license renewals and are recognized at the point in time when annual license fees are paid by the licensees and the renewal periods begin.

The following table presents changes in our contract assets and liabilities during the year ended December 31, 2024 (in thousands):

	Balance as of December 31, 2023	Additions	Deductions	Balance as of December 31, 2024
Accounts receivable	$ 148	$ 6,146	$ (6,029)	$ 265
Contract assets:				
Unbilled accounts receivable	$ 1,425	$ 4,029	$ (4,296)	$ 1,158
Contract liabilities:				
Deferred revenue, current and long-term	$ 8,949	$ 1,580	$ (4,083)	$ 6,446

During the years ended December 31, 2024, and 2023, we recognized $2.9 million and $23.2 million of revenue, respectively, which was included in the opening contract liabilities balances at the beginning of the respective periods.

Transaction Prices Allocated to Remaining Performance Obligations

Remaining performance obligations represent in aggregate the amount of a transaction price that has been allocated to performance obligations not delivered as of the end of a reporting period. The value of transaction prices allocated to remaining unsatisfied performance obligations as of December 31, 2024, and 2023, were approximately $6.4 million and $8.9 million, respectively. We expect to recognize approximately $3.1 million of remaining performance obligations as revenue in the next 12 months and to recognize the remainder thereafter.

Capitalized Contract Acquisition Costs and Fulfillment Costs

We did not incur any expenses to obtain our existing contracts, and costs to fulfill those contracts do not generate or enhance our resources. As such, no costs to obtain or fulfill a contract have been capitalized in any period.

6. Balance Sheet Items

Other receivables consisted of the following (in thousands):

	December 31, 2024	December 31, 2023
Accrued interest on marketable securities	$ 930	$ 702
Patent cost reimbursements	898	1,403
Other	—	181
Total	$ 1,828	$ 2,286

Prepaid expenses and other current assets consisted of the following (in thousands):

	December 31, 2024	December 31, 2023
Prepaid contract manufacturing and clinical costs	$ 3,919	$ 3,942
Prepaid insurance	889	993
Other	1,781	1,220
Total	$ 6,589	$ 6,155

Property and equipment, net, consisted of the following (in thousands):

	December 31, 2024	December 31, 2023
Lab equipment	$ 19,054	$ 15,581
Leasehold improvements	11,518	2,235
Computer equipment	897	895
Furniture and office equipment	697	499
Construction in progress	—	8,204
Total property and equipment	32,166	27,414
Less accumulated depreciation and amortization	(12,885)	(9,144)
Property and equipment, net	$ 19,281	$ 18,270

Depreciation and amortization expenses related to property and equipment were $3.9 million and $3.5 million, for the years ended December 31, 2024, and 2023, respectively.

Accrued expenses and other current liabilities consisted of the following (in thousands):

	December 31, 2024	December 31, 2023
Accrued research and development expenses	$ 12,020	$ 8,720
Accrued employee compensation and related expenses	8,560	9,517
Accrued patent expenses	769	613
Accrued expenses related to sublicensing revenues	592	802
Credit card liability	18	377
Other	1,661	1,106
Total	$ 23,620	$ 21,135

7. Related Party Transactions

Edge Animal Health

On May 15, 2020, we entered into an Exclusive License Agreement for Veterinary Therapeutics (as amended, "Edge chRDNA License Agreement") with Edge Animal Health ("Edge"), a private company, related party, under which we granted Edge an exclusive worldwide license to Cas9 and Cas12a chRDNA intellectual property rights and know-how in the defined field of veterinary therapeutics. As consideration for this exclusive license, Edge issued to us 7,500,000 shares of convertible preferred stock with an estimated fair value of $7.5 million, which was the price paid for similar shares by another investor, and which was an arm's length transaction. This represents a material voting interest in Edge and entitles us to hold one of the four board of director seats. As of December 31, 2024, we had appointed one of the four Edge directors. We concluded that Edge is a variable interest entity and that we are not its primary beneficiary based on our representation on its board of directors. As Edge's convertible preferred stock is not in substance common stock, we recorded this investment using the measurement alternative.

In June 2024, we received additional shares of convertible preferred stock pursuant to anti-dilution rights associated with the Edge chRDNA License Agreement with Edge. Edge issued 1,623,275 shares of convertible preferred stock to us with an estimated fair value of $1.6 million, based on management's best estimate and judgment. The Edge

chRDNA License Agreement is a contract with a customer under ASC 606. We recognized $1.6 million as revenue during the year ended December 31, 2024. We did not recognize any revenue in connection with the Edge chRDNA License Agreement in 2023. The carrying value of the Edge investment was $9.2 million and $7.5 million as of December 31, 2024, and 2023, respectively.

On May 16, 2023, we entered into an Exclusive License Agreement for Veterinary Therapeutics (CRISPR-Cas9) ("Edge Cas9 License Agreement"), under which we granted Edge an exclusive worldwide license to certain CRISPR-Cas9 intellectual property rights in the field of veterinary therapeutics. Previously, on May 15, 2020, we had entered into an Option for an Exclusive License under which Edge could exercise its option within three years upon payment of a total of $1.2 million, which Edge paid, and we entered into the Edge Cas9 License Agreement. We did not recognize any revenue in connection with the Edge Cas9 License Agreement during the year ended December 31, 2024. We recognized $1.2 million of revenue in connection with the Edge Cas9 License Agreement during the year ended December 31, 2023.

Pfizer Investment

On June 29, 2023, we entered into a Securities Purchase Agreement ("Securities Purchase Agreement") with Pfizer, pursuant to which we, in a private placement transaction, issued and sold to Pfizer 4,690,431 shares of our common stock, par value $0.0001 per share, at a purchase price of $5.33 per share, for aggregate gross proceeds of approximately $25.0 million ("Pfizer Investment"). The issuance and sale of the shares to Pfizer closed on June 30, 2023. We granted certain registration rights to Pfizer under the Securities Purchase Agreement covering the resale of the shares. Unless otherwise agreed by Pfizer, we agreed to use the proceeds from the Pfizer Investment solely in connection with (i) the development program for our allogeneic anti-BCMA CAR-T cell therapy known as CB-011 that is being evaluated in our CaMMouflage phase 1 clinical trial and/or (ii) any other single-targeted anti-BCMA CAR-T cell therapy using an anti-BCMA single-chain variable fragment owned or controlled by us (collectively, cell therapies described in clauses (i) and (ii) are referred to as a "BCMA Product Candidate"), for 36 months beginning on June 29, 2023.

On June 29, 2023, in connection with the Pfizer Investment, we and Pfizer also entered into an Information Rights Agreement, having a thirty-six (36)-month term. Under the Information Rights Agreement, we granted Pfizer a thirty (30)-calendar day right of first negotiation ("ROFN") if we commence or engage with any third party with respect to a potential grant of rights to develop and/or commercialize a BCMA Product Candidate, including, without limitation, a license agreement, a co-promotion/co-commercialization agreement, a profit share agreement, a joint venture agreement, or an asset sale agreement (a "Grant of Program Rights"). If we and Pfizer do not reach an agreement with respect to a Grant of Program Rights within the 30-day period, then we may pursue negotiations and enter into an agreement with any third party. If we and such third party do not reach agreement on the Grant of Program Rights within a specified time period, Pfizer's right of first negotiation will be reinstated. Under the Information Rights Agreement, we also agreed to grant Pfizer the right to designate one representative to serve on our scientific advisory board ("SAB"). Through an information sharing committee, we provide calendar quarter updates to Pfizer regarding the development program for a BCMA Product Candidate. Additionally, we agreed to provide Pfizer access to any preclinical or interim or final clinical data (including raw data) and results generated as part of the development program for a BCMA Product Candidate at the same time that we provide such data to a third party (other than to our service providers or the FDA or other regulatory authorities), subject to certain confidentiality exceptions.

We recorded the issuance of our common stock at its estimated fair value of $17.5 million, which reflects a discount for the lack of marketability of the shares. The remaining $7.5 million of the aggregate purchase price was allocated to the Information Rights Agreement, which represented a contract with a customer under ASC 606. We concluded that the information sharing committee represents the only performance obligation under the Information Rights Agreement. The ROFN does not provide Pfizer with a material right and is therefore not a performance obligation.

We recognize revenue over time as the measure of progress which we believe best depicts the obligations to Pfizer. The information sharing committee will meet quarterly over the 36-month term of the Information Rights Agreement, which results in recognition of the transaction price over the 36-month term.

During the year ended December 31, 2024, we recognized $2.5 million of revenue from Pfizer. As of December 31, 2024, there was approximately $3.7 million of related party deferred revenue ($2.5 million included in current liabilities and $1.2 million included in long-term liabilities) related to our performance obligation to Pfizer. During the year ended December 31, 2023, we recognized $1.2 million of revenue from Pfizer. As of December 31, 2023, there was approximately $6.2 million of related party deferred revenue ($2.5 million included in current liabilities and $3.7 million included in long-term liabilities) related to our performance obligation to Pfizer.

8. Leases

Operating Lease Obligations

We lease laboratory and office space under two noncancellable operating agreements. In March 2021, we entered into a ten-year lease agreement, which superseded and replaced our prior lease, as amended, for our corporate headquarters and the new lease included additional office and laboratory space located within the same building in Berkeley, California. This lease agreement contains a renewal option for an additional term of five years. In addition to base rent, we pay our share of operating expenses and taxes.

In January 2022, we entered into a ten-and-a-half-year lease agreement for approximately 10,000 square feet of office and laboratory space in Berkeley, California, near our current corporate headquarters. In connection with signing this lease, we paid a deposit in the amount of $0.4 million to the lessor, and we will receive a total of $1.8 million in tenant improvement allowances. This lease agreement contains an escalation clause for increased base rent over the term and a renewal option for an additional term of five years. In addition to base rent, we pay our share of operating expenses and taxes. The leasehold improvements constructed are presented under property and equipment on our consolidated balance sheets and are depreciated on a straight-line basis over the shorter of remaining lease term or estimated useful life.

The components of lease costs, which are included in our statements of operations and comprehensive loss, were as follows (in thousands):

	Years Ended December 31,	
	2024	2023
Operating lease cost[(1)]	$ 7,679	$ 7,628
Short-term lease cost	250	250
Total lease cost	$ 7,929	$ 7,878

[(1)]Includes $2.5 million of variable lease cost related to operating expenses and taxes for each of the years ended December 31, 2024, and 2023.

Supplemental information related to our leases was as follows (in thousands):

	Years Ended December 31,	
	2024	2023
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 3,522	$ 3,732

The following table summarizes the weighted-average remaining lease term and weighted-average discount rate for our corporate laboratory and office leases:

	Years Ended December 31,	
	2024	2023
Weighted-average remaining lease term (years)	6.5	7.4
Weighted-average discount rate	11.3 %	11.3 %

The following table summarizes a maturity analysis of our operating lease liabilities showing the aggregate lease payments as of December 31, 2024:

Year ending December 31:	(in thousands)
2025[1]	$ 4,310
2026	5,720
2027	5,922
2028	6,122
2029	6,336
Thereafter	9,657
Total future undiscounted lease payments	38,067
Less imputed interest	(11,580)
Total discounted lease payments	26,487
Less current portion of lease liability	(1,426)
Noncurrent portion of lease liability	$ 25,061

[1]Reflects an offset of $0.1 million related to incentives expected to be received in 2025.

