Table of Contents

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2023

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 001-38693

Allogene Therapeutics, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**82-3562771**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

210 East Grand Avenue, South San Francisco, California 94080
(Address of principal executive offices including zip code)
Registrant's telephone number, including area code: (650) 457-2700

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

Title of each class	**Trading symbol(s)**	**Name of each exchange on which registered**
Common Stock, Par Value $0.001 Per Share	ALLO	The Nasdaq Stock Market LLC

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

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

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

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

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

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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	☒	Small reporting company	☒
		Emerging growth company	☐

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2023 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately $557 million based on the closing price of the registrant's common stock on June 30, 2023 of $4.97 per share, as reported by The Nasdaq Global Select Market.

The number of shares of Registrant's Common Stock outstanding as of March 12, 2024 was 169,091,992.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement relating to the 2024 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission on or before April 29, 2024, are incorporated by reference into Part III of this Annual Report.

EXPLANATORY NOTE

Restatement Background

As described in our Current Report on Form 8-K filed with the Securities and Exchange Commission (SEC) on February 16, 2024, the Company received a comment letter (Comment Letter) from the staff of the Division of Corporation Finance of the SEC relating to its Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on February 28, 2023. The Comment Letter included a comment related to the Company's accounting for Allogene Overland Biopharm (CY) Limited (Allogene Overland), a joint venture established by the Company and Overland Pharmaceuticals (CY) Inc. (Overland) pursuant to a Share Purchase Agreement entered into on December 14, 2020 (Share Purchase Agreement), and also related to the associated Exclusive License Agreement between the Company and Allogene Overland entered into on December 14, 2020 (License Agreement) for the purpose of developing, manufacturing and commercializing certain allogeneic CAR T cell therapies for patients in greater China, Taiwan, South Korea and Singapore. Pursuant to the Share Purchase Agreement, the Company acquired shares of Seed Preferred Stock in Allogene Overland (Seed Preferred Shares) representing 49% of Allogene Overland's outstanding stock as partial consideration for the License Agreement, and Overland acquired Seed Preferred Shares representing 51% of Allogene Overland's outstanding stock for which Overland committed to pay $117.0 million to Allogene Overland, which included an upfront payment and certain quarterly cash payments, to support operations of Allogene Overland. The Company also received $40 million from Allogene Overland as partial consideration for the License Agreement. The Company's equity investment in Allogene Overland, as represented by the Seed Preferred Shares, was determined to be an equity method investment and originally recorded at zero. Given that the Seed Preferred Shares were recorded at zero and the Company does not have an obligation to contribute capital to Allogene Overland, the Company did not account for its share of losses incurred by Allogene Overland.

Following the receipt of the Comment Letter and a re-evaluation of the accounting for its Seed Preferred Shares, the Company determined that the Seed Preferred Shares should have been initially measured at fair value, and the accounting for the Seed Preferred Shares should be restated. Accordingly, the Company recorded the fair value of the Seed Preferred Shares on the date when they were received in December 2020. Consequently, the initial transaction price to determine revenue related to the License Agreement was also revised to include the fair value of the Seed Preferred Shares. As a result, the Company reflected additional revenues under "Collaboration revenue – related party" in its consolidated statements of operations and comprehensive loss. Further, on the date when the Seed Preferred Shares were received, the Company recorded as "Other expenses" in its consolidated statements of operations and comprehensive loss the basis difference between the fair value of the Seed Preferred Shares and the amount of the Company's underlying equity in net assets of Allogene Overland and reduced the carrying value of the Seed Preferred Shares. Further, the Company recorded its share of net losses of Allogene Overland in each reporting period and reduced the carrying value of the Seed Preferred Shares. This restatement is non-cash in nature and did not have an impact on cash, cash equivalents and marketable investments.

The error resulted in an understatement of collaboration revenue and other expenses in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2022, 2021 and 2020, and an understatement of deferred revenue and equity method investment in the consolidated balance sheets as of December 31, 2022 and 2021. These periods were restated in Amendment No. 1 to the Annual Report on Form 10-K/A for the year ended December 31, 2022 filed with the SEC on March 14, 2024 (as amended, the 2022 Annual Report).

In this Annual Report on Form 10-K for the year ended December 31, 2023 (this Annual Report), the Company is restating its previously issued (i) unaudited condensed consolidated balance sheets as of March 31, 2023 and 2022, June 30, 2023 and 2022 and September 30, 2023 and 2022, (ii) unaudited condensed consolidated statements of operations and comprehensive loss for the three months ended March 31, 2023 and 2022, three and six months ended June 30, 2023 and 2022, and three and nine months ended September 30, 2023 and 2022, (iii) unaudited condensed consolidated statements of cash flows for the three months ended March 31, 2023 and 2022, six months ended June 30, 2023 and 2022, and nine months ended September 30, 2023 and 2022, in each of the Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2023, June 30, 2023 and September 30, 2023 (the Prior Quarterly Financial Statements).

Restatement Overview

In connection with the restatement of the Prior Quarterly Financial Statements, the Company, in this Annual Report:

1. Restated the Prior Quarterly Financial Statements, in *Note 1. Description of Business and Summary of Significant Accounting Policies*, and *Note 15. Selected Quarterly Financial Data (Unaudited)*, as set forth in Part II, Item 8, Financial Statements and Supplementary Data of this Annual Report; and

2. Amended the results of operation discussion for each of the quarterly periods ended March 31, 2023 and 2022, June 30, 2023 and 2022 and September 30, 2023 and 2022 in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations of this Annual Report.

The financial information that has been previously filed or otherwise reported for the Prior Quarterly Financial Statements is superseded by the information in this Annual Report. *Note 1. Description of Business and Summary of Significant Accounting Policies*, and *Note 15. Selected Quarterly Financial Data (Unaudited)*, as set forth in Part II, Item 8, Financial Statements and Supplementary Data of this Annual Report contain additional information on the restatement and the related financial statement impact.

We have not filed and do not intend to file amendments to our Quarterly Reports on Form 10-Q for any of the quarterly periods in the fiscal year 2023. Accordingly, investors should rely only on the restated financial statements and related disclosures included in the 2022 Annual Report and this Annual Report for the applicable periods or in future filings with the SEC (as applicable), and not on any previously issued or filed reports, earnings releases or similar communications including the aforementioned financial statements.

Internal Control Considerations

As a result of the information described above, management has concluded that the Company's disclosure controls and procedures were not effective at the reasonable assurance level and the Company's internal control over financial reporting was not effective as of the end of each of the periods covered by restatement. In connection with the restatement, the Company has identified a material weakness in the operation of internal control over financial reporting with respect to the technical accounting analysis of significant non-routine transactions. For a discussion of management's evaluation of our disclosure controls and procedures and the material weakness identified, see Part II, Item 9A, "Controls and Procedures" of this Annual Report.

Table of Contents

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Unless the context requires otherwise, references in this report to "Allogene," the "Company," "we," "us" and "our" refer to Allogene Therapeutics, Inc.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report contains forward-looking statements. The forward-looking statements are contained principally in the sections entitled "Business," "Risk Factors," and "Management's Discussion and Analysis of Financial Condition and Results of Operations". These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the success, cost, timing and potential indications of our product development activities and clinical trials;
- the timing of the initiation, enrollment and completion of planned clinical trials in the United States and foreign countries;
- our ability to obtain and maintain regulatory approval of our product candidates in any of the indications for which we plan to develop them, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations, including funding necessary to complete the clinical trials of any of our product candidates;
- the ultimate outcome of our disputes with Servier, including disagreements relating to development cost contributions and the timeframe during which we have the right to elect a license to CD19 Products outside of the United States subsequent to Servier's discontinuation of its involvement in the development of all CD19 products pursuant to our Exclusive License and Collaboration Agreement;
- our ability and plans to research, develop, manufacture and commercialize our product candidates;
- our ability to attract and retain collaborators with development, regulatory and commercialization expertise;
- the size of the markets for our product candidates, and our ability to serve those markets;
- our ability to successfully commercialize our product candidates;
- the rate and degree of market acceptance of our product candidates;
- our ability to develop and maintain sales and marketing capabilities, whether alone or with potential future collaborators;
- regulatory developments in the United States and foreign countries;
- our ability to contract with and the performance of our and our collaborators' third-party suppliers and manufacturers;
- our ability to develop and successfully operate our own manufacturing facility;
- the success of competing therapies that are or become available;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- our use of cash and other resources;
- our ability to remediate a material weakness in our internal control over financial reporting; and
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates and our ability to operate our business without infringing on the intellectual property rights of others.

In some cases, you can identify these statements by terms such as “anticipate,” “believe,” “could,” “estimate,” “expects,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes. These forward-looking statements reflect our management’s beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this report and are subject to risks and uncertainties. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. We discuss many of the risks associated with the forward-looking statements in this Annual Report in greater detail under the heading “Risk Factors.” Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should carefully read this Annual Report and the documents that we reference in this Annual Report and have filed as exhibits to this Annual Report completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this Annual Report by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

Trademarks and Trade names

This Annual Report contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this Annual Report, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies’ trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

RISK FACTOR SUMMARY

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

Risks Related to Our Financial Position and Capital Needs

- We have incurred net losses in every period since our inception and anticipate that we will incur substantial net losses in the future.
- We will need substantial additional financing to develop our products and implement our operating plans. If we fail to obtain additional financing, we may be unable to complete the development and commercialization of our product candidates.
- We may fail to meet our publicly announced guidance or other expectations about our business, which would cause our stock price to decline.

Risks Related to Our Business and Industry

- Our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of product candidate development and the likelihood of obtaining regulatory approval.
- Our business is highly dependent on the success of our lead product candidates. If we are unable to advance clinical development, obtain approval of and successfully commercialize our lead product candidates for the treatment of patients in approved indications, our business would be significantly harmed.
- Our product candidates may cause undesirable side effects or have other properties that have halted and could in the future halt their clinical development, prevent their regulatory approval, limit their commercial potential or result in significant negative consequences.
- Our clinical trials may fail to demonstrate the safety and efficacy of any of our product candidates, which would prevent or delay regulatory approval and commercialization.
- Phase 1 data from our clinical trials is limited and may change as more patient data becomes available or may not be validated in any future or advanced clinical trial.
- We may not be able to submit INDs to commence additional clinical trials on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed.
- We may encounter substantial delays in our clinical trials, or may not be able to conduct our trials on the timelines we expect.
- If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.
- We may fail to successfully manufacture our product candidates, operate our own manufacturing facility, or obtain regulatory approval to utilize or commercialize from our manufacturing facility or at a CDMO, which could adversely affect our clinical trials and the commercial viability of our product candidates.
- We face significant competition from other biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.
- We are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.
- Our reduction in force undertaken to extend our cash runway and focus more of our capital resources on our prioritized research and development programs might not achieve our intended outcome.

Risks Related to the Development of Our Product Candidates

- Our engineered allogeneic T cell product candidates represent a novel approach to cancer treatment that creates significant challenges for us.
- Gene-editing is a relatively new technology, and if we are unable to use this technology in our intended product candidates, our revenue opportunities will be materially limited.

- We are heavily reliant on our partners for access to TALEN® gene editing technology for the manufacturing and development of our oncology product candidates.
- Servier’s discontinuation of its involvement in the development of CD19 Products and Servier's disputes with us and Cellectis may have adverse consequences.

Risks Related to Our Reliance on 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 meet expected deadlines, we may not be able to obtain regulatory approval of or commercialize our product candidates.
- We rely on T cells from healthy donors to manufacture our product candidates, and if we do not obtain an adequate supply of T cells from qualified donors, development of those product candidates, or commercialization, if approved, may be adversely impacted.

Risks Related to Government Regulation

- The FDA may disagree with our regulatory plan and we may fail to obtain regulatory approval of our CAR T cell product candidates.
- If we, or our collaborators, are required by the FDA, or similar regulatory authorities, to obtain approval (or clearance, or certification) of a companion diagnostic device in connection with approval of one of our product candidates, and we, or our collaborators, do not obtain, or face delays in obtaining, approval (or clearance, or certification) of a companion diagnostic device, we will not be able to commercialize the product candidate, and our ability to generate revenue will be materially impaired.

Risks Related to Our Intellectual Property

- We depend on intellectual property licensed from third parties and termination of any of these licenses could result in the loss of significant rights, which would harm our business.
- If our efforts to protect the proprietary nature of the intellectual property related to our technologies are not adequate, we may not be able to compete effectively in our market.

Risks Related to Ownership of Our Common Stock

- We have identified a material weakness in our internal control over financial reporting. This material weakness could continue to adversely affect our ability to report our results of operations and financial condition accurately and in a timely manner.

PART I

Item 1. Business

Overview

We are a clinical stage immuno-oncology company pioneering the development of genetically engineered allogeneic T cell product candidates for the treatment of cancer and autoimmune diseases. We are developing a pipeline of "off-the-shelf" T cell product candidates that are designed to target and kill cancer cells in patients or eliminate pathogenic autoreactive cells in patients with autoimmune disorders. Our engineered T cells are allogeneic, meaning they are derived from healthy donors for intended use in any patient, rather than from an individual patient for that patient's use, as in the case of autologous T cells. We believe this key difference will enable us to deliver readily available treatments faster, more reliably, at greater scale, and to more patients.

Earlier this year, we announced our 2024 Platform Vision that we believe will redefine the future of chimeric antigen receptor (CAR) T therapy by leveraging the unique attributes of allogeneic CAR T products. Under our 2024 Platform Vision we are focusing on four core programs:

1. *Large B-Cell Lymphoma (LBCL)*: Potentially groundbreaking ALPHA3 Trial that we believe may leapfrog other CAR T's and embed cemacabtagene ansegedleucel (cema-cel, previously ALLO-501A) in first line (1L) LBCL treatment in community cancer centers where most newly diagnosed patients seek care.

2. *Chronic Lymphocytic Leukemia (CLL)*: New Phase 1 ALPHA2 Cohort is designed to evaluate cema-cel as a CLL treatment in order to address the limitations of autologous therapies in a disease where poor T cell fitness is a known barrier to efficacy.

3. *Autoimmune Disease (AID)*: ALLO-329, our next-generation CD19 Dagger® program, focuses on scalability and reduced or chemotherapy-free lymphodepletion, positioning allogeneic CAR T to potentially transform autoimmune management and meet the demand of the market.

4. *Renal Cell Carcinoma (RCC)*: Ongoing TRAVERSE trial with ALLO-316 seeks to advance scientific innovation underlying the Dagger® technology to optimize CAR T cell expansion and persistence, thereby maximizing the potential of allogeneic CAR T in solid tumors while mitigating treatment-associated inflammatory response.

Our allogeneic approach involves engineering healthy donor T cells, which we believe will allow for the creation of an inventory of off-the-shelf products that can be delivered to a larger portion of eligible patients throughout the world. These potential benefits led our Executive Chair, Arie Belldegrun, M.D., FACS, who was previously the Chair and Chief Executive Officer at Kite Pharma (Kite, now a Gilead company), and our President and Chief Executive Officer, David Chang, M.D., Ph.D., previously Chief Medical Officer and Executive Vice President of Research and Development at Kite, to found our company with the driving purpose of accelerating the development of allogeneic CAR T cell therapies.

Although we are currently focusing on our four core development programs noted above, we continue to have a deep pipeline to further the research and development of allogeneic CAR T cell product candidates in both hematological malignancies and solid tumors. We believe our technology platform combined with our management team's experience in immuno-oncology and specifically in CAR T cell therapy will help drive the rapid development and, if approved, the commercialization of potentially curative therapies for patients with aggressive cancer or who suffer from autoimmune diseases.

Our Approach

Our allogeneic CAR T cell development strategy has four key pillars: (1) engineering product candidates to minimize the risk of graft-versus-host disease (GvHD), a condition where allogeneic T cells can recognize the patient's normal tissue as foreign and cause damage, (2) creating a window of persistence that may enable allogeneic T cells to expand and eradicate cancer cells in patients or pathogenic autoreactive cells in patients, (3) building a leading manufacturing platform to enable consistent and high quality production and (4) leveraging next generation technologies to improve the functionality of allogeneic CAR T cells.

For our oncology programs we use Cellectis, S.A. (Cellectis), TALEN® gene-editing technology to limit the risk of GvHD by engineering T cells to lack functional T cell receptors (TCRs), thereby preventing them from recognizing a patient's normal tissue as foreign. With the goal of enhancing the expansion and persistence of our engineered allogeneic T cells, we use

TALEN® technology to inactivate the CD52 gene in donor T cells and an anti-CD52 monoclonal antibody to deplete CD52 expressing T cells in patients while sparing the therapeutic allogeneic T cells. We believe this enables a window of persistence for the infused allogeneic T cells to actively target and destroy cancer cells. We are also developing ALLO-647, our own anti-CD52 monoclonal antibody, which is designed to be used prior to infusing our other product candidates as part of a lymphodepletion regimen. Our off-the-shelf approach is dependent on state-of-the-art manufacturing processes, and we believe we have built a technical operations organization with fully integrated in-house expertise in clinical and commercial engineered T cell manufacturing.

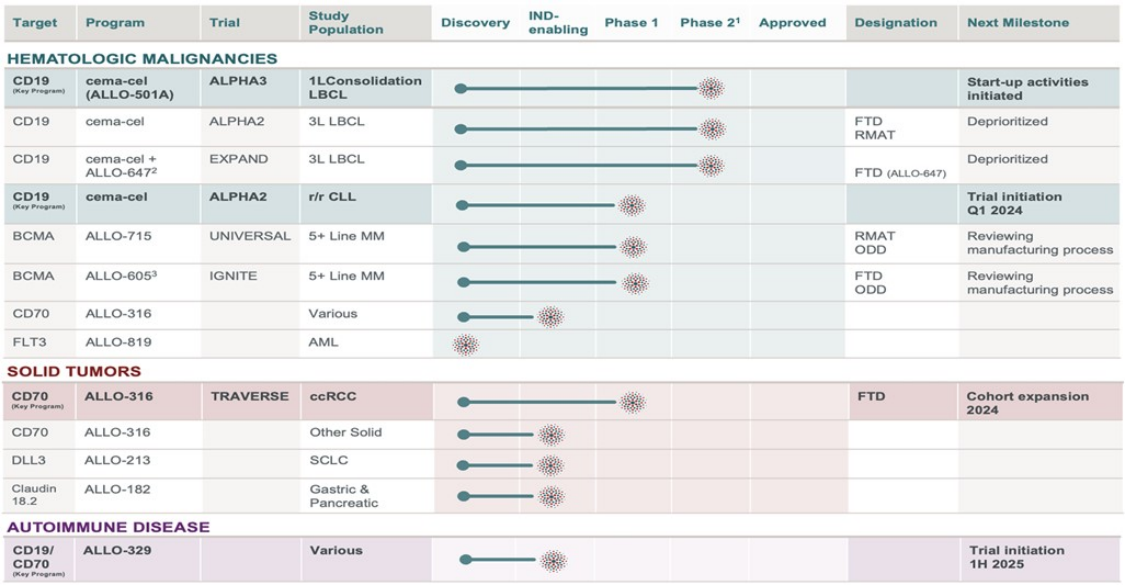
For our lead autoimmune program, we have a non-exclusive license with Arbor Biotechnologies relating to a CRISPR-based gene-editing technology for the development of allogeneic T cell product candidates directed against various targets, including CD19 and CD70 both of which ALLO-329 targets.

We have built our own current good manufacturing practices (cGMP) manufacturing facility in Newark, California, that we call Cell Forge 1 (CF1). We are currently utilizing CF1 for clinical manufacturing of our product candidates.

Finally, we plan to leverage next generation technologies to develop more potent product candidates and to develop product candidates to overcome premature rejection of allogeneic CAR T cells by the patient's immune system. We believe next generation technologies will also allow us to further develop allogeneic T cell therapies for the treatment of solid tumors, which to date have been difficult to treat because of, among other factors, the lack of validated targets and tumor microenvironments that can impair the activity of T cells.

Our Pipeline

We are currently developing a pipeline of multiple allogeneic CAR T cell product candidates utilizing protein engineering, gene editing, gene insertion and advanced proprietary T cell manufacturing technologies. Our most advanced product candidate, cemacabtagene ansegedleucel, referred to as cema-cel (previously ALLO-501A), is an engineered allogeneic CAR T cell product candidate that targets CD19, a protein expressed on the cell surface of B cells and a validated target for B cell driven hematological malignancies. We are currently focused on developing cema-cel for LBCL and CLL. Our pipeline also includes ALLO-316 and ALLO-329. ALLO-316 is an engineered allogeneic CAR T cell product candidate that targets CD70, which is highly expressed in RCC and is selectively expressed in several other cancers thereby creating the potential for ALLO-316 to be developed across a variety of both hematologic malignancies and solid tumors. We are currently focused on developing ALLO-316 for RCC. ALLO-329, an engineered allogeneic CAR T cell product candidate that targets both CD19 and CD70, is in development for the treatment of certain AIDs. We also have additional product candidates, but we have deprioritized these programs to allow us to focus on cema-cel, ALLO-316 and ALLO-329. Our pipeline is represented in the diagram below.



[1]Phase 3 may not be required if Phase 2 is registrational
[2]ALLO-647 (anti-CD52 mAb) is intended to enable expansion and persistence of allogeneic CAR T product candidates
[3] TurboCAR™

Our lead product candidates include:

- *Cemacabtagene ansegedleucel (cema-cel).* We are currently focused on developing cema-cel in LBCL and CLL.
    - *LBCL*: We plan to initiate a pivotal Phase 2 clinical trial (ALPHA3) in mid-2024 for cema-cel as part of a 1L treatment plan for newly diagnosed and treated LBCL patients who are likely to relapse and need further therapy. The design of the ALPHA3 1L consolidation trial builds upon the results demonstrated in the Phase 1 ALPHA2 trial and leverages an investigational diagnostic test developed by Foresight Diagnostics, Inc. (Foresight Diagnostics) that we believe will identify patients who have achieved remission by standard disease assessment but who have minimal residual disease (MRD) at the completion of 1L chemoimmunotherapy. The ALPHA3 trial is designed to study the impact of treating MRD positive patients with cema-cel. The study will randomize approximately 230 patients who achieve a complete response or partial response to 1L therapy, but who are MRD positive. The patients will be randomized to either consolidation with cema-cel or the current standard of care, which is observation. The design, with a primary endpoint of event free survival (EFS), will initially include two lymphodepletion arms (one with standard fludarabine and cyclophosphamide plus ALLO-647 and one with standard fludarabine and cyclophosphamide but without ALLO-647). One lymphodepletion arm will be discontinued following a planned interim analysis in mid-2025 designed to select the most appropriate regimen for this patient population. In view of the potential of the earlier line ALPHA3 trial, we have deprioritized the third line (3L) LBCL ALPHA2 and EXPAND trials.
    - *CLL*: We have initiated the Phase 1b cohort of our ALPHA2 trial to evaluate cema-cel following lymphodepletion with fludarabine/cyclophosphamide and ALLO-647 in patients with relapsed/refractory chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). This cohort will include up to 40 patients, and we expect to release initial data by year-end 2024.
- *ALLO-316.* We are enrolling a Phase 1 clinical trial (TRAVERSE) of ALLO-316, an allogeneic CAR T cell product candidate targeting CD70, in adult patients with advanced or metastatic RCC. We presented interim results from the TRAVERSE trial at the American Association of Cancer Research (AACR) Annual Meeting in April 2023. See "—Product Pipeline and Development Strategy—Anti-CD70 Development Program—Results from the Phase 1 ALLO-316 TRAVERSE Trial" for information regarding the results. We have implemented a protocol amendment that incorporates a diagnostic and treatment algorithm into the study design. The algorithm is designed to mitigate the treatment-associated hyperinflammatory response without compromising the CAR T function needed to eradicate solid tumors. The next update from this trial is planned for a publication in the second quarter of 2024 and will discuss the algorithm. A more comprehensive data update from the ongoing trial with the updated protocol is planned for year-end 2024.
- *ALLO-329.* We are developing ALLO-329, a next-generation allogeneic CAR T cell product candidate targeting both CD19 and CD70 for the treatment of certain autoimmune diseases. Inclusion of an anti-CD70 CAR in ALLO-329 incorporates the Dagger® technology, which is designed to reduce or eliminate the need for standard chemotherapy by preventing premature rejection while targeting CD19+ B-cells and CD70+ activated T-cells, both of which play a role in AID. Initiation of this Phase 1 trial with ALLO-329 is expected in early 2025.
- *ALLO-647*. We are developing an anti-CD52 monoclonal antibody, ALLO-647, which is a proprietary component of our lymphodepletion regimen. ALLO-647 may be able to reduce the likelihood of a patient's immune system rejecting the engineered allogeneic T cells for a sufficient period of time to enable a window of persistence during which our engineered allogeneic T cells can actively target and destroy cancer cells. During Part A of our pivotal ALPHA3 trial, we will be assessing ALLO-647's contribution to the overall benefit to risk ratio of the lymphodepletion regimen for cema-cel. Patients will be randomized to receive cema-cel and a lymphodepletion regimen with fludarabine and cyclophosphamide either with or without ALLO-647. We plan to select the lymphodepletion regimen in mid 2025.
- *Other Product Candidates:* While we have additional programs in our pipeline, our development priorities are focused on cema-cel (1L Consolidation and CLL), ALLO-316, and ALLO-329. We will explore opportunities to partner with collaborators on product candidates across our pipeline.

Our History and Team

We believe we have established a leadership position in allogeneic CAR T cell therapy. In April 2018, we acquired certain assets from Pfizer Inc. (Pfizer), including strategic license and collaboration agreements and other intellectual property related to the development and administration of allogeneic CAR T cells for the treatment of cancer. We have an Exclusive License and Collaboration Agreement (the Servier Agreement) with Les Laboratoires Servier SAS and Institut de Recherches

Internationales Servier SAS (collectively, Servier) to develop and commercialize cema-cel, and we hold the commercial rights to these product candidates in the United States. The Servier Agreement gives us access to Cellectis' TALEN® gene-editing technology for cema-cel. We also have an exclusive worldwide oncology license from Cellectis to use its TALEN® gene-editing technology for the development of allogeneic T cell product candidates directed against 15 different cancer antigens, including CD70 which ALLO-316 targets. We also have a non-exclusive license with Arbor Biotechnologies relating to a CRISPR-based gene-editing technology for the development of allogeneic T cell product candidates in the field of autoimmune diseases directed against various targets, including CD19 and CD70 both of which ALLO-329 targets.

Our world-class management team has significant experience in immuno-oncology and in progressing products from early-stage research to clinical trials, and ultimately to regulatory approval and commercialization. In particular, both Dr. Belldegrun and Dr. Chang led the development and approval of Yescarta® at Kite. Additionally, our Executive Vice President of Research and Development and Chief Medical Officer, Dr. Zachary Roberts, was also instrumental in the development and execution of the clinical trials of Yescarta® across multiple indications. Our Chief Technical Officer, Timothy Moore, has over 30 years of leadership experience in biopharmaceutical manufacturing and operations and was previously Executive Vice President, Technical Operations at Kite, where he was responsible for the process development, manufacturing, quality and supply chain for Yescarta®.

Our Strategy

Our goal is to maintain and build upon our leadership position in allogeneic CAR T cell therapy. We plan to rapidly develop and, if approved, commercialize allogeneic CAR T cell products for the treatment of cancer and autoimmune disease that can be delivered faster, more reliably, and at greater scale than autologous T cell therapies. We believe achieving this goal could result in allogeneic CAR T therapy becoming a standard of care in cancer and autoimmune disease treatments and enable us to make potentially curative products more readily accessible to more patients throughout the world. Key elements of our strategy include:

- ***Repositioning our allogeneic CAR T product as the only CAR T to be part of a first line (1L) consolidation approach.*** As described in our 2024 Platform Vision, we seek to redefine the future of CAR T by potentially repositioning our allogeneic CAR T product as the only CAR T to be part of a first line (1L) treatment plan for newly diagnosed and treated LBCL patients who are likely to relapse and need further therapy. The design of the ALPHA3 1L consolidation trial builds upon the results demonstrated in the Phase 1 ALPHA2 trial and leverages an investigational diagnostic test developed by Foresight Diagnostics to identify patients who have MRD at the completion of 1L chemoimmunotherapy for treatment with cema-cel. Start-up activities for the ALPHA3 trial are underway and the trial is expected to begin enrolling in mid-2024.

- ***Build state-of-the-art gene engineering and cell manufacturing capabilities.*** Manufacturing allogeneic T cell product candidates involves a series of complex and precise steps. We believe a critical component to our success will be to leverage and expand our proprietary manufacturing know-how, expertise and capacity. For instance, for our lead product candidate, cema-cel, we were able to identify and select a manufacturing process that was associated with robust clinical performance in Phase 1. We believe establishing our own fully integrated manufacturing operations and infrastructure will allow us to continuously improve the manufacturing process, limit our reliance on contract development and manufacturing organizations (CDMOs) and more rapidly advance the commercialization of any of our product candidates that receive regulatory approval.