9. Commitments and Contingencies

Research, Manufacturing, and License Agreements

We enter into various agreements in the ordinary course of business, such as those with CMOs, suppliers, CROs, clinical trial sites, licensors, assignors, and the like. These agreements provide for termination by either party in certain circumstances, generally with less than one-year notice and are, therefore, cancellable contracts and, if cancelled, are not anticipated to have a material effect on our consolidated financial condition, results of operations, or cash flows. Some of these agreements include contingent payments that will become payable if and when certain development, regulatory, clinical, and/or commercial milestones are achieved by us. As of December 31, 2024, satisfaction and timing of such contingent payments are uncertain and thus cannot be reasonably estimated.

Guarantees and Indemnifications

In the ordinary course of business, we enter into agreements that contain a variety of representations and warranties and provide for certain indemnifications by us. Our exposure under these agreements is unknown because claims may be made against us in the future. As of December 31, 2024, and 2023, we did not have any material indemnification claims that were probable or reasonably possible, and consequently, we have not recorded related liabilities.

Litigation

From time to time, we may become involved in litigation arising in the ordinary course of business. We record a liability for such litigation when it is probable that future losses will be incurred and if such losses can be reasonably estimated. Significant judgment by us is required to determine both probability and the estimated amount.

On April 11, 2023, a putative class action lawsuit was filed in the U.S. District Court for the Northern District of California against our company and certain of our officers and current and former members of our board of directors, *Bergman v. Caribou Biosciences, Inc., et al.,* case number 3:23-cv-01742 (“Bergman Case”). The Bergman Case complaint challenged disclosures regarding our company’s business, operations, and prospects, specifically with respect to the alleged durability of CB-010’s therapeutic effect and the product candidate’s clinical and commercial prospects, in alleged violation of Sections 11 and 15 of the Securities Act and Sections 10(b) and 20(a) of the Exchange Act. On September 18, 2023, plaintiffs filed an amended complaint adding the IPO underwriters as defendants and making substantially the same allegations as the original complaint. On November 14, 2023, we filed a motion to dismiss the amended complaint for failure to state a claim. Motion to dismiss briefing was completed on February 21, 2024. On April 22, 2024, we reached an agreement in principle with plaintiffs to settle the Bergman Case for $3.9 million in exchange for a full release of the putative class’s claims against us and all our current and former officers, current and former members of our board of

directors, the IPO underwriters, and the other named defendant. On February 18, 2025, the court issued an order granting final approval of the settlement.

On December 24, 2024, a putative class action lawsuit was filed in the U.S. District Court for the Northern District of California against our company and certain of our current and former officers, *Saylor v. Caribou Biosciences, Inc., et al., c*ase number 3:24-cv-09413 ("Saylor Case"). The alleged class period is July 14, 2023, to July 16, 2024. The Saylor Case complaint challenges disclosures regarding our company's business, operations, and prospects, specifically with respect to the alleged safety, efficacy, and durability of CB-010, CB-010's clinical results and commercial prospects, and our financial statements, in alleged violation of Sections 10(b) and 20(a) of the Exchange Act. The lawsuit is at the preliminary stage of the proceedings.

On March 3, 2025, a shareholder derivative complaint was filed in the U.S. District Court for the Northern District of California against our directors and certain of our current and former officers, *Moisio, derivatively on behalf of Caribou Biosciences, Inc. v. Haurwitz, et al,* case number 4:25-cv-02199 ("Derivative Case"), alleging, among other things, that the named directors and officers breached their fiduciary duties by causing our company to make the disclosures being challenged in the Saylor Case and seeking unspecified monetary damages for our company as well as that we make certain changes to our corporate governance. The Derivative Case is at the preliminary stage of the proceedings.

10. Common Stock

Common stock reserved for future issuances consisted of the following:

	As of December 31, 2024	As of December 31, 2023
Stock options, issued and outstanding	10,782,103	9,410,404
Stock options, authorized for future issuances	7,618,931	5,952,012
Stock committed under ESPP	2,139,666	1,516,355
Unvested RSUs and PSUs	1,297,327	205,357
Total common stock reserved for future issuances	21,838,027	17,084,128

Shelf Registration Statement

On August 9, 2022, we filed a shelf registration statement on Form S-3 ("Shelf Registration Statement") with the SEC. The Shelf Registration Statement allows us to sell from time to time up to $400.0 million of common stock, preferred stock, debt securities, warrants, rights, or units comprised of any combination of these securities, for our own account in one or more offerings (including the $100.0 million of common stock reserved for our at-the-market equity offering program). The SEC declared the Shelf Registration Statement effective on August 16, 2022, and will expire after three years. The terms of any offering under the Shelf Registration Statement will be established at the time of such offering as described in a prospectus supplement to the Shelf Registration Statement to be filed with the SEC prior to the completion of any such offering.

In July and August 2023, we issued and sold a total of 22,115,384 shares of our common stock in an underwritten follow-on public offering at a price of $6.50 per share, which included the full exercise of the underwriters' right to purchase 2,884,615 additional shares of our common stock. The total gross proceeds from the offering were approximately $143.7 million ($134.4 million net of underwriting discounts and commissions and offering expenses). The shares were issued pursuant to the Shelf Registration Statement.

At-the-market Equity Offering Program

On August 9, 2022, we entered into an at-the-market Open Market Sale Agreement[SM] ("ATM Sales Agreement") with Jefferies LLC ("Jefferies"), pursuant to which, through Jefferies as sales agent, we may from time to time, sell shares

of our common stock having an aggregate offering price of up to $100.0 million in gross proceeds under the Shelf Registration Statement.

During the year ended December 31, 2024, we issued 3,420,061 shares of our common stock, in a series of sales, at an average price of $4.58 per share, in accordance with the ATM Sales Agreement for aggregate gross proceeds of $15.7 million ($15.2 million net of offering expenses).

During the year ended December 31, 2023, we issued 168,635 shares of our common stock, in a series of sales, at an average price of $7.32 per share, in accordance with the ATM Sales Agreement for aggregate gross proceeds of $1.2 million ($1.0 million net of offering expenses).

11. Stock-Based Compensation

Equity Incentive Plans

In July 2021, our board of directors adopted and our stockholders approved the 2021 Equity Incentive Plan ("2021 Plan") that became effective on July 22, 2021. We reserved 5,200,000 shares of common stock for issuance under the 2021 Plan. In addition, 934,562 shares available for issuance under the 2013 Equity Incentive Plan, adopted in 2013 and amended and restated in 2019, were transferred into the 2021 Plan. In addition, any shares subject to awards under the 2013 Plan that terminate, expire, or lapse for any reason without the delivery of shares, or are reacquired or withheld (or not issued) to satisfy a tax withholding obligation or the purchase or exercise price, will be added to the 2021 Plan. The 2021 Plan also provides that the number of shares initially reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2022 and ending on January 1, 2031, by an amount equal to the lesser of (i) 5% of the shares of common stock outstanding on the last day of the immediately preceding fiscal year and (ii) such smaller number of shares of stock as determined by our board of directors. No more than 56,000,000 shares of stock may be issued upon the exercise of incentive stock options under the 2021 Plan. Options under the 2021 Plan may be granted for periods of up to 10 years at exercise prices no less than the fair market value of our common stock on the date of grant; provided, however, that the exercise price of an incentive stock option granted to a 10% stockholder may not be less than 110% of the fair market value of the shares on the date of grant and such option may not be exercisable after the expiration of five years from the date of grant. The grant date fair market value of all awards made under the 2021 Plan and all cash compensation paid by us to any non-employee director for services as a director in any fiscal year may not exceed $750,000, increased to $1,000,000 in the fiscal year of their initial service as a non-employee director. As of December 31, 2024, we had 7,618,931 shares available for issuance under the 2021 Plan.

The following table summarizes stock option activity under our equity incentive plans during the year ended December 31, 2024:

	Stock Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)[1]
Outstanding at December 31, 2022	6,733,074	$ 9.01	8.2	$ 8,203
Options granted	3,524,616	$ 5.70		
Options exercised	(228,264)	$ 3.47		
Options cancelled or forfeited	(619,022)	$ 7.17		
Outstanding at December 31, 2023	9,410,404	$ 8.03	8.0	$ 6,432
Options granted	3,593,852	$ 5.90		
Options exercised	(182,217)	$ 3.39		
Options cancelled or forfeited	(2,039,936)	$ 7.61		
Outstanding at December 31, 2024	10,782,103	$ 7.47	7.7	$ 18
Exercisable at December 31, 2024	5,508,348	$ 8.32	6.8	$ 18
Vested and expected to vest at December 31, 2024	10,782,103	$ 7.47	7.7	$ 18

(1) The aggregate intrinsic value is calculated as the difference between the stock option exercise price and the estimated fair value of the underlying common stock at the end of each reporting period referenced above.

Grant Date Fair Value

During the year ended December 31, 2024, we granted 3,593,852 stock options to employees with a weighted-average grant date fair value of $4.04.

During the year ended December 31, 2023, we granted 3,524,616 stock options to employees with a weighted-average grant date fair value of $3.88.

We estimated the fair value of each employee stock option award on the grant date using the Black-Scholes option-pricing model based on the following assumptions:

	Years Ended December 31,	
	2024	2023
Volatility	75.3% to 75.9%	74.1% to 75.8%
Expected term (in years)	5.0 to 6.0	5.0 to 6.0
Risk-free interest rate	3.7% to 4.5%	3.5% to 4.9%
Expected dividend yield	0.0%	0.0%

As of December 31, 2024, there was $20.9 million of unrecognized stock-based compensation expense related to employee stock options that is expected to be recognized over a weighted-average period of 2.5 years.

Restricted Stock Units

During the year ended December 31, 2024, we granted 1,410,242 RSUs and no PSUs under the 2021 Plan. A summary of the status of and change in unvested RSUs and PSUs as of December 31, 2024 was as follows:

	Number of Shares Underlying Outstanding RSUs and PSUs	Weighted-Average Grant Date Fair Value per RSU and PSU
Unvested, January 1, 2023	256,146	$ 10.07
Granted	75,000	5.88
Vested	(78,596)	10.04
Forfeited	(47,193)	10.37
Unvested, December 31, 2023	205,357	$ 8.49
Granted	1,410,242	5.53
Vested	(66,173)	10.07
Forfeited	(252,099)	7.60
Unvested, December 31, 2024	1,297,327	$ 5.37

On August 22, 2022, we granted PSUs to our executive officers, which would have vested contingent upon the achievement of a clinical milestone for our CB-010 product candidate during a performance period ending December 31, 2024, and the executive officer's continued employment during the performance period. As of December 31, 2024, none of these PSUs had vested and all PSUs were forfeited since the achievement of this milestone was not met within the required

time frame. No stock-based compensation was recorded on these awards. There were no PSUs outstanding as of December 31, 2024.