- ***Expand into solid tumor indications with high unmet need and leverage next generation technologies to advance our platform.*** We plan to continue to advance the research and development of ALLO-316, which targets CD70, for the treatment of clear cell renal cell carcinoma (ccRCC) as part of our TRAVERSE trial. We are investigating next-generation technologies incorporated in the design of ALLO-316 which seek to better control rejection of allogeneic CAR T cells by the patient immune system. Such technologies include our Dagger® technology that utilizes an anti-CD70 CAR to kill alloreactive host T cells. We are also advancing technologies to increase specificity of CAR T activity to avoid potential normal tissue toxicities associated with certain solid tumor targets. We continually survey the scientific and industry landscape for opportunities to license, partner or acquire technologies that may help us advance current or new cell therapies for the benefit of patients.

- ***Expand our allogeneic CAR T platform into the treatment of autoimmune disease (AID).*** We are currently developing a next-generation product candidate, ALLO-329, which will be an engineered allogeneic CAR T cell product candidate that targets CD19 and CD70. ALLO-329 will incorporate our Dagger® technology. We are currently focused on developing ALLO-329 for AID. Incorporation of the Dagger® technology into an "off-the-shelf" CD19 product for use in AID is designed to reduce or eliminate the need for standard chemotherapy while targeting CD19+ B-cells and CD70+ activated T-cells, both of which play a role in AID. Initiation of this Phase 1 trial with ALLO-329 is expected in early 2025.

Allogeneic CAR T Cell Therapy

Engineered T Cell Therapies

T cells are a type of white blood cell and are involved in both sensing and killing infected or abnormal cells, including cancer cells, as well as coordinating the activation of other cells in an immune response. Engineered T cell therapy is a type of immunotherapy treatment whereby human T cells are removed from the body and engineered to express CARs which, when infused into a patient, may allow the recognition and destruction of cancer cells in a targeted manner.

Chimeric Antigen Receptors (CARs)

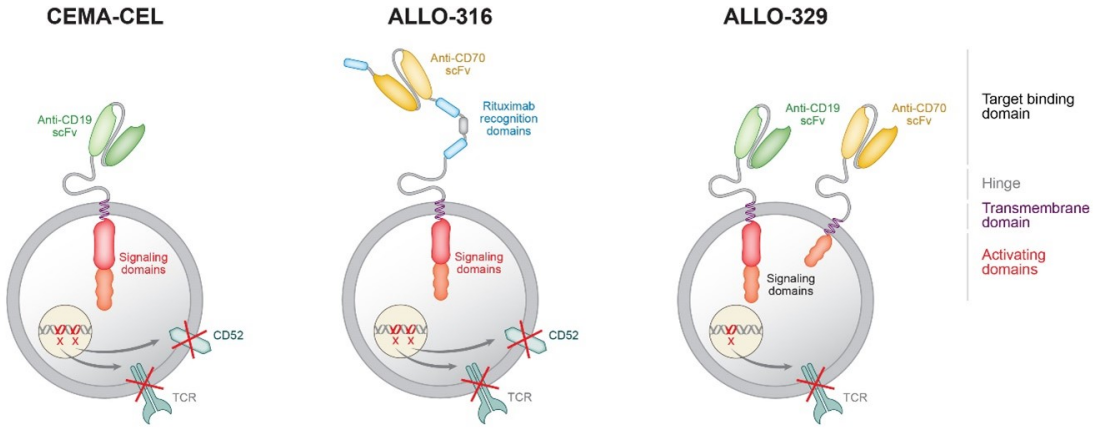
CARs are engineered molecules that, when present on the surface of a T cell, enable the T cell to recognize specific proteins or antigens that are present on the surface of other cells. More than one type of CAR can be included in a CAR T cell, imparting multi-antigen targeting capability. The CAR molecule(s) in our product candidates are comprised of a single chain protein that contains the following elements:

- *Target Binding Domain:* At one end of the CAR is a target binding domain that is specific to a target antigen. This domain extends out onto the surface of the engineered T cell, where it can recognize the target antigens. The target binding domain consists of a single-chain variable fragment (scFv) of an antibody comprising variable domains of heavy and light chains joined by a short linker.

- *Transmembrane Domain and Hinge:* This middle portion of the CAR links the scFv target binding domain to the activating elements inside the cell. This transmembrane domain "anchors" the CAR in the cell's membrane. In addition, the transmembrane domain may also interact with other transmembrane proteins that enhance CAR function. The hinge domain, which extends to the exterior of the cell, connects the transmembrane domain to scFv and provides structural flexibility to facilitate optimal binding of scFv to the target antigen on the cancer cell's surface.

- *Activating Domains:* The other end of transmembrane domain, inside the T cell, is connected to one or more signaling domains responsible for activating the T cell when the CAR binds to the target cell. The CD3 zeta domain delivers an essential primary signal within the T cell, and the 41BB domain delivers an additional, co-stimulatory signal. Together, these signals trigger T cell activation, resulting in proliferation of the CAR T cells and killing of the cancer cell. In addition, activated CAR T cells stimulate the local secretion of cytokines and other molecules that can recruit and activate additional immune cells to potentiate killing of the cancer cells.

In addition to the domains described above, in ALLO-316, we have included rituximab recognition domains to potentially serve as a way to identify and/or eliminate ALLO-316 cells using rituximab. The figure below shows the constructs that support our lead product candidates in clinical development: cema-cel, ALLO-316 and ALLO-329.



Allogeneic CAR T Cell Products: The Next Revolution

There are two primary approaches to engineered T cell therapy: autologous and allogeneic. Autologous therapies use engineered T cells derived from the individual patient, while allogeneic products use engineered T cells derived from unrelated

healthy donors. While the autologous approach has been revolutionary, demonstrating compelling efficacy in many patients, it is burdened by the following key limitations:

- ***Lengthy Delivery Time***. Due to the individualized manufacturing process, patients may wait weeks to months be treated with their engineered cells. As a result, in the registrational trials for Yescarta® and Kymriah®, up to 31% of intended patients ultimately did not receive treatment primarily due to complications from the underlying disease prior to delivery of therapy or as a result of manufacturing failures. In addition, certain patients being treated with autologous therapies have sometimes required bridging therapy as they wait for the manufacture of their T cells, however, bridging therapy to control disease may increase some cumulative or synergistic toxicities for the patients. Other rapidly progressing patients may not be considered candidates for autologous CAR T given lengthy waiting times and limited manufacturing slots. Each of these autologous CAR T challenges creates inherent limitations to the uptake of autologous CAR T therapies. As discussed in more detail below, these limitations become increasingly prohibitive in diseases where time is of the essence as is the case in 1L consolidation, making autologous CAR T therapy unsuitable for such use.

- ***Variable Potency***. In some cases, patients may have T cells that have been damaged or weakened due to prior chemotherapy or hematopoietic stem-cell transplant. Compromised T cells may not proliferate well during manufacturing or may produce cells with insufficient potency that cannot be used for patient treatment, resulting in manufacturing failures, or that can show poor expansion and activity in patients. In addition, the individualized nature of autologous manufacturing, together with the variability in patients' T cells, may lead to variable potency of manufactured T cells, and this variability may cause unpredictable treatment outcomes.

- ***Manufacturing Failures***. Autologous cell manufacturing sometimes encounters production failures. This can mean that a patient never receives treatment, as additional patient starting material may not be available or the patient may no longer be eligible due to advanced disease. Furthermore, retreatment can be difficult due to a limited supply of usable patient starting material.

- ***Complex Logistics***. The delivery of autologous T cell therapy is complicated due to the individualized nature of manufacturing, which allows only one patient to be treated from each manufacturing run and requires dedicated infrastructure to maintain a strict chain of custody and chain of identity of patient-by-patient material collection, manufacturing and delivery. The complex logistics add significant cost to the process and limit the ability to scale. Additionally, the collection of T cells through leukapheresis from each individual patient results in a time consuming and costly step in the autologous process. In part due to these logistics, autologous treatment is currently only available at select centers.

Allogeneic engineered T cells are manufactured in a similar manner as autologous, but our manufacturing has two key differences: (1) our allogeneic T cells are derived from healthy donors, not cancer patients, and (2) our allogeneic T cells are genetically engineered to minimize the risk of GvHD and enable a window of persistence in the patient.

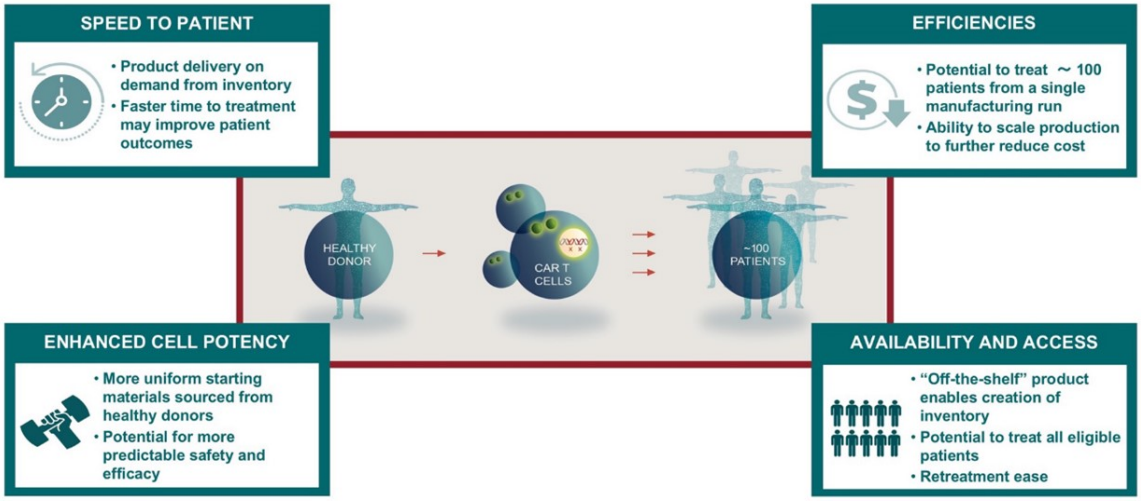
Our approach is designed to provide the same intended curative outcome as autologous therapy, while offering the following potential key advantages:

- ***Availability and Access***. Starting with T cells from a healthy donor, we believe that at scale we can manufacture approximately 100 doses or more of allogeneic CAR T product per manufacturing run that could be used in any eligible patient. Because our allogeneic product candidates are designed to be frozen and available off-the-shelf, they are expected to be readily shipped and administered to patients.

- ***Speed to Patient***. Many patients with aggressive or rapidly progressing cancer may not have multiple weeks to wait for autologous CAR T treatment. Our allogeneic approach has the potential to create off-the-shelf product inventory, which could enable dosing of patients within days of a decision to treat. This would represent a significant reduction in patient wait time, potentially obviating the need for any bridging therapy and allowing the treatment of patients who are either too sick, or their disease progresses to quickly for them to wait for their autologous CAR T cells to be manufactured, thus potentially improving patient outcomes. In addition, as we seek to incorporate our investigational allogeneic CAR T product into a 1L consolidation strategy, the speed to patient becomes even more important. Once it is determined that a patient is MRD positive following standard 1L treatment, published results of front-line chemotherapy outcomes suggest that the patient is very likely to progress, and some patients may do so very quickly (i.e., within a matter of weeks after completing 1L therapy). Furthermore, data suggests that patients who have low burden of disease when they receive CAR T cells tend to have better safety and efficacy outcomes, including lower rates of cytokine release syndrome (CRS) and more durable remissions. As a result, we believe that autologous CAR T therapy is far less suitable for treating MRD positive patients as part of a 1L consolidation strategy given the lengthy lead time for the autologous individualized manufacturing process, which would not allow for rapid CAR T treatment before disease progression and while the disease burden remains low.

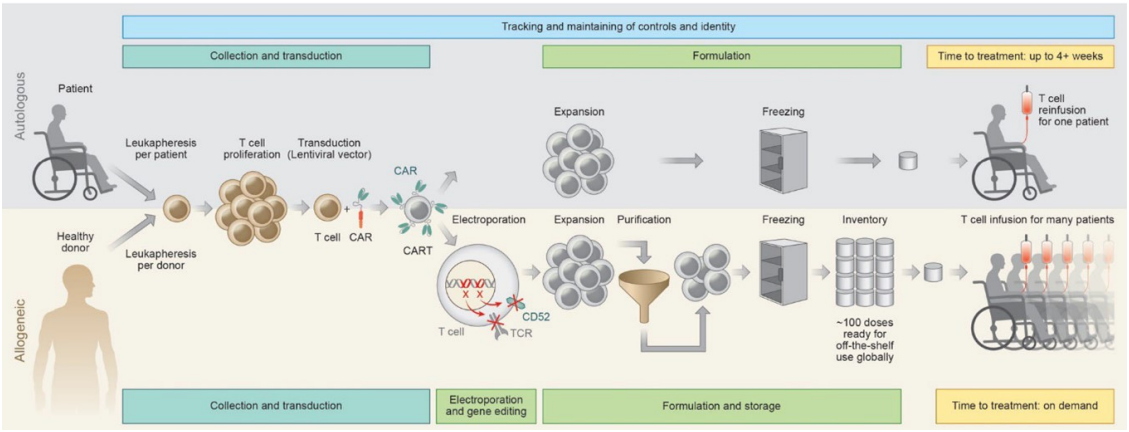
- ***Enhanced Cell Consistency and Potency***. Our manufacturing process produces therapies from selected, screened and tested healthy donors. Healthy donor T cells are potentially superior for engineered cellular therapy as compared to T cells from patients who have undergone prior chemotherapy or hematopoietic stem-cell transplant, which can damage or weaken T cells. In addition, greater consistency of the product may yield more predictable treatment outcomes.

- ***Streamlined Manufacturing***. We are building an efficient and scalable manufacturing process and organization. The allogeneic CAR T approach utilizes healthy donor T cells which we believe provides enhanced scalability, and an off-the-shelf capability that can potentially reduce the costs to the overall healthcare system as it does not require bridging therapy, leukapheresis and complex logistics.