As of December 31, 2024, the total unrecognized stock-based compensation expense related to unvested RSUs was $5.2 million, which is expected to be recognized over the remaining weighted-average vesting period of 2.7 years.

Employee Stock Purchase Plan

In July 2021, our board of directors adopted and our stockholders approved the ESPP, which became effective on July 22, 2021. The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986, as amended ("Tax Code"). We reserved 511,000 shares of our common stock for employee purchases under the ESPP. The number of shares of common stock reserved for issuance under the ESPP will be automatically increased each January 1, beginning on January 1, 2022 and ending on January 1, 2031 by an amount equal to the lesser of (i) 1.00% of the shares of common stock outstanding on the last day of the immediately preceding fiscal year and (ii) such smaller number of shares of stock as determined by our board of directors; provided that the maximum number of shares that may be issued under the ESPP is 10,000,000 shares. The ESPP allows an eligible employee to purchase shares of our common stock at a discount through payroll deductions of up to 15% of the employee's eligible compensation. At the end of each purchase period, employees are able to purchase shares at 85% of the lower of the fair market value of our common stock at the beginning of the offering period or at the end of each applicable offering period. We issued 468,745 shares of common stock under the ESPP as of December 31, 2024. We recorded $0.4 million and $0.5 million in accrued liabilities related to contributions withheld as of December 31, 2024, and 2023, respectively.

Stock-Based Compensation Expense

We recorded stock-based compensation expense related to employee equity-based awards grants in our consolidated statements of operations and comprehensive loss as follows (in thousands):

	Years Ended December 31,	
	2024	2023
Research and development	$ 6,920	$ 5,809
General and administrative	9,786	7,941
Total	$ 16,706	$ 13,750

The above stock-based compensation expense related to the following equity-based awards (in thousands):

	Years Ended December 31,	
	2024	2023
Stock options	$ 14,193	$ 12,392
ESPP	422	574
RSUs	2,091	784
Total	$ 16,706	$ 13,750

12. 401(k) Savings Plan

In 2017, we established a defined-contribution savings plan under Section 401(k) of the Tax Code. Our 401(k) plan is available to all employees and allows participants to defer a portion of their annual compensation on a pretax basis subject to applicable laws. We also provide a 4% match for employee contributions up to a certain limit. During the years ended December 31, 2024, and 2023, we contributed $1.2 million and $1.1 million, respectively, to our 401(k) plan.

13. Income Taxes

We reported pre-tax book losses in the United States of $149.1 million and $101.9 million for the years ended December 31, 2024, and 2023, respectively.

A reconciliation of the U.S. statutory income tax rate to our effective tax rate is as follows:

Years	2024	2023
Federal income tax (benefit) at statutory rate	(21 %)	(21 %)
State taxes, net of federal benefit	(8 %)	(6 %)
Change in valuation allowance, federal	27 %	24 %
Change in valuation allowance, state	7 %	6 %
Stock-based compensation	1 %	1 %
R&D tax credits, net of reserves	(5 %)	(4 %)
Return to provision, federal	(2 %)	— %
Change in rates	1 %	— %
Effective income tax rate	— %	— %

For the years ended December 31, 2024, and 2023, our tax provision for (benefit from) income taxes consisted of the following (in thousands):

Years	2024	2023
Current income taxes		
Federal	$ —	$ —
State	1	15
Total current income tax expense	1	15
Deferred income taxes:		
Federal	67	1
State	(77)	177
Total deferred income tax (benefit) expense	(10)	178
Total income tax (benefit) expense	$ (9)	$ 193

Deferred income taxes reflect the net tax 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 following table presents significant components of our deferred tax assets and liabilities as of December 31, 2024, and 2023 (in thousands):

	2024	2023
Deferred tax assets:		
NOL and tax attributes	$ 81,619	$ 51,688
Accrued expenses and reserve	1,800	2,158
Deferred revenue and expenses	1,402	697
State income taxes	7	7
Capitalized license and patent costs	1,089	1,456
Capitalized research and development cost	56,865	37,196
Lease liabilities	6,090	7,098
Stock-based compensation	5,976	4,625
Total deferred tax assets	154,848	104,925
Valuation allowance	(147,313)	(96,166)
Net deferred tax assets	7,535	8,759
Deferred tax liabilities:		
Investments in equity securities	(2,107)	(1,948)
Lease right of use assets	(4,600)	(5,808)
Fixed assets	(1,376)	(1,560)
Total deferred tax liabilities	(8,083)	(9,316)
Net deferred tax assets (liabilities)	$ (548)	$ (557)

We have evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. As of December 31, 2024, our deferred tax assets were primarily the result of historical federal and state net operating loss (“NOL”) and tax credits, deferred revenue and expenses, capitalized research costs and the net of lease right of use assets and liabilities. As of December 31, 2024, a valuation allowance of $147.3 million was recorded against our deferred tax assets. As of December 31, 2023, a valuation allowance of $96.2 million was recorded against our deferred tax assets.

As of December 31, 2024, we had federal NOL carryforwards of $142.1 million, which do not expire. As of December 31, 2024, we had state NOL carryforwards of $245.5 million, which may be available to offset future state income, and which expire at various years beginning with 2036.

As of December 31, 2024, we generated federal research and development tax credit carryforwards of $17.2 million, which will begin to expire in 2037. As of December 31, 2024, we had state credit carryforwards of $11.3 million available to reduce future tax liabilities, which do not expire. We also generated $10.8 million of orphan drug credits as of December 31, 2024, which begin to expire in 2042.

In accordance with the 2017 Tax Act, research and experimental (“R&E”) expenses under Section 174 of the Tax Code are required to be capitalized beginning in 2022. R&E expenses are required to be amortized over a period of five years for domestic expenses and 15 years for foreign expenses. Thus, we have capitalized R&E expenses in our current tax provision.

Under Section 382 of the Tax Code, the ability to utilize NOL carryforwards or other tax attributes, such as research tax credits, in any taxable year may be limited if we have experienced an “ownership change.” Generally, a Section 382 ownership change occurs if there is a cumulative increase of more than 50 percentage points in the stock ownership of one or more stockholders or groups of stockholders who own at least 5% of a corporation’s stock within a specified testing period. Similar rules may apply under state tax laws. As a result of our analysis, we believe that there have been three ownership changes under Section 382; however, none of our state NOL and research and development tax credit carryforwards is currently expected to expire unused. We may experience ownership changes as a result of future financing or other changes in the stock ownership.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	Years Ended December 31,	
	2024	2023
Balance at the beginning of the year	$ 4,093	$ 2,799
Increases related to current year tax positions	2,654	1,269
Increases related to prior year tax positions	1,298	123
Decreases related to prior year tax positions	(36)	(98)
Balance at the end of year	$ 8,009	$ 4,093

As of December 31, 2024, no amount of unrecognized tax benefits, if recognized, would affect the effective tax rate. We do not expect a significant change to our unrecognized tax benefits over the next 12 months. The unrecognized tax benefits may increase or change during the next year for items that arise in the ordinary course of business.

We recognize interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2024, and 2023, we had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in our consolidated statements of operations and comprehensive loss.

We file our federal and state income tax returns with varying statutes of limitations. Our tax years from 2012 through 2023 will remain open to examination due to the carryover of the unused NOLs and tax credits. There are no ongoing examinations by taxing authorities at this time.

The following table shows the change in deferred tax valuation allowance for the periods indicated:

	2024	2023
Beginning balance, January 1	96,166	66,408
Change charged to expense	51,147	29,758
Ending balance, December 31	147,313	96,166

14. Net Loss Per Share

The following table sets forth the computation of the basic and diluted net loss per share (in thousands, except share and per share amounts):

	Years Ended December 31,	
	2024	2023
Numerator:		
Net loss	$ (149,105)	$ (102,070)
Denominator:		
Weighted-average common shares outstanding used to compute net loss per share, basic and diluted	90,317,925	73,807,597
Net loss per share, basic and diluted	$ (1.65)	$ (1.38)

Because we were in a net loss position for all periods presented, basic net loss per share is the same as diluted net loss per share for all periods, as the inclusion of all common stock equivalents outstanding would have been anti-dilutive.

Potentially dilutive securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	As of December 31, 2024	As of December 31, 2023
Stock options outstanding	10,782,103	9,410,404
RSUs issued and outstanding	1,297,327	153,000
Shares committed under ESPP	304,434	134,276
	12,383,864	9,697,680

15. Segment Information

We operate and manage our business as one reportable segment and one operating segment, which is the business of developing allogeneic CAR-T cell therapies. Our CODM assesses performance for the segment and decides how to allocate resources based on consolidated net loss that is also reported on the consolidated statements of operations. The measure of segment assets is reported on the consolidated balance sheets as total consolidated assets. All our material long-lived assets are located in the United States. Our CODM uses consolidated net loss to evaluate our spend and monitor our budget versus actual results to assess performance of the segment and to allocate resources across our company. Factors used in determining the reportable segment include the nature of our operating activities, our company's organizational and reporting structures, and the type of information reviewed by our CODM to allocate resources and evaluate financial performance.

The following table presents reportable segment profit and loss, including significant expense categories, attributable to our reportable segment for the periods indicated:

	Years Ended December 31,	
	2024	2023
Licensing and collaboration revenue	$ 9,994	$ 34,477
Less:		
Research and development:		
External costs	77,649	65,521
Internal costs[(1)]	42,120	37,760
Total research and development	119,769	103,281
General and administrative[(2)]	36,217	30,013
Other segment items[(3)]	18,461	18,723
Other income, net	(15,348)	(15,470)
Segment and consolidated net loss	$ (149,105)	$ (102,070)

[(1)]Research and development internal costs for the years ended December 31, 2024, and 2023, exclude $6.9 million and $5.8 million of stock-based compensation expense, respectively, and $3.5 million and $3.0 million of depreciation and amortization expense, respectively.
[(2)]General and administrative expense for the years ended December 31, 2024, and 2023, exclude $9.8 million and $7.9 million of stock-based compensation expense, respectively, and $0.5 million and $0.5 million of depreciation and amortization expense, respectively.
[(3)]Other segment items include stock-based compensation, change in fair value of the MSKCC success payments liability, depreciation and amortization, and (benefit from) provision for income taxes.

16. Restructuring Charge

On July 16, 2024, we announced that we had discontinued preclinical research activities associated with our allogeneic CAR-natural killer ("CAR-NK") platform and reduced our workforce by 21 positions, or approximately 12%. The workforce reduction was completed during the third quarter of 2024. As a result, we recorded a total of $0.6 million in non-recurring restructuring charges during the year ended December 31, 2024, consisting primarily of cash severance costs, continuation of benefits, and transition support services for impacted employees.

17. Subsequent Events

We did not have any subsequent events as of the filing date of this Annual Report on Form 10-K, except as disclosed in Note 9.

Exhibit 10.2

AMENDMENT NO. 1 TO EXCLUSIVE LICENSE AGREEMENT

This Amendment No. 1 to Exclusive License Agreement (the "Amendment") is made on February 21, 2025, and is by and between Memorial Sloan Kettering Cancer Center (hereinafter referred to as "MSK"), a New York not-for-profit corporation with principal offices at 1275 York Avenue, New York, NY 10065, and Caribou Biosciences, Inc., a Delaware corporation with offices at 2929 Seventh St., Suite 105, Berkeley, CA 94710 ("LICENSEE"). Capitalized terms used herein that are not defined shall have the meanings set forth in the Exclusive License Agreement, by and between the Parties, having an Effective Date of November 13, 2020 (the "Agreement").

WITNESSETH

WHEREAS, MSK and LICENSEE entered into the Agreement and now wish to amend certain provisions thereof pursuant to Section 18.6 of the Agreement;

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, the sufficiency of which is acknowledged, the Parties hereto agree as follows:

1. **As of the Effective Date of the Agreement, Section 5.1(b) is hereby completely superseded and replaced with:**

> **5.1(b) Annual License Fee. Commencing on the first anniversary of the Effective Date of this Agreement and due on or before each subsequent anniversary thereafter [***], LICENSEE shall pay MSK an annual license fee of [***] until the first commercial sale of the first Licensed Product. The annual license fee shall be noncreditable against any other obligations hereunder.**

2. **As of the Effective Date of the Agreement, Section 7.1(b) is hereby completely superseded and replaced with:**

> **7.1(b) Ongoing Cost Allocation. LICENSEE shall, during the Term of this Agreement pay [***] of the out-of-pocket expenses borne by MSK for filing, prosecuting, and maintaining patents and patent applications within the Licensed Patent Rights throughout the Territory through MSK's outside patent counsel. [***]**

3. **Except as explicitly set forth in this Amendment, no other terms of the Agreement are amended, and all other such terms of the Agreement shall remain in full force and effect.**

4. This Amendment may be executed in any number of counterparts, including scanned PDF documents or electronic signatures, and each of such counterparts shall for all purposes be an original and all such counterparts shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, an authorized representative of each Party has signed and dated this Amendment No. 1 to Exclusive License Agreement below.

MEMORIAL SLOAN KETTERING CANCER CENTER	**CARIBOU BIOSCIENCES, INC.**
By: /s/ Yashodhara Dash	**By: /s/ Ruhi Khan**
Name: Yashodhara Dash	**Name: Ruhi Khan**
Title: Vice President, Technology Management & Commercialization	**Title: Chief Business Officer**

Exhibit 10.25
Confidential

Amendment No. 4 to Exclusive License Agreement for
Methods and Compositions for RNA-Directed Target DNA Modification
and for RNA-Directed Modulation of Transcription

This Amendment No. 4 is made to the Exclusive License Agreement for Methods and Compositions for RNA-Directed Target DNA Modification and for RNA-Directed Modulation of Transcription, dated April 16, 2013, as amended by an Amendment Agreement, dated April 17, 2013, and Amendment No. 2 to Exclusive License Agreement for Methods and Compositions for RNA-Directed Target DNA Modification and for RNA-Directed Modulation of Transcription, dated March 14, 2019; as clarified in the Memorandum of Understanding, dated March 14, 2019; and as further amended by Amendment No. 3 to Exclusive License Agreement for Methods and Compositions for RNA-Directed Target DNA Modification and for RNA-Directed Modulation of Transcription, dated April 16, 2021 (collectively, the "License Agreement"), by and among The Regents of the University of California, the University of Vienna, and Caribou Biosciences, Inc., and is effective February 14, 2025 (the "Amendment No. 4 Effective Date"). Caribou Biosciences, Inc. is referred to as "LICENSEE" and The Regents of the University of California ("REGENTS") and the University of Vienna are collectively referred to as "LICENSORS." Capitalized terms not defined herein shall have the meaning set forth in the License Agreement.

WHEREAS, in light of the apparent lack of applicability of, and/or commercial interest in, the Licensed Patent Rights in the Diagnostics Field, the LICENSEE and LICENSORS wish to further amend the License Agreement, as set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valid consideration, the amount and sufficiency of which are hereby acknowledged, LICENSEE and LICENSORS agree as follows:

1. Section 7.2.3 of the License Agreement is hereby replaced in its entirety with:

[***]

2. [***]

3. The annual maintenance fee set forth in Section 5.1(a) is hereby [***].

4. The minimum annual royalty set forth in Section 5.2 is hereby [***].

5. All other terms of the License Agreement shall remain in full force and effect.

6. This Amendment No. 4 may be executed in one or more counterparts, including by electronic signatures, each of which shall be deemed an original, and all of which together will be deemed to be one and the same instrument. PDF or facsimile execution and delivery of this Amendment No. 4 by a party will constitute a legal, valid, and binding execution and delivery of this Amendment No. 4 by such party.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment No. 4 to Exclusive License Agreement for Methods and Compositions for RNA-Directed Target DNA Modification and for RNA-Directed Modulation of Transcription as of the Amendment No. 4 Effective Date by their duly authorized officers or representatives.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By: /s/ Terri Sale
Name: Terri Sale
Title: Associate Director, OTL

THE UNIVERSITY OF VIENNA

By: /s/ Ronald Kurt Maier
Name: Dr.rer.pol. Ronald Kurt Maier

CARIBOU BIOSCIENCES, INC.

By: /s/ Rachel E. Haurwitz
Name: Rachel E. Haurwitz, Ph.D.
Title: President & CEO

Exhibit 10.34

February 17, 2025

Rachel E. Haurwitz, Ph.D.

Dear Rachel:

I am pleased to announce that the Caribou Board of Directors has approved a bonus based on the Company's achievements in 2024. You will receive a one-time payment of $310,387.00, less applicable withholding taxes, on March 7, 2025. Additionally, your base salary has been increased to $667,534.00, effective January 1, 2025. Your February 28, 2025 paycheck will reflect your new salary as well as a retroactive payment back to January 1 for your salary increase. Your target bonus remains at 55.0% in 2025 for your role as President and CEO. You currently report to the Caribou Board of Directors.

Additionally, on February 20, 2025, the Company will grant you (i) an option to purchase 618,250 shares of the Company's Common Stock (the "Option") and (ii) 136,750 restricted stock units (RSUs). The exercise price per share of the Option will be equal to the market value per share of the Company's Common Stock on February 20, 2025 (the "Grant Date"). Twenty-five percent (25%) of the Option shares will vest one (1) year after the Grant Date, subject to your continuing employment with the Company, and no shares will vest before the one (1)-year date. The remaining Option shares will vest monthly thereafter (1/48 of the grant per month for the thirty-six (36) months after February 20, 2026), subject to your continuing employment with the Company on each vesting date. Twenty-five percent (25%) of the RSU grant will vest on each of the yearly anniversaries of the Grant Date for the next four (4) years, subject to your continuing employment with the Company on each vesting date. The Option and RSUs will be subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and auxiliary agreements. No right to any equity is earned or accrued until a vesting date and the grant of equity does not confer any right to continued vesting of such equity.

I look forward to everything we will accomplish together in 2025.

Sincerely,

Barbara G. McClung
Chief Legal Officer and Corporate Secretary

Exhibit 10.38

February 17, 2025

Barbara G. McClung, J.D.

Dear Barbara:

I am pleased to announce that the Caribou Board of Directors has approved a bonus based on the Company's achievements in 2024. You will receive a one-time payment of $169,769.00, less applicable withholding taxes, on March 7, 2025. Additionally, your base salary has been increased to $502,030.00, effective January 1, 2025. Your February 28, 2025 paycheck will reflect your new salary as well as a retroactive payment back to January 1 for your salary increase. Your target bonus remains at 40.0% in 2025 for your role as Chief Legal Officer. Your manager continues to be Rachel E. Haurwitz, Ph.D., President and CEO

Additionally, on February 20, 2025, the Company will grant you (i) an option to purchase 170,000 shares of the Company's Common Stock (the "Option") and (ii) 37,500 restricted stock units (RSU). The exercise price per share of the Option will be equal to the market value per share of the Company's Common Stock on February 20, 2025 (the "Grant Date"). Twenty-five percent (25%) of the Option shares will vest one (1) year after the grant date, subject to your continuing employment with the Company, and no shares will vest before the one (1) year date. The remaining Option shares will vest monthly thereafter (1/48 of the grant per month for the thirty-six (36) months after February 20, 2026), subject to your continuing employment with the Company on each vesting date. Twenty-five percent (25%) of the RSU grant will vest on each of the yearly anniversaries of the Grant Date for the next four (4) years, subject to your continuing employment with the Company on each vesting date. The Option and RSUs will be subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and auxiliary agreements. No right to any equity is earned or accrued until a vesting date and the grant of equity does not confer any right to continued vesting of such equity.

I sincerely thank you all for your contributions to Caribou in 2024 and I look forward to everything we will accomplish together in 2025.

Sincerely,

Rachel E. Haurwitz, Ph.D.
President and CEO

Exhibit 10.43

February 17, 2025

Steven B. Kanner, Ph.D.

Dear Steve:

I am pleased to announce that the Caribou Board of Directors has approved a bonus based on the Company's achievements in 2024. You will receive a one-time payment of $169,769.00, less applicable withholding taxes, on March 7, 2025. Additionally, your base salary has been increased to $502,030.00, effective January 1, 2025. Your February 28, 2025 paycheck will reflect your new salary as well as a retroactive payment back to January 1 for your salary increase. Your target bonus remains at 40.0% in 2025 for your role as Chief Scientific Officer. Your manager continues to be Rachel E. Haurwitz, Ph.D., President and CEO

Additionally, on February 20, 2025, the Company will grant you (i) an option to purchase 170,000 shares of the Company's Common Stock (the "Option") and (ii) 37,500 restricted stock units (RSU). The exercise price per share of the Option will be equal to the market value per share of the Company's Common Stock on February 20, 2025 (the "Grant Date"). Twenty-five percent (25%) of the Option shares will vest one (1) year after the grant date, subject to your continuing employment with the Company, and no shares will vest before the one (1) year date. The remaining Option shares will vest monthly thereafter (1/48 of the grant per month for the thirty-six (36) months after February 20, 2026), subject to your continuing employment with the Company on each vesting date. Twenty-five percent (25%) of the RSU grant will vest on each of the yearly anniversaries of the Grant Date for the next four (4) years, subject to your continuing employment with the Company on each vesting date. The Option and RSUs will be subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and auxiliary agreements. No right to any equity is earned or accrued until a vesting date and the grant of equity does not confer any right to continued vesting of such equity.