Manufacturing Allogeneic T Cells

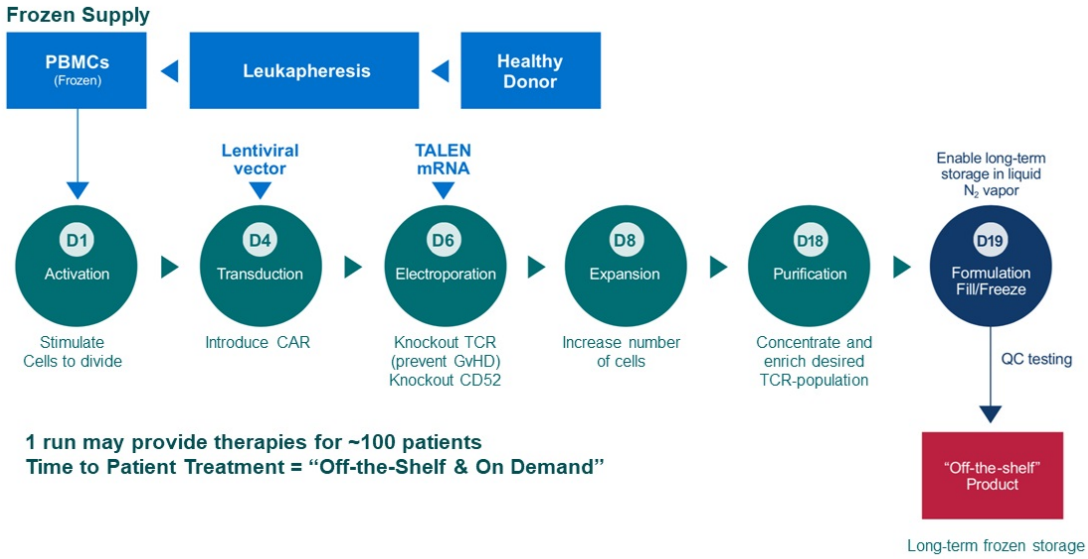
There are similarities as well as key differences between the processes for allogeneic and autologous CAR T cell manufacturing, as illustrated in the figure below which depicts our manufacturing process for our oncology CAR-T product candidates.



The three primary steps to creating our engineered allogeneic CAR T cells are: (1) collection and transduction, (2) gene editing, and (3) purification, formulation, and storage. We start with collecting white blood cells from a healthy donor, which are subsequently stimulated to proliferate and transduced with a viral vector to integrate the CAR sequence into the T cell genome. The CAR sequence directs the expression of CAR proteins on the cell surface that allows the transduced T cells to recognize and bind to a target molecule that is present on cancer cells. Next, we use gene editing tools to edit the T cell genome to inactivate TCRα and CD52. Inactivation of TCRα and CD52 is intended to reduce the risk of GvHD and allow the allogeneic

T cells to expand and persist in patients, respectively. Finally, the edited T cells are cultured for several days to increase the cell number, harvested and purified. The purified T cells are formulated in a cryopreservation media and filled into closed, stoppered vials prior to controlled-rate freezing and long-term storage in the vapor phase of liquid nitrogen. This inventory is securely stored and then shipped to treatment facilities, as needed.

The figure below illustrates the steps in a manufacturing run for our engineered oncology allogeneic CAR T product candidates.



Product Pipeline and Development Strategy

Using our proprietary allogeneic CAR T cell platform, we are researching and developing multiple product candidates for the treatment of blood cancers, solid tumors and autoimmune diseases. Our product candidates are allogeneic T cells engineered to be used as off-the-shelf treatments for any patient with a particular cancer type or autoimmune disease. Each product candidate bears specific engineered attributes, and targets a selected antigen expressed on tumor cells or pathogenic autoreactive immune cells.

Our product pipeline is represented in the chart below:

Target	Program	Trial	Study Population	Discovery	IND-enabling	Phase 1	Phase 2[1]	Approved	Designation	Next Milestone
HEMATOLOGIC MALIGNANCIES										
CD19 (Key Program)	**cema-cel (ALLO-501A)**	**ALPHA3**	**1LConsolidation LBCL**							**Start-up activities initiated**
CD19	cema-cel	ALPHA2	3L LBCL						FTD RMAT	Deprioritized
CD19	cema-cel + ALLO-647[2]	EXPAND	3L LBCL						FTD (ALLO-647)	Deprioritized
CD19 (Key Program)	**cema-cel**	**ALPHA2**	**r/r CLL**							**Trial initiation Q1 2024**
BCMA	ALLO-715	UNIVERSAL	5+ Line MM						RMAT ODD	Reviewing manufacturing process
BCMA	ALLO-605[3]	IGNITE	5+ Line MM						FTD ODD	Reviewing manufacturing process
CD70	ALLO-316		Various							
FLT3	ALLO-819		AML							
SOLID TUMORS										
CD70 (Key Program)	**ALLO-316**	**TRAVERSE**	**ccRCC**						**FTD**	**Cohort expansion 2024**
CD70	ALLO-316		Other Solid							
DLL3	ALLO-213		SCLC							
Claudin 18.2	ALLO-182		Gastric & Pancreatic							
AUTOIMMUNE DISEASE										
CD19/ CD70 (Key Program)	**ALLO-329**		**Various**							**Trial initiation 1H 2025**

[1]Phase 3 may not be required if Phase 2 is registrational;
[2]ALLO-647 is intended to enable expansion and persistence of allogeneic CAR T product candidates;
[3]TurboCAR™

Anti-CD19 Oncology Development Program

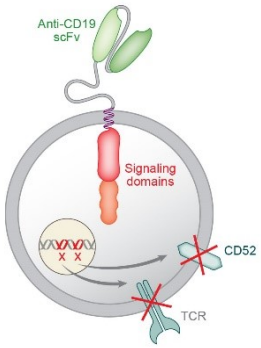
CD19 is an antigen expressed on the surface of B cells, including on B cells that are malignant. B cells are considered non-essential tissue, as they are not absolutely required for patient survival. We believe CD19 is a validated target for the treatment of B cell leukemias and lymphomas. Multiple autologous anti-CD19 CAR T therapies have shown promising results and have been approved by the FDA as therapies in multiple blood cancers, including relapsed/refractory (R/R) LBCL, as further described below under "—Competition".

Historically, under our Servier Agreement, we have worked with Servier to develop several CD19 product candidates, including UCART19, ALLO-501 and cema-cel. On September 15, 2022, Servier sent us a notice of discontinuation of its involvement in the development of all CD19 Products pursuant to the Servier Agreement. While we continue to work to redefine our relationship with Servier, in the interim, we have assumed all responsibility for the CD19 development program.

UCART19 was our first CD19 product candidate, and Servier led its manufacturing and clinical development. UCART19 was manufactured to express a CAR that is designed to target CD19 and gene edited to lack TCRαβ and CD52 to minimize the risk of GvHD and enable use of anti-CD52 monoclonal antibodies to create a window of CAR T cell persistence in the patient. In addition, UCART19 cells were engineered to express a small protein on the cell surface called RQR8, which consists of two rituximab recognition domains. This allowed for recognition and elimination of the CAR T cells by rituximab in the event that silencing of CAR T cell activity is desired. Servier sponsored two Phase 1 clinical trials of UCART19 in patients with R/R CD19 positive B-cell acute lymphoblastic leukemia (ALL), both of which were completed in 2020. Patients from both studies are continuing the long-term follow-up as planned.

We have been, and continue to be, responsible for the manufacture and clinical development of ALLO-501 and cema-cel. ALLO-501 is identical to UCART19 in molecular design, however several modifications were introduced by us to the manufacturing process for ALLO-501. These modifications are designed to facilitate more efficient manufacturing scale-up for the larger patient population targeted by ALLO-501. Like UCART19, ALLO-501 also co-expresses a small protein on the cell surface called RQR8, which consists of two rituximab recognition domains. This is intended to allow for destruction of the CAR T by rituximab. Prior treatment with rituximab is typical for patients with Non-Hodgkin Lymphoma (NHL) and, depending on the lag time between the rituximab administration and the CAR T infusion, prior administration of rituximab may interfere with any CAR T that includes RQR8. As a result, we have removed RQR8 in cema-cel, which is illustrated below, to facilitate treatment of patients who were recently treated with rituximab.

CEMA-CEL



Lead Target Indication: Non-Hodgkin Lymphoma (NHL)

NHL is a hematologic cancer originating from malignant lymphocytes. It is the most common hematological malignancy in the United States, with 80,620 new cases estimated to be diagnosed and 20,140 deaths estimated in 2024, according to the American Cancer Society. Over 60 NHL subtypes have been identified, and each subtype represents different neoplastic lymphoid cells (T, B or NK cells) that have arrested at different stages of differentiation. According to the American Cancer Society, B-cell lymphomas make up approximately 85% of NHL cases in the United States.

B-cell NHL itself represents a group of different neoplasms that not only differ in pathology, but also response to therapy and prognosis. NHL can be rapidly growing (aggressive), such as LBCLs, or it can be slow growing, or indolent, such as follicular lymphoma (FL).

The R-CHOP chemotherapy combination (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) introduced in the early 2000s remains the standard of care for newly diagnosed LBCL, and can yield five-year survival rates of 55-60%. Unfortunately, approximately 30% of LBCL patients relapse or have treatment-refractory disease and require second-line therapy. Subsequent therapy for fit patients is commonly high-dose therapy followed by autologous stem-cell therapy or autologous anti-CD19 CAR T therapy. Two previous randomized controlled trials evaluated anti-CD19 CAR T cell therapies, Yescarta® and Breyanzi® compared to high dose chemotherapy followed by autologous stem cell rescue. Yescarta® and Breyanzi® improved event-free-survival versus stem cell transplant (8.3 months vs. 2.0 months and 10.1 months vs. 2.3 months, respectively). A retrospective analysis of patients with R/R LBCL, who were not treated with autologous CAR T therapy, found that outcomes in this population are poor, with an objective response rate of 26% (complete response (CR): 7%, partial response: 18%) and median overall survival of 6.3 months.

Autologous CAR T therapy has made significant advances in addressing R/R NHL, and has moved to earlier lines of therapy, as further described below under — "Competition".

Results from the Phase 1 ALLO-501 ALPHA Trial and the Phase 1 cema-cel ALPHA2 Trial

On June 3, 2023, we announced long-term follow up data from the Phase 1 ALPHA trial of ALLO-501 and from the Phase 1 ALPHA2 trial of cema-cel in R/R LBCL at the American Society of Clinical Oncology (ASCO) Annual Meeting. We conducted an extensive Phase 1 program designed to evaluate and optimize all aspects of our lead product candidate, including the dose and schedule of cema-cel and ALLO-647.

The long-term data included an updated analysis of data from 12 CAR T-naïve patients with R/R LBCL who received a single dose of ALLO-501/cema-cel manufactured using the Alloy™ process following a lymphodepletion regimen (FCA90) comprised of fludarabine (30 mg/m2/day x 3 days) and cyclophosphamide (300 mg/m2/day x 3 days) plus ALLO-647 (30 mg/day x 3 days). The median time from enrollment to the start of therapy was three days and all 12 patients were followed through a minimum of six months (data cutoff April 20, 2023).

The updated data from the Phase 1 trials of ALLO-501 and cema-cel are foundational for our ALPHA3 trial and continue to support the ability of a single administration of allogenic CAR T cells to induce durable complete remissions at a rate similar to approved autologous CD19 CAR T therapies. Among the 12 patients treated with the single dose FCA90

regimen, the overall response rate (ORR) was 67% and 58% achieved CRs with 42% maintaining CR through month six. Of the five patients who were in CR at six months, four (80%) remained in CR. The fifth patient had disease progression at 24 months. The median duration of response was 23.1 months with three patients remaining in remission for over 24 months and the longest remaining in remission for over 31 months.

	Patients Treated with Phase 2 Regimen (n=12)
Overall Response Rate (ORR), n (%)	**8 (67)**
Complete Response (CR), n (%)	**7 (58)**
6 Month CR Rate, n (%)	**5 (42)**

The ALPHA and ALPHA2 Phase 1 trials demonstrated a manageable safety profile and treatment was generally well tolerated with no GvHD and no observed dose limiting toxicities (DLTs). Among patients treated with single dose FCA90, there was no Grade 3+ CRS or neurotoxicity. One patient (8%) experienced a Grade 3+ infection and two (17%) experienced prolonged Grade 3+ cytopenia. As previously reported, one Grade 5 event occurred. No new Grade 5 events have occurred.

	All R/R CAR T naïve LBCL (N=33)		Patients Treated with Phase 2 Regimen (N=12)	
	All Gr N (%)	Gr 3+ N (%)	All Gr N (%)	Gr 3+ N (%)
CRS	8 (24)	0	4 (33)	0
ICANS	0	0	0	0
Neurotoxicity	13 (39)	2 (6)	4 (33)	0
GvHD	0	0	0	0
IRR	16 (49)	3 (9)	8 (67)	0
Infection	19 (58)	5 (15)	8 (67)	1 (8)
Prolonged Gr3+ Cytopenia	-	4 (12)	-	2 (17)

Second Target Indication: Chronic Lymphocytic Leukemia (CLL)

CLL is also a hematologic cancer originating from malignant lymphocytes. Within the United States, annually approximately 20,700 new cases of CLL are estimated to be diagnosed with approximately 4,400 deaths estimated to occur according to 2024 figures from the American Cancer Society. Targeted therapy can be used to treat CLL, including treatment with Bruton tyrosine kinase inhibitors (BTKi) or B-cell lymphoma 2 inhibitors (BCL2i). Although such frontline therapies can be effective in achieving a remission, CLL remains incurable, and the disease will likely relapse and require further line(s) of therapy. While recent autologous CD19 CAR T data has been a positive step for patients with R/R CLL, outcomes in CLL following CAR T treatment have yet to meet expectations set in R/R LBCL. This is likely due in part to T cell dysfunction and the potential for high circulating tumor burden in CLL, making the isolation of functional T cells for autologous CAR T manufacturing difficult. We believe that our AlloCAR T™ products, such as cema-cel which is derived from healthy donor cells, could potentially create a clinically meaningful advance for these late-stage CLL patients, with a one-time dose and simpler administration and logistics.

Clinical Development Plan - Non-Hodgkin Lymphoma (NHL)

We are the sponsor of the ALPHA trial of ALLO-501 and ALPHA2 trial of cema-cel, each for patients with R/R NHL or CLL. The ALPHA trial is a Phase 1 clinical trial of ALLO-501 in patients with R/R LBCL and R/R FL. We completed accrual in the ALPHA trial in 2021 and are following patients as part of long-term follow-up. The ALPHA2 trial was initiated as a Phase 1/2 clinical trial for cema-cel in the second quarter of 2020. The Phase 1 portion of the ALPHA2 trial was designed to assess the safety and tolerability at increasing dose levels of cema-cel in patients with R/R LBCL. In the fourth quarter of 2022, we proceeded to the Phase 2 portion of the ALPHA2 trial in adult patients with R/R LBCL. We are also sponsoring the EXPAND trial of ALLO-647, which was intended to demonstrate the overall contribution of ALLO-647 to the benefit to risk ratio of the lymphodepletion regimen for cema-cel.