I sincerely thank you all for your contributions to Caribou in 2024 and I look forward to everything we will accomplish together in 2025.

Sincerely,

Rachel E. Haurwitz, Ph.D.
President and CEO

Exhibit 10.47

February 17, 2025

Timothy Kelly

Dear Tim:

I am pleased to announce that the Caribou Board of Directors has approved a bonus based on the Company's achievements in 2024. You will receive a one-time payment of $166,250.00, less applicable withholding taxes, on March 7, 2025. Additionally, your base salary has been increased to $491,625.00, effective January 1, 2025. Your February 28, 2025 paycheck will reflect your new salary as well as a retroactive payment back to January 1 for your salary increase. Your target bonus remains at 40.0% in 2025 for your role as Chief Technology Officer. Your manager continues to be Rachel E. Haurwitz, Ph.D., President and CEO

Additionally, on February 20, 2025, the Company will grant you (i) an option to purchase 170,000 shares of the Company's Common Stock (the "Option") and (ii) 37,500 restricted stock units (RSU). The exercise price per share of the Option will be equal to the market value per share of the Company's Common Stock on February 20, 2025 (the "Grant Date"). Twenty-five percent (25%) of the Option shares will vest one (1) year after the grant date, subject to your continuing employment with the Company, and no shares will vest before the one (1) year date. The remaining Option shares will vest monthly thereafter (1/48 of the grant per month for the thirty-six (36) months after February 20, 2026), subject to your continuing employment with the Company on each vesting date. Twenty-five percent (25%) of the RSU grant will vest on each of the yearly anniversaries of the Grant Date for the next four (4) years, subject to your continuing employment with the Company on each vesting date. The Option and RSUs will be subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and auxiliary agreements. No right to any equity is earned or accrued until a vesting date and the grant of equity does not confer any right to continued vesting of such equity.

I sincerely thank you all for your contributions to Caribou in 2024 and I look forward to everything we will accomplish together in 2025.

Sincerely,

Rachel E. Haurwitz, Ph.D.
President and CEO

Confidential

December 9, 2024

Sriram Ryali, M.B.A.
XXXXXXXXXXXXX
XXXXXXXXXXXXX
XXXXXXXXXXXXX

RE: Offer Letter of Employment with Caribou Biosciences, Inc.

Dear Sri:

On behalf of Caribou Biosciences, Inc. (the "Company" or "Caribou"), I am pleased to invite you to join the Company as the Chief Financial Officer, reporting to Rachel E. Haurwitz, Ph.D., President and CEO. The first day of your employment will be January 2, 2025, or such other date as you and the Company mutually agree in writing.

This offer of employment is contingent upon the satisfactory completion of reference and background checks as well as verification of any previous employment, academic degrees, and certifications that are included in your resume, as well as your execution of the agreements referenced in Sections 3 and 7 below.

The terms of this offer of employment are as follows:

1. Compensation. If you decide to join Caribou, you will be paid an annual salary of $485,000.00 which will be paid twice a month, or such other regularly scheduled payroll dates in accordance with the Company's normal payroll procedures as determined from time to time. As a Caribou employee, you will also be eligible to receive certain employee benefits, which may be subject to change from time to time. The details of these current employee benefits are explained in the attached Description of Benefits. You may be eligible for a 2025 discretionary bonus, as determined by the Company's Board of Directors and management in their sole discretion for your efforts in 2025, which may be pro-rated based on your duration of employment in 2025 if you were to start after January 1, 2025, provided you are employed with the Company on the day the bonus is paid out as well as being an employee in good standing. Currently, the target annual discretionary bonus for your position is set at forty percent (40.0%). Performance evaluations are typically done on an annual basis.

2. Initial Equity Grant. If you join the Company, you will receive an initial equity grant consisting of an option to purchase 300,000 shares of the Company's Common Stock (the "Option") on the date that is five (5) trading days after your first day of employment with the Company (the "Grant Date"). The exercise price of the Option will be equal to the closing market price per share of the Company's Common Stock on the Grant Date. Twenty-five percent (25%) of the Option will vest twelve (12) months after your first day of employment with the Company, subject to your continuing employment with the Company, and no shares will vest before the one-year date. The remaining Option will vest monthly thereafter (1/48 of the grant per month for the thirty-six (36) months following the one-year cliff), subject to your continuing employment with the Company on each vesting date. The Option will be subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and accompanying agreements, including vesting requirements (collectively, the "Stock Agreements").

3. Officer Employment Agreement and Indemnification Agreement. As an executive officer of the Company, the Company will enter into its standard Officer Employment Agreement and Indemnification Agreement with you on your first day of employment. Copies of these agreements are attached hereto for your review; however, the agreements will not be executed until your first day of employment with the Company and your execution of these agreements is a condition of your employment.

4. Immigration. For purposes of federal immigration law, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided to the Company within three (3) business days after your first day of employment with Caribou.

5. Prior Employment/Third-Party Information. We also ask that, if you have not already done so, you disclose to the Company all agreements relating to your prior employment that may affect your ability to be employed by the Company or limit the manner in which you may be employed or areas in which you may participate. You represent and warrant that any such agreements will not prevent you from performing the duties of your position. Moreover, you agree that, during the term of your employment with the Company, you will not engage in any other employment, occupation, consulting, or other business activity directly related to the business in which the Company is now involved or becomes involved during the term of your employment, nor will you engage in any other activities that conflict with your obligations to the Company. Similarly, you agree not to bring any third-party confidential information to the Company, including that of your former employer, and that in performing your duties for the Company you will not in any way utilize any such information.

6. Company Policies. As a Company employee, you will be expected to abide by the Company's rules and policies and to acknowledge receipt of the same.

7. Confidential Information and Invention Assignment Agreement. As a condition of your employment, you are also required to sign and comply with a Confidential

Information and Invention Assignment Agreement ("CIIAA"), which requires, among other provisions, the assignment of patent rights to any invention made during your employment at the Company to Caribou and that you will not disclose Company confidential information to any third party not under obligations of confidentiality to Caribou. A copy of the CIIAA is attached hereto. Please review the CIIAA and be prepared to sign it on the first day of your employment with the Company.

8. Confidential Offer of Employment. Until your employment with the Company is publicly announced by the Company, this offer of employment is and the contents of this Offer Letter are Company confidential information and can only be disclosed and discussed confidentially with your significant other, attorney, accountant, and/or tax advisor.

9. General. This Offer Letter together with the CIIAA, Stock Agreements, Officer Employment Agreement, Indemnification Agreement, and Company's Employee Handbook set forth the terms of your employment with the Company and supersede any and all prior representations and agreements including, but not limited to, any representations made during your recruitment, interviews, or pre-employment negotiations, whether written or oral. If there is any conflict between this Offer Letter and the specific terms of the other agreements set forth above, the specific terms of those agreements will control. Any amendment of this Offer Letter, other than your first day of employment, or any waiver of a right under this Offer Letter must be in a writing signed by you and the President & CEO of the Company.

To accept the Company's offer of employment, please sign and date this Offer Letter in the space provided below. The offer of employment will terminate if this Offer Letter is not accepted, signed, and returned by you to the Company on or before December 13, 2024. We look forward to your favorable reply and to working with you at Caribou Biosciences, Inc.

Sincerely,

Rachel E. Haurwitz, Ph.D.
President & Chief Executive Officer

AGREED TO AND ACCEPTED:

Signature: /s/ Sriram Ryali
Sriram Ryali, M.B.A.

Date: December 11, 2024

Enclosures:
Description of Benefits
Officer Employment Agreement
Indemnification Agreement
Confidential Information and Invention Assignment Agreement

OFFICER EMPLOYMENT AGREEMENT

This Officer Employment Agreement ("Agreement") is dated as of January 2, 2025 ("Effective Date"), and is by and between Caribou Biosciences, Inc., a Delaware corporation, having an address at 2929 7th Street, Suite 105, Berkeley, CA 94710 (the "Company"), and Sriram Ryali (the "Officer").

WHEREAS, the Company desires to employ the Officer and the Officer desires to be employed by the Company on the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Employment.

a. Term. The term of this Agreement shall commence on the Effective Date and continue until terminated in accordance with the provisions hereof (the "Term").

b. Position and Duties. During the Term, the Officer shall serve as Chief Financial Officer of the Company, and shall have supervision and control over and responsibility for the day-to-day business and affairs of the Company as may from time to time be prescribed by the Company's President and Chief Executive Officer of the Company, provided that such duties are consistent with the Officer's position or other positions that they may hold from time to time. The Officer shall devote substantially all of their full working time and efforts to the business of the Company. Notwithstanding the foregoing, the Officer may serve on other boards of directors, with the approval of the Board, or sit on the governing boards of, or hold leadership positions related to community, charitable, academic, and religious activities as long as such services and activities are disclosed to the Board and do not materially interfere with the Officer's performance of their duties to the Company as provided in this Agreement.

2. Compensation and Related Matters.

a. Base Salary. During the Term, the Officer's initial annual base salary shall be $485,000.00. The Officer's base salary shall be reviewed from time to time by the Company's Board of Directors ("Board") or the Compensation Committee of the Board. The base salary in effect at any given time is referred to herein as "Base Salary." The Base Salary shall be payable in a manner that is consistent with the Company's usual payroll practices.

b. Incentive Compensation. During the Term, the Officer shall be eligible to receive cash incentive compensation as determined by the Board or the Compensation Committee from time to time. The Officer's initial target annual incentive compensation shall be 40.0% of their Base Salary. Except as otherwise provided herein, to earn incentive compensation, the Officer must be employed by the Company on the day such incentive compensation is paid.

c. Company Benefits. The Officer shall be entitled to all benefits received by employees of the Company in accordance with the Company's policies and plans.