In January 2024 we announced that we would deprioritize the ALPHA2 R/R LBCL and EXPAND trials to focus on our ALPHA3 trial, which will seek to embed cema-cel as part of a 1L consolidation strategy. We have deprioritized the ALPHA2 R/R LBCL trial primarily because the ALPHA3 trial, if successful, could significantly impact the need for cell therapy in later lines of treatment, including the third line (3L) patients being studied in our ALPHA2 trial. The ALPHA3 trial will be an open-label, Phase 2, multicenter clinical trial evaluating the safety and efficacy of cema-cel in adult patients with

LBCL who have completed R-CHOP and have attained a remission, but who test positive for MRD. The ALPHA3 trial will randomize approximately 230 patients who achieve a complete or partial response to 1L therapy, but who test positive for MRD at their end-of-therapy PET/CT assessment. The patients will be randomized to either treatment with cema-cel or the current standard of care, which is observation. The design, with a primary endpoint of EFS, will initially include two lymphodepletion arms (one with standard fludarabine and cyclophosphamide plus ALLO-647 and one without ALLO-647). One lymphodepletion arm will be discontinued following a planned interim analysis in mid-2025 designed to select the most appropriate regimen for this patient population.

The ALPHA3 trial will leverage an investigational diagnostic test developed by Foresight Diagnostics to identify patients who have MRD at the completion of 1L chemoimmunotherapy. Although 1L R-CHOP is curative for many with LBCL, as noted above, approximately 30% of patients treated will relapse. Under the current standard of care, there is no way to determine which patients are at greater risk of relapse after initially responding to 1L treatment, and so the standard of care has been simply to "watch and wait" for the disease to relapse. Foresight Diagnostics, however, has developed a liquid biopsy testing platform for the measurement of MRD. Based on Foresight Diagnostics' published data, we believe that the Foresight Diagnostics' assay is highly sensitive and predictive of which patients are likely to relapse. By incorporating the Foresight Diagnostics assay into our ALPHA3 trial design, we believe that we can identify the patient population most at risk for relapse and treat those patients with cema-cel.

ALPHA3 takes advantage of cema-cel as a one-time, off-the-shelf treatment that can be administered immediately upon discovery of MRD following six cycles of R-CHOP, potentially positioning cema-cel to become the standard "7th cycle" of frontline treatment available to all eligible patients with MRD. ALPHA3 builds on our belief that administration of CAR T therapies to patients with low disease burden improves both safety and efficacy outcomes. Cema-cel's Phase 1 safety profile, with low rates of CRS and immune effector cell-associated neurotoxicity syndrome (ICANS), already permits its use in the outpatient setting in R/R patients and may further improve in patients with no radiological evidence of disease. Start-up activities for ALPHA3 are underway and we plan to initiate the trial in mid-2024.

Assuming favorable outcomes and subject to FDA discussions, we plan to seek FDA approval of cema-cel and ALLO-647 on the basis of the ALPHA3 trial.

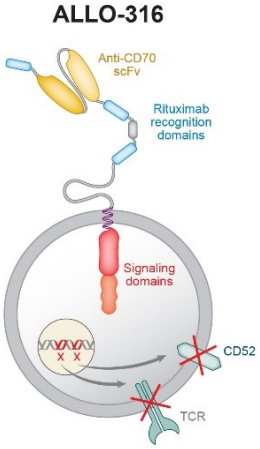
Clinical Development Plan - Chronic Lymphocytic Leukemia (CLL)

We have initiated a new CLL cohort as part of our ALPHA2 trial. This new cohort is a Phase 1b cohort that is a single-arm, open-label, multicenter study evaluating the safety and efficacy of cema-cel following lymphodepletion with fludarabine/cyclophosphamide and ALLO-647 in patients with R/R CLL/SLL. This trial will include patients with high-risk CLL treated with ≥1 prior line of BTKi-based therapy or those treated with ≥2 prior lines of therapy, including a BTKi and BCL2i. The primary endpoint of the phase 1b portion of this study is safety. Secondary endpoints include overall response rate, duration of response, time to response, and progression-free survival per investigator assessment. Up to approximately 40 patients may be enrolled in sites across the United States. This study leverages currently active ALPHA2 trial sites in the U.S. which should allow it to advance quickly. We opened enrollment in the first quarter and anticipate initial data by year end 2024.

Anti-CD70 Oncology Development Program

CD70 is an antigen expressed on several types of cancer cells, with strong expression in RCC and limited off-tumor expression. CD70 is selectively expressed in a portion of other solid tumors and blood cancers. While CD70 can be expressed on activated T cells, ALLO-316 was associated with minimal or no fratricide in preclinical studies, meaning that ALLO-316 cells did not mediate the targeted killing of other ALLO-316 cells. Accordingly, we believe progressing allogeneic CAR T cell products directed against CD70 could be promising in solid tumor indications as well as hematological malignancies.

ALLO-316 is manufactured to express a CAR that is designed to target CD70 and gene edited to lack expression of the TCR and CD52 to both minimize the risk of GvHD and to enable use of CD52 monoclonal antibodies to permit a window of persistence of CAR T cells in the patient . In addition, rituximab and CD34 recognition domains have been incorporated in between the scFv and the linker domain, as illustrated below. The rituximab recognition domains allow targeting of cells with rituximab in the event that silencing of CAR T cell activity is desired. The CD34 domain confers recognition by an anti-CD34 antibody, and may be used as a surface marker to monitor ALLO-316 in patients by flow cytometry.



In the first half of 2021, we initiated Phase 1 TRAVERSE clinical trial of ALLO-316 in adult patients with advanced or metastatic ccRCC.

Lead Target Indication: Clear Cell Renal Cell Carcinoma

ccRCC is the most common subtype of renal cancer. Approximately 81,800 new cases of renal cell carcinoma are estimated to be diagnosed in the United States and 14,890 deaths are estimated in 2023, according to the American Cancer Society. The five-year survival rate for patients with advanced kidney cancer is less than 15%.

Systemic therapy (including immunotherapy and molecularly targeted agents), surgery, and radiation therapy all may have a role in the treatment paradigm depending on the extent of disease, sites of involvement, and patient-specific factors. While vascular endothelial growth factor (VEGF)-directed therapies (e.g. sunitinib) represented a first-line standard for over a decade, these therapies have been quickly supplanted by combination therapies incorporating PD-1 immune-checkpoint inhibition as the backbone.

The combination of VEGF and immune check-point inhibitors, such as axitinib and pembrolizumab, respectively, is often used in the first line setting and has shown a median progression-free survival of 15.1 months with an ORR of 59.3% and CR rate of 5.8%. Patients who progress on immune checkpoint-based combination therapies can be treated with agents including cabozantinib, lenvatinib with everolimus, tivozanib, belzutifan or other therapies.

Results from the Phase 1 ALLO-316 TRAVERSE Trial

On April 17, 2023, we announced interim results from the Phase 1 TRAVERSE trial of ALLO-316 in patients with advanced or metastatic RCC who have progressed on or who are intolerant to standard therapies, including an immune checkpoint inhibitor and a VEGF-targeting therapy. The interim results provide proof-of-concept demonstrating the promise of an allogeneic CAR T product candidate to treat CD70-expressing RCC with ALLO-316.

As of the data extract date of March 23, 2023, in the ten patients with tumors known to express CD70, the disease control rate (DCR) was 100% including three patients who achieved a partial response (PR) (two confirmed and one unconfirmed, with the longest response lasting until month eight). Cell expansion in patients with CD70 positive disease was robust and there was a trend toward greater tumor shrinkage in patients with high CD70 expression.

	All Patients (n=18)	**CD70+ Patients (n=10)**
Overall Response Rate (ORR), n (%)	3 (17)	**3 (30)**
Disease Control Rate (DCR), n (%)	16 (89)	**10 (100)**
Partial Response (PR), n (%)	3 (16)	**3 (30)**

There were 19 patients evaluable for safety, and the data demonstrated an adverse event profile generally consistent with autologous CAR T therapies. One dose limiting toxicity of Grade 3 auto-immune hepatitis occurred in the second dose level. Grade 3+ prolonged cytopenia was observed in three patients (18%). CRS was all low grade with the exception of one case of Grade 3 CRS. Neurotoxicity, which is now defined more broadly, was generally low grade and reversible with most events being fatigue or headache. There were no cases of ICANs. Infections occurred in eight patients of which four were Grade 3+ including one Grade 5 respiratory failure due to Covid-19 infection deemed unrelated to study treatment. Grade 3+ prolonged cytopenia was observed in three patients (16%). There were no cases of GvHD.

	All Patients (n=19)	
	All Grades n (%)	Gr 3+ n (%)
CRS	11 (58)	1 (5)
Infusion-Related Reaction	1 (5)	0
Neurotoxicity	13 (68)	2 (11)
ICANS	0	0
GvHD	0	0
Infection	8 (42)	4 (21)
Prolonged Gr3+ Cytopenia	0	3 (16)

Clinical Development Plan

The TRAVERSE trial is an open-label, Phase 1, single arm, multicenter clinical trial evaluating the safety and tolerability of ALLO-316 in adult patients with advanced or metastatic ccRCC. Anti-tumor activity, cell kinetics, pharmacodynamics, and correlation of outcome with tumor CD70 expression are evaluated as secondary objectives.

We have developed an investigational in vitro companion diagnostic (IVD) assay designed for use in determining CD70 expression levels for patient selection in TRAVERSE. The trial is now deploying the IVD assay for the purposes of identifying patients most likely to benefit from ALLO-316. TRAVERSE will continue to explore varying cell dose and lymphodepletion regimens in CD70 positive RCC patients.

During the advancement of the TRAVERSE trial with ALLO-316, we have observed allogeneic CAR T cell expansion and persistence driven by CD70 CAR that allows elimination of alloreactive host lymphocytes. This biology has brought the potential for clinical efficacy not often seen in patients with R/R RCC but has also resulted in a hyperinflammatory response in some patients as CD70 CAR T cells expand and persist.

Leveraging recent advances in the management of hyperinflammation following autologous CAR T administration, we have developed a diagnostic and treatment algorithm similar to what our management team previously helped develop for CRS and ICANS associated with autologous CAR T. This algorithm may mitigate the treatment-associated hyperinflammatory response without compromising the CAR T function needed to eradicate solid tumors. We have recently implemented a protocol amendment to further maximize the benefit-risk of ALLO-316 in patients with CD70+ RCC.

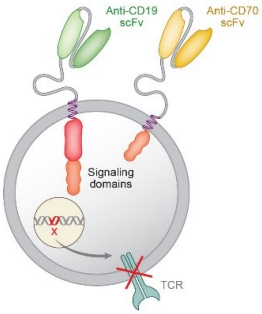
The next update from this trial is planned for a medical forum in second quarter 2024 and will discuss the safety algorithm that is believed to be an important advance for the TRAVERSE trial. A more robust data update from the ongoing trial with the updated protocol is planned for later in 2024.

Anti-CD19/CD70 Autoimmune Disease Development Program

Autoimmune disease (AID) can affect organs throughout the body. B cells and T cells are two key components of the immune system, each playing distinct roles in the body's defense against pathogens and in maintaining immune tolerance. Effective collaboration between B cells and T cells results in the sustained production of autoantibodies, which are antibodies that mistakenly target and react with a person's own tissues or organs resulting in AID. Autoantibodies are critical to the pathogenesis of many AIDs. As a result, we believe that disruption of the B cell-T cell network could lead to an effective treatment of AIDs. As noted above, CD19 is an antigen expressed on the surface of B cells, including pathogenic autoreactive B cells. Activated T cells, which upregulate CD70, induce sustained production of autoantibodies by B cells from patients affected by AID. Moreover, CD70 expression is elevated on T cells of patients in certain AIDs, suggesting a pathogenic role for CD70+ T cells in AID. Accordingly, we believe progressing allogeneic CAR T cell therapies directed against CD19 and CD70 could be promising in AID indications.

ALLO-329 is manufactured to express two independent CARs designed to target CD19 and CD70. As illustrated below, a single transgene encoding both the CD19 CAR and the CD70 CAR is targeted for insertion into the TRAC locus using site-specific integration, resulting in uniform expression of both CARs and the lack of TCR expression. ALLO-329 is designed to mediate the depletion of CD19+ B cells and pathogenic T cells that upregulate CD70 expression. CD70 is also upregulated on activated B cells and alloreactive lymphocytes. Therefore, ALLO-329 can also target pathogenic CD70+ B cells and prevent allorejection by eliminating CD70+ alloreactive lymphocytes in the patients. The anti-rejection features of ALLO-329 may help reduce or eliminate the need for lymphodepletion prior to treatment with ALLO-329.

ALLO-329



We are developing ALLO-329, an allogeneic CAR T cell product candidate targeting both CD19 and CD70 for the treatment of certain autoimmune diseases. Inclusion of an anti-CD70 CAR in ALLO-329 is designed to reduce or eliminate the need for standard chemotherapy by preventing premature rejection while also targeting CD70+ activated lymphocytes, which may play a direct role in AID pathogenesis. Initiation of this Phase 1 trial with ALLO-329 is expected in early 2025.

Future Opportunities

Currently, we remain focused on our four key programs described above. As we advance those programs, we may seek to utilize our allogeneic platform to pursue additional targets of interest, particularly through strategic partnerships. These include the additional targets currently in our pipeline as well as other targets that might be validated in the future. For example, we have been developing allogeneic CAR T cell product candidates targeting B-cell maturation antigen (BCMA) for treatment of multiple myeloma (ALLO-715), FLT3 for the treatment of acute myeloid leukemia (ALLO-819), DLL3 for the treatment of small cell lung cancer (ALLO-213), and Claudin 18.2 for the treatment of gastric and pancreatic cancer (ALLO-182).

Our Manufacturing Strategy

We have invested resources to optimize our manufacturing process, including the development of improved analytical methods and instrumentation. We plan to continue to invest in process science, product characterization and manufacturing to continuously improve our manufacturing processes, production and supply chain capabilities over time.

Our product candidates are designed and manufactured via platforms comprised of defined unit operations and technologies. Processes are developed from small to larger scales, incorporating compliant procedures to create cGMP conditions. Although we have a platform-based manufacturing model, each product is unique and for each new product candidate, a developmental phase is necessary to individually customize each engineering step and to create a robust procedure that can later be implemented in a cGMP environment to ensure the production of clinical batches. This work is performed in our process development environment to evaluate and assess variability in each step of the process in order to define the most reliable production conditions.

Historically, we have used a CDMO to manufacture our cell-based product candidates in the United States, and we managed all other aspects of the supply, including planning, CDMO oversight, disposition and distribution logistics. The CDMO is subject to cGMP requirements, using qualified equipment and materials. We also have utilized separate third-party contractors to manufacture cGMP raw materials that are used for the manufacturing of our product candidates, such as viral vectors that are used to deliver the applicable CAR gene into the T cells. We believe all materials and components utilized in the production of the cell line, viral vector and final T cell product are available from qualified suppliers and suitable for pivotal process development in readiness for registration and commercialization.

In February 2019, we entered into a lease for approximately 118,000 square feet to develop a state-of-the-art cell therapy manufacturing facility in Newark, California that we call Cell Forge 1 (CF1). We completed the intended build-out of the majority of the facility at the end of 2020.

We are currently utilizing CF1 for clinical manufacturing of our product candidates. We continue to rely upon certain third-party contractors to manufacture cGMP raw materials. Introducing product manufactured at CF1 into an ongoing clinical trial will require that we meet certain regulatory conditions, such as establishing comparability with the product candidates manufactured at our CDMO, and our inability to meet such conditions would result in investment of additional resources and delay of our clinical trial timeline.

Although we are utilizing CF1 for clinical manufacturing, we may continue to rely on CDMOs and other third parties for the manufacturing and processing of our product candidates in the future. We also utilize a CDMO in the United States for the manufacture and supply of ALLO-647 and we plan to continue to rely on the CDMO for future production of ALLO-647. We believe the use of contract manufacturing and testing for our first clinical product candidates has allowed us to rapidly prepare for clinical trials in accordance with our development plans. We plan to maintain a robust supply chain with redundant sources of supply comprised of both internal and external infrastructure. We expect CF1 and third-party manufacturers will be capable of providing and processing sufficient quantities of our product candidates to meet anticipated clinical trial demands.

Strategic Agreements

On December 14, 2020, we entered into a License Agreement with Allogene Overland Biopharm (CY) Limited (Allogene Overland), a joint venture established by us and Overland Pharmaceuticals (CY) Inc., pursuant to a Share Purchase Agreement, dated December 14, 2020, for the purpose of developing, manufacturing and commercializing allogeneic CAR T cell therapies for patients in greater China, Taiwan, South Korea and Singapore.

We have also entered into multiple additional strategic agreements and collaborations, including an Asset Contribution Agreement with Pfizer (the Pfizer Agreement), a License Agreement with Cellectis (the Cellectis Agreement), the Servier Agreement, a Collaboration and License Agreement (the Notch Agreement) with Notch Therapeutics Inc. (Notch), a License and Collaboration Agreement with Antion, and a Strategic Collaboration Agreement with Foresight Diagnostics.

For additional information regarding our significant agreements, see Note 7 to our consolidated financial statements appearing elsewhere in this Annual Report.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain proprietary protection for our product candidates, as well as novel discoveries, product development technologies, and know-how. Our commercial success also depends in part on our ability to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to develop and maintain protection of our proprietary position by, among other methods, filing or in-licensing U.S. and foreign patents and applications related to our technology, inventions, and improvements that are important to the development and implementation of our business.

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

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

We are actively building our intellectual property portfolio around our product candidates and our discovery programs, based on our own intellectual property as well as licensed intellectual property. Following the execution of the Pfizer Agreement, we are the owner of, co-owner of, or the licensee of multiple patents and patent applications in the United States and worldwide. These licensed assets include rights to the Cellectis TALEN® gene-editing technology to engineer T cells that lack functional TCRs and to inactivate the CD52 gene in donor cells. We have exclusive worldwide rights to these patents for

certain antigen targets, including BCMA, CD70, FLT3, DLL3 and Claudin 18.2, and have U.S. rights to these patents for CD19. We also have rights to a Cellectis U.S. patent for technology covering an engineered T cell therapy combining CD52 gene knockout in combination with an anti-CD52 antibody for certain products directed against certain antigen targets. For our lead programs, our patent rights are generally composed of patents and pending patent applications that are solely owned by us, co-owned with Servier, co-owned with Cellectis, exclusively licensed from Pfizer, exclusively licensed from Servier, or exclusively licensed from Cellectis.

Our patent portfolio includes protection for our clinical-stage product candidates, ALLO-501, cema-cel, ALLO-715, ALLO-605 and ALLO-316, as well as our research-stage candidates. With respect to ALLO-501 and cema-cel, we have an exclusive license from Servier to patent rights in the United States covering compositions of matter of and methods of making and using ALLO-501 and cema-cel. With respect to ALLO-715, ALLO-605 and ALLO-316, we have an exclusive license from Pfizer to patent rights covering ALLO-715, ALLO-605, and ALLO-316 in the United States and in foreign jurisdictions. These rights cover compositions of matter of and methods of making and using ALLO-715, ALLO-605 and ALLO-316. We also have patent rights to the TurboCAR™ technology solely owned by us, including technology that covers the TurboCAR™ construct that is part of ALLO-605. More generally, our patent portfolio and filing strategy is designed to provide multiple layers of protection by pursuing claims directed toward, for example: (1) antigen binding domains directed to the targets of our product candidates; (2) CAR constructs used in our product candidates; (3) methods of treatment for therapeutic indications; (4) manufacturing processes, preconditioning methods, and dosing regimens; and (5) immune evasion and other gene and cell engineering technology.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term, generally, is 20 years from the date of filing of the first non-provisional application to which priority is claimed. In the United States, patent term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the United States Patent and Trademark Office in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. In the United States, the term of a patent that covers an FDA-approved drug may also be eligible for a patent term extension of up to five years under the Hatch-Waxman Act, which is designed to compensate for the patent term lost during the FDA regulatory review process. The length of the patent term extension involves a complex calculation based on the length of time it takes for regulatory review. A patent term extension under the Hatch-Waxman Act cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Moreover, a patent can only be extended once, and thus, if a single patent is applicable to multiple products, it can only be extended based on one product. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug.

Competition

Oncology is a highly competitive market for drug development. If successfully developed, our products will compete with therapies that have been developed or are in development at biopharmaceutical companies, academic research institutions, governmental agencies and public and private research institutions. We anticipate increasing competition from existing and new cell-based therapies, including products that are both autologous and allogeneic in nature. We also anticipate competition from other therapeutic modalities, including antibodies, bispecific T cell engagers, antibody drug conjugates, and small molecule therapeutics.

Autologous T cell therapies directed at CD19 have been commercialized by Novartis, Kite/Gilead and Bristol-Myers Squibb Company (BMS) and are witnessing increased adoption in the marketplace. In August 2017, Novartis obtained FDA approval to commercialize Kymriah® for the treatment of children and young adults with B-cell ALL that is refractory or has relapsed at least twice. In May 2018, Kymriah® received FDA approval for adults with certain types of LBCL who have not responded to, or who have relapsed after, at least two other types of systemic treatment (3rd-line LBCL). In October 2017, Kite/Gilead obtained FDA approval to commercialize Yescarta®, for the treatment of adult patients with 3rd-line LBCL. This was followed by approval of Yescarta® for R/R FL in March 2021 and approval of 2nd-line LBCL in April 2022. Kite has also received FDA approval for a second autologous CD19-directed T cell therapy, Tecartus®, for use in patients with R/R mantle cell lymphoma and adult patients with R/R B-cell ALL. In February 2021, BMS obtained FDA approval for its anti-CD19 autologous T cell therapy, Breyanzi® for the treatment of adults with 3rd-line LBCL. The label of Breyanzi® label was extended to 2nd-line LBCL in June 2022.

Autologous cell therapies directed at BCMA have been commercialized by BMS and Jannsen, a Johnson & Johnson company. In March 2021, BMS and partner 2seventy bio, Inc. received FDA approval of Abecma®, an anti-BCMA autologous T cell therapy, for the treatment of adult patients with multiple myeloma who have received at least four prior therapies. Jannsen and partner Legend Bio received approval for Carvykti®, an anti-BCMA autologous T cell therapy, for the same indication in February 2022. Both Abecma® and Carvykti® have succeeded in pivotal trials in earlier lines of R/R myeloma 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., Autolus Therapeutics plc, CARGO Therapeutics, Inc. Eureka Therapeutics, Inc., Galapagos NV, Gilead Sciences, Inc., Gracell Biotechnologies, Inc., ImmPACT Bio, USA Inc., Instil Bio, Inc., Iovance Biotherapeutics, Inc., Legend Biotech Corp., Mustang Bio, Inc., Novartis International AG, Triumvira Immunologics, and TScan Therapeutics, Inc.

Autologous CAR T therapy has made significant advances in addressing R/R NHL, and has moved to earlier lines of therapy, as further described above. We do not, however, believe that autologous CAR T therapy will be a viable option in the 1L consolidation setting because of the lengthy lead time for the individualized manufacturing process for autologous CAR T. Once it is determined that a patient is MRD positive following standard 1L treatment, we believe that the speed at which a patient is treated with CAR T therapy will enhance response rates. Published results of front-line chemotherapy outcomes suggest that MRD positive patients are likely to progress, and some patients may do so very quickly (i.e., within a matter of weeks after completing 1L therapy). Furthermore, data suggests that patients who have low burden of disease when they receive CAR T cells tend to have better safety and efficacy outcomes, including lower rates of CRS and more durable remissions. As a result, we believe that it will be important that patients receive CAR T therapy as soon as possible following an MRD positive diagnosis, which will not allow for the lengthy manufacturing process of autologous CAR T.

Allogeneic T cell products have yet to receive FDA approval though the number of companies developing allogeneic product candidates is substantial. These include AstraZeneca, plc, Atara Biotherapeutics, Inc., Beam Therapeutics, Inc., Caribou Biosciences, Inc., CRISPR Therapeutics AG, Editas Medicine, Inc., Fate Therapeutics, Inc., Gilead Sciences, Inc., Imugene Ltd., Intellia Therapeutics, Inc., Legend Biotech Corp., Poseida Therapeutics, Inc., Precision Biosciences, Inc., and Sana Biotechnology, Inc. Some of the allogeneic T cell candidates under development target the same antigens that are part of our clinical pipeline, such as CD19, BCMA and CD70. Additionally, Cellectis has several fully-owned allogeneic CAR T programs that could compete with programs that fall outside our agreement with Cellectis.

There are also cell therapies under development that are based upon cell types other than the common type of T cells used by us and known as alpha/beta T cells. These include product candidates derived from natural killer cells, natural killer T cells, gamma/delta T cells and macrophage cells. Companies developing such therapies include Adicet Bio, Inc., Artiva Biotherapeutics, Inc., Carisma Therapeutics, Inc., Cytovia Therapeutics, Inc., Celularity, Inc., Century Therapeutics, Inc., Fate Therapeutics, Inc., Gamida Cell Ltd., In8bio, Inc., Lyell Immunopharma, Inc., Nkarta, Inc., Shoreline Bio, Inc., and Takeda Pharmaceutical Company Limited.

Competition may also arise from non-cell based immune oncology platforms. For instance, we may experience competition from companies, such as AbbVie, Inc., Amgen Inc., BMS, Compass Therapeutics, Inc., F. Hoffmann-La Roche AG, Genmab A/S, GlaxoSmithKline plc, Harpoon Therapeutics, Inc., Immunocore Holdings plc, Johnson & Johnson, MacroGenics, Inc., Merus N.V., Pfizer, Regeneron Pharmaceuticals, Inc., and Xencor Inc., that are pursuing bispecific T cell engagers that target both the cancer antigen and T cell receptor, thus bringing both cancer cells and T cells in close proximity to maximize the likelihood of an immune response to the cancer cells. Multiple bi-specific T cell engagers targeting BCMA for myeloma and CD20 for lymphoma are advancing rapidly in development and the first products in each category gained FDA approval in 2022. Additionally, companies, such as ADC Therapeutics SA, Amgen Inc., Daiichi Sankyo Company, Limited, Gilead Sciences, Inc., GlaxoSmithKline plc, ImmunoGen, Inc., Pfizer Inc., and Sutro Biopharma, Inc. are pursuing antibody drug conjugates, which utilize the targeting ability of antibodies to deliver cell-killing agents directly to cancer cells.

In addition to the significant competition noted above in oncology markets, as early data in the use of CAR T cell therapy for the treatment of autoimmune disease has been emerging since 2022, there have been many companies initiating autologous and/or allogeneic cell therapy development programs that would be in direct competition to our autoimmune program. For example, we may experience competition in these markets from companies such as Adicet Bio, Inc., Atara Biotherapeutics, Inc., Autolus Therapeutics plc, BMS, Cabaletta Bio, Inc., Cartesian Therapeutics, Inc., CRISPR Therapeutics AG, Fate Therapeutics, Inc., Gracell Biotechnologies, Inc., ImmPACT Bio USA, Inc., Kyverna Therapeutics, Inc., Nkarta, Inc., Novartis, and Sana Biotechology, Inc.

Many of our competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, pre-clinical testing, clinical trials, manufacturing, and marketing than we do. Future collaborations and mergers and acquisitions may result in further resource concentration among a smaller number of competitors.

Our commercial potential could be reduced or eliminated if our competitors develop and commercialize products that are better tolerated, more effective, have fewer or less severe side effects, are more convenient or are less expensive than products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market or make our development more complicated. The key competitive factors affecting the success of all of our programs are likely to be efficacy, safety, convenience, and cost of manufacturing.

These competitors may also vie for a similar pool of qualified scientific and management talent, sites and patient populations for clinical trials, and investor capital, as well as for technologies complementary to, or necessary for, our programs.

Government Regulation and Product Approval

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

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

U.S. Product Development Process

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

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

Before testing any biological product candidate, including our product candidates, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs. The clinical trial sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions regarding the proposed clinical trials and places the trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trials.

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

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

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

Long term follow up for all patients who get marketed product and post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be required after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA, and the investigators for serious and unexpected adverse events, any findings from other studies, tests in laboratory animals or *in vitro* testing that suggest a significant risk for human patients, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor or its data safety monitoring board may suspend or terminate a clinical trial at any time on various

grounds, including a finding that the research patients are being exposed to an unacceptable health risk, including risks inferred from other unrelated immunotherapy trials. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product has been associated with unexpected serious harm to patients.