3. Termination. During the Term, the Officer's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

a. Termination by the Company for Cause. The Company may terminate the Officer's employment hereunder for Cause. For purposes of this Agreement, "Cause" shall mean: (i) conduct by the Officer constituting a material act of misconduct in connection with the performance of their duties, including, without limitation, misappropriation of funds or property of the Company or any of its subsidiaries or affiliates other than the occasional, customary, and de minimis use of Company property for personal purposes; (ii) the commission by the Officer of any felony or a misdemeanor involving moral turpitude, deceit, dishonesty or fraud, or any conduct by the Officer that would reasonably be expected to result in material injury or reputational harm to the Company or any of its subsidiaries and affiliates if they were retained in their position; (iii) continued non-performance by the Officer of their duties hereunder (other than by reason of the Officer's physical or mental illness, incapacity or disability) that has continued for more than 30 days following written notice of such non-performance from the Board; (iv) a material violation by the Officer of the Company's written policies; or (v) failure to cooperate with a bona fide internal investigation or an investigation by regulatory or law enforcement authorities, after being instructed by the Company to cooperate, or the willful destruction or failure to preserve documents or other materials known to be relevant to such investigation or the inducement of others to fail to cooperate or to produce documents or other materials in connection with such investigation.

b. Termination by the Company Without Cause. The Company may terminate the Officer's employment hereunder at any time without Cause upon written notice of such termination ("Notice of Termination"). Any termination by the Company of the Officer's employment under this Agreement which does not constitute a termination for Cause under Section 3(a) and does not result from the death or disability of the Officer under Section 3(d) or (e), respectively, shall be deemed a termination without Cause.

c. Termination by the Officer. The Officer may terminate their employment hereunder at any time for any reason, including but not limited to Good Reason. For purposes of this Agreement, "Good Reason" shall mean that the Officer has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) a material diminution in the Officer's responsibilities, authority or duties; (ii) the assignment of duties to the Officer that are materially inconsistent with their position; (iii) a decrease of more than 10% of the Officer's Base Salary except for across-the-board salary reductions based on the Company's financial performance similarly affecting all officers of the Company; (iv) if the Officer principally performs their duties at a Company location, a change by the Company in the Company location at which the Officer principally performs their duties to a location that is more than 50 miles (driving distance) from the original location; or (v) the material breach of this Agreement by the Company. "Good Reason Process" shall mean that (i) the Officer reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Officer notifies the Company in writing of the first occurrence of the Good Reason condition within 30 days of the first occurrence of such condition; (iii) the Officer cooperates in good faith with the Company's efforts, for a period of 30 days following such notice (the "Cure Period"), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Officer terminates their employment within 30 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

d. Death. The Officer's employment hereunder shall terminate upon their death.

e. Disability. The Company may terminate the Officer's employment if they are disabled and unable to perform the essential functions of the Officer's then existing position or positions under this Agreement with or without reasonable accommodation for a period of 180 days (which need not be consecutive) in any 12-month period and the Company shall provide a Notice of Termination at that time. If any question shall arise as to whether during any

period the Officer is disabled so as to be unable to perform the essential functions of the Officer's then existing position or positions with or without reasonable accommodation, the Officer may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Officer or the Officer's guardian has no reasonable objection as to whether the Officer is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Officer shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Officer shall fail to submit such certification, the Company's determination of such issue shall be binding on the Officer. Nothing in this Section 3(b) shall be construed to waive the Officer's rights, if any, under existing federal and state law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601, et seq. and the Americans with Disabilities Act, 42 U.S.C. §12101, et seq.

f. Notice of Termination. Except for termination as specified in Section 3(d), any termination of the Officer's employment by the Company or any such termination by the Officer shall be communicated by written Notice of Termination to the other party hereto. For purposes of this Agreement, a "Notice of Termination" shall mean a written notice which shall indicate the specific termination provision in this Agreement relied upon.

g. Date of Termination. "Date of Termination" shall mean: (i) if the Officer's employment is terminated by the Company for Cause under Section 3(a) or without Cause under Section 3(b) or on account of disability under Section 3(e), the date on which Notice of Termination is given; (ii) if the Officer's employment is terminated by the Officer under Section 3(c) without Good Reason, 30 days after the date on which a Notice of Termination is given; (iii) if the Officer's employment is terminated by the Officer under Section 3(c) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period; and (iv) if the Officer's employment is terminated by their death, the date of their death. Notwithstanding the foregoing, in the event that the Officer gives a Notice of Termination to the Company under Section 3(c), the Company may unilaterally and solely at its own discretion accelerate the Date of Termination and such acceleration shall not result in a termination by the Company for purposes of this Agreement; provided, however, that in no event shall such accelerated Date of Termination be earlier than the date on which the Notice of Termination is delivered to the Company.

4. Compensation Upon Termination.

a. Termination Generally. If the Officer's employment with the Company is terminated for any reason, the Company shall pay or provide to the Officer (or to their authorized representative or estate) (i) any Base Salary earned through the Date of Termination, unpaid expense reimbursements in accordance with Company policy, and unused vacation that accrued through the Date of Termination on or before the time required by law but in no event more than 30 days after the Officer's Date of Termination; and (ii) any vested benefits the Officer may have under any employee benefit plan of the Company through the Date of Termination, which vested benefits shall be paid and/or provided in accordance with the terms of such employee benefit plans (collectively, the "Accrued Benefit").

b. Termination by the Company Without Cause or by the Officer with Good Reason. During the Term, if the Officer's employment is terminated by the Company without Cause as provided in Section 3(b), or the Officer terminates their employment for Good Reason as provided in Section 3(c), then the Company shall provide the Officer with the Accrued Benefit and the compensation and benefits set forth in this Section 4(b), the latter subject to the Officer signing a separation agreement containing, among other provisions, a general release of claims in favor of the Company and related persons and entities, confidentiality, return of property, and

non-disparagement, in a form and manner satisfactory to the Company (the "Separation Agreement and Release") and the Separation Agreement and Release becoming fully effective, all within the time frame set forth in the Separation Agreement and Release: (i) the Company shall pay the Officer an amount equal to 9 months of the Officer's Base Salary (the "Severance Amount"); (ii) if the Officer (and their dependents, if applicable) was participating in the Company's group health plans immediately prior to the Date of Termination and the Officer elects COBRA health continuation for their self (and their dependents, if applicable), then the Company shall pay for 9 months or the Officer's COBRA health continuation period, whichever ends earlier, the COBRA health contribution that the Company would have made to provide health insurance to the Officer (and their dependents, if applicable) if the Officer had remained employed by the Company; provided, however, that the Company shall only be required to pay that percentage of dependent health insurance that the Company would be paying if the Officer had remained employed by the Company; and (iii) the amounts payable under Sections 4(b)(i) and (ii) shall be paid out in substantially equal installments in accordance with the Company's payroll practice over 9 months commencing on the first regularly scheduled payroll date that is at least 30 days after the Date of Termination, provided that the Separation Agreement and Release becomes fully effective; provided, however, that the initial payment shall include a catch-up payment to cover amounts retroactive to the day immediately following the Date of Termination. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2).

c. Change in Control. During the Term, if within 12 months after a Change in Control as defined herein, or within three months prior to a 409A Change in Control as defined herein, the Officer's employment is terminated by the Company without Cause as provided in Section 3(b) or the Officer terminates their employment for Good Reason as provided in Section 3(c), then, subject to the signing of the Separation Agreement and Release by the Officer and the Separation Agreement and Release becoming fully effective all within the time frame set forth in the Separation Agreement and Release, the Officer shall receive the benefits set forth in Section 4(b)(i) and (ii), and 100% of the Officer's then unvested stock options and time-based restricted stock shall become immediately vested; provided, however, that the number of months of base salary and benefits continuation in Sections 4(b)(i) and (ii) shall be increased to 12 months and the Officer shall also be provided with one times their target bonus amount for the year in which the Date of Termination occurs, which target bonus amount is payable in a lump sum on the first regularly scheduled payroll date that is at least 30 days following the Date of Termination or, if the Officer's employment was terminated within three months prior to a 409A Change in Control, upon the 409A Change in Control; provided, further that notwithstanding the language in Section 4(b)(iii), if the Change in Control is a change in the ownership or effective control of the Company, or in the ownership of a substantial portion of the Company's assets under Section 409A of the Code (a "409A Change in Control"), then the Severance Amount set forth in Section 4(b)(i) shall be payable as a lump sum on the first regularly scheduled payroll date that is at least 30 days following the Date of Termination, subject to the Separation Agreement and Release having become fully effective (for clarity, the COBRA payments set forth in Section 4(b)(ii) shall be paid in accordance with Section 4(b)(iii)) or, if the Officer's employment was terminated within three months prior to a 409A Change in Control, upon the 409A Change in Control. For purposes of this Section 4(c), "Change in Control" shall mean any of the following: (i) any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act") (other than the Company, any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2 under the Act) of such person, shall become the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50% or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the date a majority of the members of the Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Board before the date of the appointment or election; or (iii) the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50% of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company. Notwithstanding the foregoing, a "Change in Control" shall not be deemed to have occurred for purposes of the foregoing clause solely as the result of an acquisition of securities by the Company that, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to 50% or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50% or more of the combined voting power of all of the then outstanding Voting Securities, then a "Change in Control" shall be deemed to have occurred.

5. Additional Limitations and Section 409A.

a. Additional Limitations. Notwithstanding anything to the contrary in this Agreement, in the event that the amount of any compensation, payment or distribution by the Company to or for the benefit of the Officer, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and the applicable regulations thereunder (the "Aggregate Payments"), would be subject to the excise tax imposed by Section 4999 of the Code, then the Aggregate Payments shall be reduced (but not below zero) so that the sum of all of the Aggregate Payments shall be $1.00 less than the amount at which the Officer becomes subject to the excise tax imposed by Section 4999 of the Code; provided that such reduction shall only occur if it would result in the Officer receiving a higher After Tax Amount (as defined below) than the Officer would receive if the Aggregate Payments were not subject to such reduction. In such event, the Aggregate Payments shall be reduced in the following order, in each case, in reverse chronological order beginning with the Aggregate Payments that are to be paid the furthest in time from consummation of the transaction that is subject to Section 280G of the Code: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits; provided that in the case of all the foregoing Aggregate Payments all amounts or payments that are not subject to calculation under Treas. Reg. §1.280G-1, Q&A-24(b) or (c) shall be reduced before any amounts that are subject to calculation under Treas. Reg. §1.280G-1, Q&A-24(b) or (c). For purposes of this Section 5(a), the "After Tax Amount" means the amount of the Aggregate Payments less all federal, state, and local income, excise and employment taxes imposed on the Officer as a result of the Officer's receipt of the Aggregate Payments. For purposes of determining the After Tax Amount, the Officer shall be deemed to pay federal income taxes at the highest marginal rate of federal income taxation applicable to individuals for the calendar year in which the determination is to be made, and state and local income taxes at the highest marginal rates of individual taxation in each applicable state and locality, net of the maximum reduction in federal income taxes which could be obtained from deduction of such state and local taxes. The determination as to whether a reduction in the Aggregate Payments shall be made pursuant to Section 5(b)(i) shall be made by a nationally recognized accounting firm selected by the Company (the

"Accounting Firm"), which shall provide detailed supporting calculations both to the Company and the Officer within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Officer. Any determination by the Accounting Firm shall be binding upon the Company and the Officer.

b. Section 409A. Notwithstanding anything to the contrary in this Agreement, if at the time of the Officer's separation from service within the meaning of Section 409A of the Code, the Company determines that the Officer is a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, then to the extent any payment or benefit that the Officer becomes entitled to under this Agreement on account of the Officer's separation from service would be considered deferred compensation otherwise subject to the 20% additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, such payment shall not be payable and such benefit shall not be provided until the date that is the earlier of (A) 6 months and one day after the Officer's separation from service or (B) the Officer's death. If any such delayed cash payment is otherwise payable on an installment basis, the first payment shall include a catch-up payment covering amounts that would otherwise have been paid during the six-month period but for the application of this provision, and the balance of the installments shall be payable in accordance with their original schedule. All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Officer during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses). Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit. To the extent that any payment or benefit described in this Agreement constitutes "non-qualified deferred compensation" under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Officer's termination of employment, then such payments or benefits shall be payable only upon the Officer's "separation from service." The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h). The parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. The parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party. The Company makes no representation or warranty and shall have no liability to the Officer or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section 409A.