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

U.S. Review and Approval Processes

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

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

Within 60 or 74 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, potent, and/or effective for its intended use, and has an acceptable purity profile, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy (REMS) is necessary to assure the safe use of the biological product. A REMS is a safety strategy to manage a known or potential serious risk associated with a medicine and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS. The FDA will not approve a BLA without a REMS, if required.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. For immunotherapy products, the FDA also will not approve the product if the manufacturer is not in compliance with the GTPs, to the extent applicable. These are FDA regulations and guidance documents that govern the methods used in, and the facilities and controls used for, the manufacture of human cells, tissue, and cellular and tissue based products (HCT/Ps), which are human cells or tissue intended for implantation, transplant, infusion, or transfer into a human recipient. The primary intent of the GTP requirements is to ensure that cell and tissue based products are manufactured in a manner designed to prevent the introduction, transmission and spread of communicable disease. FDA regulations also require tissue establishments to register and list their HCT/Ps with the FDA and, when applicable, to evaluate donors through screening and testing. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND trial requirements and GCP requirements. To assure cGMP, GTP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production, and quality control.

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

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

In addition, under the Pediatric Research Equity Act (PREA), a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

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

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

The FDA granted orphan drug designation to ALLO-715 and ALLO-605 for the treatment of multiple myeloma.

Expedited Development and Review Programs

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. Unique to a fast track product, the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

Any product submitted to the FDA for approval, including a product with a fast track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated

approval. A product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new product designated for priority review in an effort to facilitate the review. Additionally, a product may be eligible for accelerated approval. Products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical studies. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Regenerative Medicine Advanced Therapy (RMAT) designation was established by FDA to facilitate an efficient development program for, and expedite review of, any drug that meets the following criteria: (1) it qualifies as a RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (2) it is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (3) preliminary clinical evidence indicates that the drug has the potential to address unmet medical needs for such a disease or condition. RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate and eligibility for rolling review and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites. Once approved, when appropriate, the FDA can permit fulfillment of post-approval requirements under accelerated approval through the submission of clinical evidence, clinical studies, patient registries, or other sources of real world evidence such as electronic health records; through the collection of larger confirmatory datasets; or through post-approval monitoring of all patients treated with the therapy prior to approval.

Breakthrough therapy designation is also intended to expedite the development and review of products that treat serious or life-threatening conditions. The designation by FDA requires preliminary clinical evidence that a product candidate, alone or in combination with other drugs and biologics, demonstrates substantial improvement over currently available therapy on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Breakthrough therapy designation comes with all of the benefits of fast track designation, which means that the sponsor may file sections of the BLA for review on a rolling basis if certain conditions are satisfied, including an agreement with FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review.

Fast track designation, priority review, RMAT and Breakthrough therapy designation do not change the standards for approval but may expedite the development or approval process.

We have received RMAT designation for ALLO-715 and cema-cel in r/r multiple myeloma and r/r LBCL, respectively, and fast track designation for cema-cel, ALLO-605, ALLO-316 and ALLO-647.

Post-Approval Requirements

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

In addition, quality control and manufacturing procedures must continue to conform to applicable manufacturing requirements after approval to ensure the long-term stability of the product. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are

subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including, among other things, recall or withdrawal of the product from the market. In addition, changes to the manufacturing process are strictly regulated, and depending on the significance of the change, may require prior FDA approval before being implemented. Other types of changes to the approved product, such as adding new indications and claims, are also subject to further FDA review and approval.

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

U.S. Marketing Exclusivity

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

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

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

FDA Approval and Regulation of Medical Devices and Companion Diagnostics

If safe and effective use of a therapeutic depends on an in vitro diagnostic, then the FDA generally will require approval or clearance of that diagnostic, known as a companion diagnostic, at the same time that the FDA approves the therapeutic product. In August 2014, the FDA issued final guidance clarifying the requirements that apply to approval of therapeutic products and in vitro companion diagnostics. According to the guidance, if the FDA determines that a companion diagnostic device is essential to the safe and effective use of a novel therapeutic product or indication, the FDA generally will not approve the therapeutic product or new therapeutic product indication if the companion diagnostic device is not approved or cleared for that indication. Approval or clearance of the companion diagnostic device will ensure that the device has been adequately evaluated and has adequate performance characteristics in the intended population. The review of in vitro companion diagnostics in conjunction with the review of our product candidates in development for cancer will, therefore, likely involve coordination of review by the FDA's Center for Drug Evaluation and Research and the FDA's Center for Devices and Radiological Health Office of In Vitro Diagnostics and Radiological Health.

Under the FDCA, in vitro diagnostics, including companion diagnostics, are regulated as medical devices. In the U.S., the FDCA and its implementing regulations, and other federal and state statutes and regulations govern, among other

things, medical device design and development, preclinical and clinical testing, premarket clearance or approval, registration and listing, manufacturing, labeling, storage, advertising and promotion, sales and distribution, export and import, and post-market surveillance. Unless an exemption applies, medical devices, including companion diagnostic tests, require marketing clearance or approval from the FDA prior to commercial distribution.

The two primary types of FDA marketing authorization applicable to a medical device are premarket notification ("510(k) clearance") and premarket approval ("PMA"). To obtain 510(k) clearance, a manufacturer must submit to the FDA a premarket notification submission demonstrating that the proposed device is "substantially equivalent" to a legally marketed predicate device. The FDA's 510(k) clearance process usually takes from three to twelve months but may take longer. The FDA may require additional information, including clinical data, to make a determination regarding substantial equivalence. If the FDA agrees that the device is substantially equivalent to a predicate device currently on the market, it will grant 510(k) clearance to commercially market the device. If the FDA determines that the device is "not substantially equivalent" to a previously cleared device, the device is automatically designated as a Class III (i.e., high-risk) device. The device sponsor must then fulfill more rigorous PMA requirements or can request a risk-based classification determination for the device in accordance with the "de novo" process, which is a route to market for novel medical devices that are low to moderate risk and are not substantially equivalent to a predicate device.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change or modification in its intended use, will require a new 510(k) clearance or depending on the modification, approval of a PMA application or de novo classification. The FDA requires each manufacturer to determine whether the proposed change requires submission of a 510(k), de novo classification or a PMA in the first instance, but the FDA can review any such decision and disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA can require the manufacturer to cease marketing and/or request the recall of the modified device until it receives 510(k) clearance, approval of a PMA application, or issuance of a de novo classification. Also, in these circumstances, the manufacturer may be subject to significant regulatory fines or penalties.

The PMA process, including the gathering of clinical and preclinical data and the submission to and review by the FDA, can take several years or longer. It involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications are subject to an application fee. In addition, PMAs for certain devices must generally include the results from extensive preclinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought. In particular, for a diagnostic, a PMA application typically requires data regarding analytical and clinical validation studies. As part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the QSR which imposes elaborate testing, control, documentation and other quality assurance requirements.

Approval of a PMA is not guaranteed, and the FDA may ultimately respond to a PMA submission with a not approvable determination based on deficiencies in the application and require additional clinical trial or other data that may be expensive and time-consuming to generate and that can substantially delay approval. If the FDA's evaluation of the PMA application is favorable, the FDA typically issues an approvable letter requiring the applicant's agreement to specific conditions, such as changes in labeling, or specific additional information, such as submission of final labeling, in order to secure final approval of the PMA. If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. If the FDA concludes that the applicable criteria have been met, the FDA will issue a PMA for the approved indications, which can be more limited than those originally sought by the applicant. The PMA can include post-approval conditions that the FDA believes necessary to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution. Once granted, approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards are not maintained, or problems are identified following initial marketing.

After a device is placed on the market, it remains subject to significant regulatory requirements. Medical devices may be marketed only for the uses and indications for which they are cleared or approved. Device manufacturers must also establish registration and device listings with the FDA. A medical device manufacturer's manufacturing processes and those of its suppliers are required to comply with the applicable portions of the QSR, which cover the methods and documentation of the design, testing, production, processes, controls, quality assurance, labeling, packaging and shipping of medical devices. Domestic facility records and manufacturing processes are subject to periodic unscheduled inspections by the FDA. The FDA also may inspect foreign facilities that export products to the U.S.

Other U.S. Healthcare Laws and Compliance Requirements

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

The federal Anti-Kickback Statute prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any item, good, facility or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term remuneration has been interpreted broadly to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, formulary managers, and other individuals and entities on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and require strict compliance in order to offer protection. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor.

Additionally, the intent standard under the federal Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the Affordable Care Act), to a stricter standard such that a person or entity no longer needs to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it in order to have committed a violation. Rather, if "one purpose" of the remuneration is to induce referrals, the federal Anti-Kickback Statute is violated. In addition, the Affordable Care Act codified case law that a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act (discussed below).

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

The federal civil False Claims Act prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to, or approval by, the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the U.S. government. For example, pharmaceutical and other healthcare companies have been, and continue to be, investigated or prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product and for causing false claims to be submitted because of the companies' marketing of the product for unapproved, and thus non-reimbursable, uses.

HIPAA created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.

Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

We may be subject to data privacy and security regulations by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH) and their implementing regulations, imposes requirements on certain types of individuals and entities relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to business associates that are independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity as well as their covered subcontractors. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general

new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

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

In order to distribute products commercially, we must comply with state laws that require the registration of manufacturers and wholesale distributors of drug and biological products in a state, including, in certain states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several states have enacted legislation requiring pharmaceutical and biotechnology companies to establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities, and/or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing certain physician prescribing data to pharmaceutical and biotechnology companies for use in sales and marketing, and to prohibit certain other sales and marketing practices. All of our activities are potentially subject to federal and state consumer protection and unfair competition laws.

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

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent to which third-party payors provide coverage, and establish adequate reimbursement levels for such products. In the United States, third-party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or for establishing the reimbursement rate that such a payor will pay for the product. Third-party payors may limit coverage to specific products on an approved list, or also known as a formulary, which might not include all of the FDA-approved products for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and efficacy. We may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

Different pricing and reimbursement schemes exist in other countries. In the EU, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for medicines, but monitor and control company profits. The downward pressure on health care costs has become very intense. As a result,

increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

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

Healthcare Reform

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect the ability to profitably sell product candidates for which marketing approval is obtained. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, the Affordable Care Act has substantially changed healthcare financing and delivery by both governmental and private insurers. The ACA, among other things, increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs; required collection of rebates for drugs paid by Medicaid managed care organizations; required manufacturers to participate in a coverage gap discount program, under which they must agree to offer point-of-sale discounts (increased to 70 percent, effective as of January 1, 2019) off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell certain "branded prescription drugs" to specified federal government programs, implemented a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected expanded the types of entities eligible for the 340B drug discount program; expanded eligibility criteria for Medicaid programs; created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and established a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

There have been legal and political challenges to certain aspects of the Affordable Care Act. For example, President Trump signed several executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the Affordable Care Act. In December 2017, Congress repealed the tax penalty for an individual's failure to maintain Affordable Care Act-mandated health insurance, commonly known as the "individual mandate", as part of legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act of 2017 (Tax Act). In addition, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the Affordable Care Act's mandated "Cadillac" tax on high-cost employer-sponsored health coverage and medical device tax and, effective January 1, 2021, also eliminated the health insurer tax. On June 17, 2021, the U.S. Supreme Court dismissed a challenge on procedural grounds that argue the Affordable Care Act is unconstitutional in its entirety because the "individual mandate" was repealed by Congress.

In addition, there have been a number of health reform initiatives that have impacted the Affordable Care Act. For example, the Bipartisan Budget Act of 2018 (BBA), among other things, amended the Affordable Care Act, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole". In December 2018, CMS published a final rule permitting further collections and payments to and from certain Affordable Care Act qualified health plans and health insurance issuers under the Affordable Care Act risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. On August 16, 2022, President Biden signed the Inflation Reduction Act of 2022 (IRA) into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in Affordable Care Act marketplaces through plan year 2025. The IRA also eliminates the "donut hole" under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and creating a new manufacturer discount program. It is possible that the Affordable Care Act will be subject to judicial or Congressional challenges in the future. It is unclear how such challenges and any additional healthcare reform measures will impact the Affordable Care Act.

Further legislation or regulation could be passed that could harm our business, financial condition and results of operations. Other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. For example, in August 2011, President Obama signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select

Committee on Deficit Reduction did not achieve a targeted deficit reduction of at least $1.2 trillion for fiscal years 2012 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect beginning on April 1, 2013 and will stay in effect until 2032 unless additional Congressional action is taken. Additionally, on March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and federal and state legislative activity designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. In addition, in July 2021, the Biden administration released an executive order, "Promoting Competition in the American Economy," with multiple provisions aimed at prescription drugs. In response to Biden's executive order, on September 9, 2021, HHS released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue to advance these principles. Further, the IRA, among other things (i) directs HHS to negotiate the price of certain high-expenditure, single-source drugs and biologics covered under Medicare and (ii) imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions will take effect progressively starting in fiscal year 2023. On August 29, 2023, HHS announced the list of the first ten drugs that will be subject to price negotiations, although the Medicare drug price negotiation program is currently subject to legal challenges. In response to the Biden administration's October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the CMS Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Further, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act. On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march-in rights. While march-in rights have not previously been exercised, it is uncertain if that will continue under the new framework. Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We anticipate that these and other healthcare reform efforts will continue to result in additional downward pressure on coverage and the price that we receive for any approved product, and could seriously harm our business. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our products. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates.

The Foreign Corrupt Practices Act

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

Additional Regulation

In addition to the foregoing, state and federal laws regarding environmental protection and hazardous substances, including the Occupational Safety and Health Act, the Resource Conservancy and Recovery Act and the Toxic Substances Control Act, affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We

believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Europe / Rest of World Government Regulation

In addition to regulations in the United States, we will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our products. Whether or not we obtain FDA or ex-US approval of a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application much like the IND prior to the commencement of human clinical trials. In the EU, for example, all cell therapy products are considered advanced therapeutic medicinal products (ATMPs) and a clinical trial application must be submitted centrally in accordance with EU clinical trial regulations (CTR) for review by a rapporteur appointed by a member state within the EU region. In addition, an independent ethics committee is needed in each country, much like the IRB, in the US. Once the clinical trial application is approved in accordance with a country's requirements, clinical trial development may proceed. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries.

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

To obtain regulatory approval of an investigational drug or biological product under EU regulatory systems, we must submit an MAA. The application used to file the BLA in the United States is similar to that required in the EU, with the exception of, among other things, country-specific document requirements.

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

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

Privacy Laws and Regulations

In the ordinary course of our business, we may process personal or sensitive data. Accordingly, we are, or may become, subject to numerous data privacy and security obligations, including federal, state, local, and foreign laws, regulations, guidance, and industry standards related to data privacy, security, and protection.