6. Litigation and Regulatory Cooperation. During and after the Term, the Officer shall cooperate fully with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company that relate to events or occurrences that transpired while the Officer was employed by the Company. The Officer's full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Term, the Officer also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review

relates to events or occurrences that transpired while the Officer was employed by the Company. The Company shall reimburse the Officer for any reasonable out-of-pocket expenses incurred in connection with the Officer's performance of obligations pursuant to this Section 6 and, after their employment with the Company terminates, the Officer may be entitled for reasonable compensation for their time. For the avoidance of doubt, nothing in this Agreement shall be interpreted or applied to prohibit the Officer from making any good faith report to any governmental agency or other governmental entity concerning any act or omission that the Officer reasonably believes constitutes a possible violation of federal or state law or making other disclosures that are protected under the anti-retaliation or whistleblower provisions of applicable federal or state law or regulation.

7. **Relief**. The Officer agrees that it would be difficult to measure any damages caused to the Company which might result from any breach by the Officer of this Agreement, and that in any event money damages would be an inadequate remedy for any such breach. Accordingly, the Officer agrees that if the Officer breaches, or proposes to breach, this Agreement, the Company shall be entitled, in addition to all other remedies that it may have, to an injunction or other appropriate equitable relief to restrain any such breach without showing or proving any actual damage to the Company. In addition, in the event the Officer breaches the Confidential Information and Invention Assignment Agreement, effective as of [Date], by and between the Company and the Officer ("CIIA"), during a period when they are receiving severance payments pursuant to Section 4(b) or (c), the Company shall have the right to suspend or terminate such severance payments. Such suspension or termination shall not limit the Company's other options with respect to relief for such breach and shall not relieve the Officer of their duties under this Agreement.

8. **Governing Law and Jurisdiction**. This Agreement shall be governed by the laws of the State of California, and the parties hereby consent to the jurisdiction of the state and federal courts in the State of California.

9. **Integration**. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties concerning such subject matter, with the sole exception of the CIIA and the Indemnification Agreement, dated [Date], both by and between the Company and the Officer. If there are any conflicts between the terms and conditions of the CIIA and this Agreement, the terms and conditions of this Agreement shall govern.

10. **Successor to the Officer**. This Agreement shall inure to the benefit of and be enforceable by the Officer's personal representatives, executors, administrators, heirs, distributees, devisees and legatees. In the event of the Officer's death after their termination of employment but prior to the completion by the Company of all payments due them under this Agreement, the Company shall continue such payments to the Officer's beneficiary designated in writing to the Company prior to their death (or to their estate, if the Officer fails to make such designation).

11. **Enforceability**. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of this Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

12. **Survival**. The provisions of this Agreement shall survive the termination of this Agreement and/or the termination of the Officer's employment to the extent necessary to effectuate the terms contained herein.

13. **Waiver**. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

14. **Notices**. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Officer at the last address the Officer has filed in writing with the Company or, in the case of the Company, at the address set forth above to the President and Chief Executive Officer with a copy to legalnotices@cariboubio.com; provided that if the Officer providing notice is the President and Chief Executive Officer, they are not required to provide notice to themself but instead shall provide written notice to the Chief Legal Officer.

15. **Amendment**. This Agreement may be amended or modified only by a written instrument signed by the Officer and by a duly authorized representative of the Company.

16. **Successor to Company**. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession shall be a material breach of this Agreement.

17. **Counterparts**. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

Caribou Biosciences, Inc.	**Sriram Ryali, MBA**
By: /s/ Rachel E. Haurwitz	By: /s/ Sriram Ryali
Name: Rachel E. Haurwitz, PhD	
Title: President and CEO	

CARIBOU BIOSCIENCES, INC.

Amended and Restated Policy on Insider Trading

This Amended and Restated Insider Trading Policy (this "Policy") describes the standards of Caribou Biosciences, Inc. and its subsidiaries (the "Company") on trading, and causing the trading of, the Company's securities or securities of certain other publicly traded companies while in possession of confidential information.

One of the principal purposes of the federal securities laws is to prohibit so-called "insider trading." Simply stated, insider trading occurs when a person in possession of material nonpublic information obtained through involvement with the Company purchases, sells, gives away, or otherwise trades the Company's securities or provides that information to others outside the Company who then purchase or sell the Company's securities. The prohibitions against insider trading apply to trades, tips, and recommendations by employees, consultants, contractors, officers, and directors of the Company (and their respective Immediate Family Members), if the information involved is "material" and "nonpublic." These terms are defined in this Policy under Section 3 below. The prohibitions apply to all employees, consultants, contractors, officers, and directors of the Company (and their respective Immediate Family Members) who buy or sell Company stock while in possession of or on the basis of material nonpublic information that they obtained about the Company, its customers or suppliers, or other companies with which the Company has contractual relationships or may be negotiating transactions. For purposes of this Policy, "Immediate Family Members" shall mean such person's spouse, such person's domestic partner, such person's children who are living in such person's household, and any other persons living in such person's household.

1. Scope

This Policy applies to all trading or other transactions in the Company's securities, including common stock, options, and any other securities that the Company may issue, such as preferred stock, notes, bonds, and convertible securities, as well as to derivative securities relating to any of the Company's securities, whether or not issued by the Company.

This Policy applies to all employees, consultants, contractors, officers, and directors of the Company (and their respective Immediate Family Members).

2. General Policy: No Trading or Causing Trading While in Possession of Material Nonpublic Information

(a) No employee, consultant, contractor, officer, or director of the Company (or any of their Immediate Family Members) may purchase or sell, or offer to purchase or sell, any Company security, whether or not issued by the Company, while in possession of "material nonpublic information" about the Company (as defined in Section 3(a) and (b) below).

(b) No employee, consultant, contractor, officer, or director of the Company (or any of their Immediate Family Members) who knows of any material nonpublic information about the Company may communicate that information to ("tip") any other person, including family members and friends, or otherwise disclose such information without the Company's authorization.

(c) No employee, consultant, contractor, officer, or director of the Company (or any of their Immediate Family Members) may purchase or sell any security of any other company, whether or not issued by the Company, while in possession of material nonpublic information about that company that was obtained in the course of their involvement with the Company. No employee, consultant, contractor, officer, or director of the Company (or any of their respective Immediate Family Members) who knows of any such material nonpublic information may communicate that information to, or tip, any other person, including family members and friends, or otherwise disclose such information without the Company's authorization.

(d) All directors and executive officers of the Company who are subject to Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") (such persons referred to hereinafter as "Company Insiders") must "pre-clear" all trading in securities of the Company in accordance with the procedures set forth in Section 7 below.

(e) From time to time, the Company may engage in transactions in its own securities. It is the Company's policy that any transactions in securities by the Company will comply with applicable laws with respect to insider trading.

3. Definitions

(a) Material. Insider trading restrictions come into play only if the information possessed is "material." Materiality involves a relatively low threshold. Information is generally regarded as "material" if it has market significance, that is, if its public dissemination is likely to affect the market price of securities, or if it otherwise is information that a reasonable investor would want to know before making an investment decision.

Information dealing with the following subjects is reasonably likely to be found material in particular situations:

- results or material data from clinical trials or preclinical studies, or other significant research or development milestones;
- significant communications to or from regulatory agencies, or other significant regulatory developments;
- selection and development of a new product candidate or new indication for an existing product candidate;
- significant intellectual property developments;
- developments regarding significant litigation or government agency investigations;

- proposals, plans, or agreements, even if preliminary in nature, involving mergers, acquisitions, divestitures, recapitalizations, strategic alliances, or purchases or sales of substantial assets;
- the entry into new license or collaboration agreements, developments regarding the negotiation thereof, material disputers related thereto, or the termination thereof;
- the entry into new supply or contract manufacturing agreements, developments regarding the negotiation thereof, material disputes related thereto, or the termination thereof;
- earnings information, including quarterly and year-end operating results, and changes in financial performance or liquidity;
- guidance or statements on earnings estimates, changes in earnings estimates;
- unusual gains or losses in major operations or significant write-downs in assets or increases in reserves;
- extraordinary borrowings;
- bankruptcies or receiverships;
- significant change in accounting methods or policies;
- changes in auditors or auditor notification that the Company may no longer rely on an audit report;
- significant changes in the Company's prospects;
- significant changes in the Company's management or its board of directors;
- new investments or financings or material developments regarding investments or financings;
- events regarding the Company's securities (such as defaults on senior securities, calls of securities for redemption, repurchase plans, stock splits, or changes in dividends, changes to the rights of security holders, public or private sales of additional securities, or information related to any additional funding); and
- cybersecurity risks and incidents, including vulnerabilities and breaches.

Material information is not limited to historical facts but may also include projections and forecasts. With respect to a future event, such as a merger, acquisition, or introduction of a new product, the point at which negotiations or product development are determined to be material is determined by balancing the probability that the event will occur against the magnitude of the effect the event would have on the Company's operations or stock price should it occur. Thus, information concerning an event that would have a large effect on stock price, such as a merger, may be material even if the possibility that the event will occur is relatively small. When in doubt about whether particular nonpublic information is material, employees, consultants, contractors, officers, and directors of the Company (and any of their Immediate Family Members) should presume it is material. **If an employee, consultant, contractor, officer, or**

director of the Company is unsure whether information is material, they should consult the Compliance Officer (defined below) before making any decision to disclose such information or to trade in or recommend securities to which that information relates or assume that the information is material.

(b) Nonpublic. Insider trading prohibitions come into play only when employees, consultants, contractors, officers, and directors of the Company (or any of their Immediate Family Members) possess information that is material and "nonpublic." The fact that information has been disclosed to a few members of the public does not make it public for insider trading purposes. To be "public" the information must have been disseminated in a manner designed to reach investors generally, and the investors must be given the opportunity to absorb the information. Even after public disclosure of information about the Company, employees, consultants, contractors, officers, and directors (or any of their Immediate Family Members) must wait until the close of business on the first full trading day after the information was publicly disclosed before you can treat the information as public.

Nonpublic information may include:

- information available to a select group of analysts or brokers or institutional investors;
- undisclosed facts that are the subject of rumors, even if the rumors are widely circulated; and
- information that has been entrusted to the Company on a confidential basis until a public announcement of the information has been made and a sufficient amount of time has elapsed for the market to respond to a public announcement of the information (normally one trading day).

As with questions of materiality, if employees, consultants, contractors, officers, or directors are not sure whether information is considered public, they should either consult with the Compliance Officer or assume that the information is nonpublic and treat it as confidential.

(c) Compliance Officer. The Company has appointed the Chief Legal Officer as the Compliance Officer for purposes of this Policy. The Chief Legal Officer may also designate additional individuals to assist them in carrying out all duties of the Compliance Officer. In the event that the Chief Legal Officer is not available or desires to effect a transaction in Company securities for which pre-clearance or approval is required under this Policy, the Chief Executive Officer of the Company shall serve as the Compliance Officer. In the event that the Chief Legal Officer is unavailable and a transaction in Company securities is pre-cleared by the Chief Executive Officer, the Chief Legal Officer shall be informed of such pre-clearance as soon as possible. The duties of the Compliance Officer include, but are not limited to, the following:

- assisting with implementation and enforcement of this Policy;

- circulating this Policy to all employees and ensuring that this Policy is amended as necessary to remain up to date with insider trading laws;
- pre-clearing all trading in securities of the Company by Company Insiders in accordance with the procedures set forth in Section 7 below;
- providing approval of any Rule 10b5-1 plans under Section 6(b) below; and
- providing a reporting system with an effective whistleblower protection mechanism.

4. Exceptions

The trading restrictions of this Policy do not apply to the following:

(a) 401(k) Plans. Investing 401(k) plan contributions in a Company stock fund in accordance with the terms of the Company's 401(k) plan is permitted. However, any changes in an employee's investment election regarding the Company's stock is subject to trading restrictions under this Policy.

(b) ESPP. Purchasing Company stock through periodic, automatic payroll contributions to the Company's Employee Stock Purchase Plan ("ESPP") is permitted. However, electing to enroll in the ESPP, making any changes in elections under the ESPP, and selling any Company stock acquired under the ESPP are subject to trading restrictions under this Policy.

(c) Options. Exercising stock options granted under the Company's stock option plans for cash or the delivery of previously owned Company stock is permitted. However, the sale of any shares issued on the exercise of Company-granted stock options and any cashless exercise of Company-granted stock options are subject to trading restrictions under this Policy.

(d) Restricted Stock and Restricted Stock Units. This Policy does not apply to the vesting of restricted stock or restricted stock units, or the exercise of a tax withholding right pursuant to which the holder elects to have the Company withhold shares of stock to satisfy tax withholding requirements upon the vesting of any restricted stock or restricted stock units. The Policy does apply, however, to any market sale of restricted stock or restricted stock units.

(e) Approved 10b5-1 Plans. The trading restrictions of the Policy do not apply to transactions pursuant to an Approved 10b5-1 Plan (as described in Section 6 of the Policy).

(f) *Bona fide* Gifts. No Covered Person may give, donate or make any other transfer of Company securities without consideration when the Covered Person is not permitted to trade under this Policy unless the recipient agrees not to sell the shares until the Covered Person is permitted to sell.

5. Violations of Insider Trading Laws

Penalties for trading on or communicating material nonpublic information can be severe, both for individuals involved in such unlawful conduct and their employers and supervisors, and may include jail terms, criminal fines, civil penalties, and civil enforcement injunctions. Given the severity of the potential penalties, compliance with this Policy is absolutely mandatory.

(a) Legal Penalties. A person who violates insider trading laws by engaging in transactions in a company's securities when they have material nonpublic information can be sentenced to a substantial jail term and be required to pay a criminal penalty of several times the amount of profits gained or losses avoided.

In addition, a person who tips others may also be liable for transactions by the tippees to whom they have disclosed material nonpublic information. Tippers can be subject to the same penalties and sanctions as the tippees, and the Securities and Exchange Commission ("SEC") has imposed large penalties even when the tipper did not profit from the transaction.

The SEC can also seek substantial civil penalties from any person who, at the time of an insider trading violation, "directly or indirectly controlled the person who committed such violation," which would apply to the Company and/or management and supervisory personnel. These control persons may be held liable for up to the greater of (i) more than $2.6 million or (ii) three times the amount of profits gained or losses avoided. Even for violations that result in a small or no profit, the SEC can seek penalties from a company and/or its management and supervisory personnel as control persons.

(b) Company-Imposed Penalties. Employees who violate this Policy may be subject to disciplinary action by the Company, including dismissal for cause. Any exceptions to the Policy, if permitted, may only be granted by the Compliance Officer and must be provided before any activity contrary to the above requirements takes place.

6. Blackout Periods

(a) Blackout Periods. From time to time, material nonpublic information regarding the Company (such as negotiation of mergers, acquisitions, or dispositions; regulatory developments; investigations; litigation; and new product developments) may be pending and not be publicly disclosed. While such material nonpublic information is pending, the Company may impose special blackout periods during which certain employees, consultants, contractors, officers, and directors of the Company ("Covered Persons") will be prohibited from trading in the Company's securities due to their position or responsibilities or their actual or potential access to material nonpublic information. If the Company imposes a special blackout period, it will notify the Covered Persons affected.

(b) Exception. The trading restrictions described in Section 6(a) above do not apply to transactions under a preexisting written plan, contract, instruction, or arrangement under Rule 10b5-1 under the Exchange Act (an "Approved 10b5-1 Plan") that:

(i) has been reviewed and approved by the Compliance Officer in advance of being entered into(or if revised or amended (to the extent then permitted), such revisions or amendments have been reviewed and approved by the Compliance Officer in advance of in advance of being entered into);

(ii) provides that no trades may occur thereunder until expiration of the applicable cooling-off period specified in Rule 10b5-1(c)(ii)(B), and no trades occur until after that time. The appropriate cooling-off period will vary based on the status of the Covered Person. For directors and officers, the cooling-off period ends on the later of (x) ninety days after adoption or certain modifications of the Approved 10b5-1 Plan; or (y) two business days following disclosure of the Company's financial results in a Form 10-Q or Form 10-K for the quarter in which the Approved 10b5-1 Plan was adopted. For all other Covered Persons, the cooling-off period ends 30 days after adoption or modification of the Approved 10b5-1 Plan. This required cooling-off period will apply to the entry into a new Approved 10b5-1 Plan and any revision or modification of an Approved 10b5-1 Plan;

(iii) was entered into in good faith by the Covered Person at a time when the Covered Person was not in possession of material nonpublic information about the Company as evidenced by a written certification from such Covered Person; and

(iv) gives a third party the discretionary authority to execute such purchases and sales, outside the control of the Covered Person, so long as such third party does not possess any material nonpublic information about the Company; or explicitly specifies the security or securities to be purchased or sold, the number of shares, the prices and/or dates of transactions, or other formula(s) describing such transactions.

(v) it is the only outstanding Approved 10b5-1 Plan entered into by the Covered Person (subject to the exceptions set out in Rule 10b5-1(c)(ii)(D)).

The Company reserves the right to prevent any transactions in Company securities, even those pursuant to an Approved 10b5-1 Plan, if the Compliance Officer determines that prevention of such transaction is necessary to comply with securities law or any contractual obligations of the Company.

7. Pre-Clearance of Securities Transactions by Company Insiders

(a) Because Company Insiders are likely to obtain material nonpublic information on a regular basis, the Company requires all such persons to refrain from trading without first pre-clearing all transactions in the Company's securities.

(b) Subject to the exemption in subsection (d) below, no Company Insider may, directly or indirectly, purchase or sell (or otherwise make any transfer, gift, pledge, or loan of) any Company security at any time without first obtaining prior approval from the Compliance Officer. These procedures also apply to transactions by such person's Immediate Family Members and to transactions by entities over which such person exercises control. As part of the pre-clearance procedures, the Company Insider shall provide upon request from the Compliance

Officer a written certification that the Company Insider is not in possession of material nonpublic information about the Company.

(c) The Compliance Officer shall record the date each request is received and the date and time each request is approved or disapproved. Unless revoked, a grant of permission will normally remain valid until the close of trading two business days following the day on which it was granted. If the transaction does not occur during the two-day period, pre-clearance of the transaction must be re-requested.

(d) Pre-clearance is not required for purchases and sales of securities under an Approved 10b5-1 Plan that complies with Section 6(b) and the applicable rules under the Exchange Act. With respect to any purchase or sale under an Approved 10b5-1 Plan, the third party effecting transactions on behalf of the Company Insider should be instructed to send duplicate confirmations of all such transactions to the Compliance Officer.

8. Restricted or Prohibited Transactions

(a) Employees, consultants, contractors, officers, and directors of the Company (and their Immediate Family Members) are prohibited from trading in the Company's equity securities during a blackout period imposed under an "individual account" retirement or pension plan of the Company, during which at least 50% of the plan participants are unable to purchase, sell, or otherwise acquire or transfer an interest in equity securities of the Company, due to a temporary suspension of trading by the Company or the plan fiduciary.

(b) Company Insiders who purchase Company securities may not sell any Company securities of the same class for at least six months after the purchase, unless such transaction is first pre-cleared by the Compliance Officer.

(c) The following transactions are strictly prohibited for all employees, consultants, contractors, officers, and directors of the Company (including their Immediate Family Members):

(i) Short sales. No employee, consultant, contractor, officer, or director (including such persons' Immediate Family Members) may sell the Company's securities short;

(ii) Options trading. No employee, consultant, contractor, officer, or director (including such persons' Immediate Family Members) may buy or sell puts or calls or other derivative securities on the Company's securities;

(iii) Trading on margin or pledging. No employee, consultant, contractor, officer, or ,director (including such persons' Immediate Family Members) may hold Company securities in a margin account or pledge Company securities as collateral for a loan; and

(iv) Hedging. No employee, consultant, contractor, officer, or director (including such persons' Immediate Family Members) may enter into hedging or monetization transactions or similar arrangements with respect to Company securities.

9. Inquiries

If you have any questions regarding any of the provisions of this Policy, please contact the Chief Legal Officer at (510) 982-6030.

10. Effective Date

This Policy is effective as of February 19, 2025.

Exhibit 21.1

Subsidiaries of Caribou Biosciences, Inc.

Entity	State or Jurisdiction of Incorporation or Organization
Antler Holdco, LLC	Delaware
Arboreal Holdco, LLC	Delaware
Biloba Holdco, LLC	Delaware
Microbe Holdco, LLC	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-258173, 333-263750, 333-270431 and 333-277827 on Form S-8 and No. 333-266712 on Form S-3 of our report dated March 10, 2025, relating to the financial statements of Caribou Biosciences, Inc. appearing in this Annual Report on Form 10-K for the year ended December 31, 2024.

/s/ Deloitte & Touche LLP
San Francisco, California
March 10, 2025

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Rachel E. Haurwitz, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2024 of Caribou Biosciences, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 10, 2025

By: /s/ Rachel E. Haurwitz

Rachel E. Haurwitz
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Sriram Ryali, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2024 of Caribou Biosciences, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 10, 2025

By: /s/ Sriram Ryali

Sriram Ryali
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Caribou Biosciences, Inc. (the "Company") on Form 10-K for the year ended December 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 10, 2025

By: /s/ Rachel E. Haurwitz

Rachel E. Haurwitz
President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Caribou Biosciences, Inc. (the "Company") on Form 10-K for the year ended December 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 10, 2025

By: /s/ Sriram Ryali

Sriram Ryali
Chief Financial Officer