For example, in addition to EU regulations related to the approval and commercialization of our products, our activities in the EU subject us to the EU's General Data Protection Regulation (EU GDPR). The EU GDPR imposes stringent requirements for controllers and processors of personal data of persons in the EU, including, for example, more robust disclosures to individuals and a strengthened individual data rights regime, shortened timelines for data breach notifications, limitations on retention of information, increased requirements pertaining to special categories of data, such as health data, and additional obligations when we contract with third-party processors in connection with the processing of the personal data. The EU GDPR also imposes strict rules on the transfer of personal data out of the European Union to the United States and other third countries. In addition, the EU GDPR provides that EU member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data.

The EU GDPR applies extraterritorially, and we are subject to the EU GDPR because of our data processing activities that involve the personal data of individuals located in the European Union, such as in connection with our EU clinical trials. Failure to comply with the requirements of the EU GDPR and the applicable national data protection laws of the EU member states may result in fines of up to €20,000,000 or up to 4% of the total worldwide annual turnover of the preceding financial year, whichever is higher, private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests, and other administrative penalties. The EU GDPR regulations may impose additional responsibility and liability in relation to the personal data that we process and we may be required to put in place additional mechanisms to ensure compliance with the new data protection rules.

Additionally, numerous US states have passed comprehensive privacy laws. For example, the California Consumer Privacy Act (CCPA) creates new individual privacy rights for consumers (as that word is broadly defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA requires covered companies to provide new disclosures to California consumers, affords California residents certain rights related to their personal data, including the right to opt-out of certain sales of personal data, and allows for a new cause of action for certain data breaches. In addition, the California Privacy Rights Act of 2020 (CPRA), effective January 1, 2023, expanded the CCPA by, among other things, giving California residents the ability to limit use of certain sensitive personal data, establishing restrictions on personal data retention, expanding the types of data breaches that are subject to the CCPA's private right of action, and establishing a new California Privacy Protection Agency to implement and enforce the CCPA. As our business progresses, the CCPA and the CPRA may become applicable and impact (possibly significantly) our business activities and exemplifies the vulnerability of our business to the evolving regulatory environment related to personal data and protected health information. Many other US states—including Virginia, Connecticut, Utah, and Colorado—have passed similar comprehensive privacy laws, and more are likely to do so in the future.

See the section titled "Risk Factors – Risks Related to Our Business and Industry" and "Risk Factors – Risks Related to Government Regulation" for additional information about the laws and regulations to which we may become subject and about the risks to our business associated with such laws and regulations.

Human Capital

As of March 1, 2024, we had 233 total employees, of which 232 are full-time. Of our full-time employees, 50 hold Ph.D. and/or M.D. degrees, and 189 are engaged in research, development and technical operations. Most of our employees are located in South San Francisco and Newark, 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.

We believe our workforce is key to Allogene's success and we actively focus on the following core elements of human capital: (1) our "One Allogene" culture, (2) diversity, equity, inclusion and belonging, and (3) recruitment, development and retention. We have also strived to create a safe working environment and have increased onsite presence since the end of the pandemic.

One Allogene Culture

We express our culture under the framework of "One Allogene":

One Allogene

We only succeed as a team.
We accomplish more together than as individuals when we unite as one Allogene community.

We are resilient, because we strive to save the lives of people with cancer.
We come together with purpose, courage and flexibility despite challenges or uncertainty because every potential patient is someone's partner, parent, child, sibling or friend.

We aim for excellence and give it our all.
We pursue scientific innovation with a focus on quality and integrity in everything we do to forever change how cancer is treated.

We take ownership and get things done.
We are leaders who embrace urgency, initiative and follow through, with the humility to know each one of us is vital to making AlloCAR T™ therapy a reality.

We are good to one another.
We value diversity of thought, background and expertise, we earn each other's trust, and assume good intention as we collaborate to help patients.

We are creating a scientific revolution.

We are One Allogene

These core elements of our culture are meant to define how and why we do business. In addition, our core values of collaboration, leadership, innovation and focus help drive our culture and behaviors and are layered into our performance reviews so that we can keep ourselves and our employees accountable.

Diversity, Equity, Inclusion and Belonging

We are committed to cultivating, fostering, and preserving a culture of diversity, equity, inclusion and belonging (DEIB). We foster an inclusive environment through respect, collaboration, and open communication. We embrace and encourage differences in age, color, disability, ethnicity, family or marital status, gender identity or expression, language, national origin, culture or customs, physical and mental ability, political affiliation, race, religion, sexual orientation, socio-economic status, veteran status, and other characteristics that make our employees unique. We also embrace differences in experience and background, and welcome diversity of opinions and thought when making decisions.

As of March 1, 2024, our employees were self-reportedly 51% women. Of our Director-level and above employees, 47% were self-reportedly women.

In addition, as of March 1, 2024, 67% of all employees were self-reportedly ethnic or racial minorities in the U.S., with 49% Asian, 2% Black or African American, 8% Hispanic or Latino and 8% of other minority groups or two or more races. Of our Director-level and above employees, 48% were self-reportedly ethnic or racial minorities in the U.S., with 31% Asian, 5% Black or African American, 4% Hispanic or Latino and 8% of other minority groups or two or more races.

Although we are proud of our efforts to attract the best talent from the broadest pool of talent, we continue to focus on broadening our outreach to underrepresented groups by posting our open positions on top job boards to seek diverse, qualified candidates. We have and will continue to conduct unconscious bias training for interviewers and hiring managers. Our recruiters and hiring managers have active talent recruitment strategies, including the use of diverse slates.

Our DEIB initiatives are applicable to our practices and policies, such as those on recruitment, compensation and professional development. We are also progressing the ongoing development of an inclusive work environment grounded in psychological safety that encourages:

- Respectful communication and cooperation between all employees.
- Valuing and soliciting input, feedback and opinions from relevant staff.
- Teamwork and employee participation, permitting the representation of employee perspectives.
- Employer and employee contributions to the communities we serve to promote a greater understanding and respect for diversity and inclusion.

To champion our efforts in this area, we established a governance structure and formed a DEIB Committee which is comprised of employees of various levels, departments and backgrounds. The DEIB Committee formalized a DEIB mission statement and also advanced a DEIB policy that sets forth our commitment to the importance of DEIB and the responsibility of our employees to adhere to our policy, including by treating others with dignity and respect at all times. Pursuant to our DEIB policy, all employees are also encouraged to attend and complete annual diversity awareness training to enhance their knowledge to fulfill this responsibility. The DEIB Committee continually works to respond to feedback provided by peers, and present suggestions on our practices and policies to encourage and enforce an environment in which all employees feel included and empowered to achieve their best.

We believe in equal pay for equal work. We establish components and ranges of compensation based on market and benchmark data. Within this context, we strive to pay all employees equitably within a reasonable range, taking into consideration factors such as role; market data; internal equity; job location; relevant experience; and individual, department and company performance. We also regularly review our compensation practices and analyze our compensation decisions for individual employees and our workforce as a whole on at least an annual basis. Since 2020, we have conducted a pay equity analysis which we believe demonstrates that our compensation practices and structure are equitable.

We plan to continue to seek feedback from the DEIB Committee, and all our employees to help us achieve our full potential.

Recruitment, Development and Retention

Successful execution of our strategy is dependent on attracting, developing and retaining our employees. We have and believe we will continue to face significant competition for life science talent. We believe, however, that our leadership in the field of allogeneic cell therapy and our culture have allowed us to recruit a talented workforce. In 2023, we recruited over 29 new employees. Our average time to hire was less than 90 days and over 95% of candidates accepted our offers.

We believe our total compensation package also helps recruit and retain our employees. We strive to provide pay, benefits, and services that are competitive to market and create incentives to attract and retain employees. Our compensation package includes market-competitive pay, broad-based stock grants, health care and 401(k) plan benefits, paid time off and family leave, among others. We also provide annual incentive bonus opportunities that are tied to both company performance as well as individual performance to foster a pay-for-performance culture.

Developing our employees is important, and we focus on providing training opportunities and promotional opportunities. Learning and development, training and other resources are an integral part of retaining our employees and creating a culture of learning and leadership within Allogene. For instance, we have an annual required manager training that allows managers to learn and practice fundamental management skills to enable them to be more effective managers. We also train relevant members of our team on important environmental health and safety topics to help ensure we protect our people and our environment as we operate our business. We encourage our employees to participate and take advantage of a variety of learning and development resources, including online business skills courses, professional development events, and external training programs based on individual needs. We also actively review employee performance and business needs every six months that lead to promotional opportunities for employees across departments and levels.

Employee Safety

One key aspect of our One Allogene culture is the principle that "We Aim for Excellence and Give it Our All," and that includes prioritizing safety. Ingrained in that concept is the tenet to follow all health and safety policies and procedures and prioritize the safety of our team.

To maintain a safe and healthy workplace, we have a comprehensive Environment, Health and Safety program that focuses on key risk mitigation programs that identify, assess, and correct hazards. We also have a task-based safety training program that is designed for staff to be assigned the appropriate training to understand how to safely perform their duties.

Corporate Information

We were incorporated in Delaware in November 2017. Our principal executive offices are located at 210 East Grand Avenue, South San Francisco, California 94080, and our telephone number is (650) 457-2700. Our corporate website address is www.allogene.com. We make available, free of charge on our website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after filing such reports with the Securities and Exchange Commission. Alternatively, you may access these reports at the SEC's website at www.sec.gov. Information contained on or accessible through our website is not a part of this report, and the inclusion of our website address in this report is an inactive textual reference only.

Item 1A. Risk Factors

RISK FACTORS

An investment in shares of our common stock involves a high degree of risk. We have identified the following material factors that make an investment in our common stock speculative or risky. You should carefully consider the following risk factors, as well as the other information in this Annual Report. The occurrence of any of the following risks could harm our business, financial condition, results of operations and growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this Annual Report and those we may make from time to time. The risks described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Financial Position and Capital Needs

We have incurred net losses in every period since our inception and anticipate that we will incur substantial net losses in the future.

We are a clinical-stage biopharmaceutical company and investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval and become commercially viable. We are advancing an allogeneic CAR T platform of primarily early-stage product candidates and have no products approved for commercial sale and have not generated any revenue from product sales to date, and we will continue to incur significant research and development and other expenses related to our ongoing operations. To date, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, securing related intellectual property rights, building our product manufacturing infrastructure, including a dedicated GMP manufacturing facility, manufacturing our clinical product candidates and conducting discovery, research and development activities for our programs. As a result, we are not profitable and have incurred net losses in each period since our inception. For the year ended December 31, 2023, we reported a net loss of $327.3 million. As of December 31, 2023, we had an accumulated deficit of $1.6 billion.

We expect to incur significant expenditures for the foreseeable future, and we expect these expenditures to increase as we continue our research and development of, and seek regulatory approvals for, product candidates based on our engineered allogeneic T cell platform. Because our allogeneic T cell product candidates are based on new technologies and will require the creation of inventory of mass-produced, off-the-shelf product, they will require extensive research and development and have substantial manufacturing and processing costs. In addition, costs to treat patients with relapsed or refractory cancer and to treat potential side effects that may result from our product candidates can be significant.

We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. For instance, the FDA placed our clinical trials on hold in October 2021, which suspended our clinical programs prior to resolution of the hold in January 2022. Even if we succeed in advancing our clinical trials and commercializing one or more of our product candidates, we will continue to incur substantial research and development and other expenditures to develop and market additional product candidates. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

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

We expect to spend a substantial amount of capital in the development and manufacture of our product candidates. We will need substantial additional financing to develop our products and implement our operating plans. In particular, we will require substantial additional financing to enable commercial production of our products and initiate and complete registrational trials for multiple products in multiple regions. Further, if approved, we will require significant additional capital in order to launch and commercialize our product candidates.

As of December 31, 2023, we had $448.7 million in cash and cash equivalents and investments. Changing circumstances may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. We may also need to raise additional capital sooner than we currently anticipate if we choose to expand more rapidly than we presently plan. In any event, we will require additional capital for the further development and commercialization of our product candidates, including funding our internal manufacturing capabilities.

We cannot be certain that additional funding will be available on acceptable terms, or at all. We have no committed source of additional capital and our stock price has faced extreme volatility and has declined. To the extent that we raise additional capital through the sale of equity or convertible debt securities or to the extent that we may issue equity securities in connection with a strategic transaction, the ownership interest of our stockholders will be diluted. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our product candidates or other research and development initiatives. Our license agreements may also be terminated if we are unable to meet the payment obligations under the agreements. We could be required to seek collaborators for our product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to our product candidates in markets where we otherwise would seek to pursue development or commercialization ourselves.

Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

We may fail to meet our publicly announced guidance or other expectations about our business, which would cause our stock price to decline.

We may provide guidance regarding our expected financial and business performance, such as projections regarding our cash runway. Correctly identifying key factors affecting business conditions and predicting future events is an inherently uncertain process and our guidance may not ultimately be accurate. Our guidance is based on certain assumptions relating to our expenses which may fluctuate based on how quickly we are able to execute on our operational initiatives, such as the timing of initiation of clinical trials and the rate of enrollment in such trials, and the timing of certain milestone payments, manufacturing expenses, employee expenses, facility expenses, and potential modifications of existing or the establishment of new partnership agreements. If our assumptions are not met or are impacted as a result of various risks and uncertainties, we may have to raise additional capital sooner than we currently expect and the market value of our common stock could decline significantly.

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

Our operations, and those of our CDMOs, CROs, clinical trial sites and other contractors and consultants, could be subject to business disruptions, including those caused by earthquakes, power shortages, telecommunications failures, cybersecurity attacks, water shortages, floods, hurricanes, tsunamis, typhoons, fires, extreme weather conditions, medical epidemics or pandemics, wars and other geopolitical conflicts (such as Russia's military action against Ukraine and the Israel–Hamas conflict), bank failures, adverse legislative actions and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.

Our ability to manufacture our product candidates could be disrupted if our operations or those of our suppliers are affected by a man-made or natural disaster or other business interruption. Our corporate headquarters and manufacturing facility are located in California near major earthquake faults and fire and flood zones. The ultimate impact on us, our significant suppliers and our general infrastructure of being located near major earthquake faults and fire and flood zones and being consolidated in certain geographical areas is unknown, but our operations and financial condition could suffer in the event of a major earthquake, fire, flood or other natural disaster.

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 swept into receivership. In addition, on May 1, 2023, the FDIC seized First Republic Bank and sold its assets to JPMorgan Chase & Co. 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. 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. 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.

Although we assess our banking relationships as we believe necessary or appropriate, our access to cash in amounts adequate to finance or capitalize 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; or 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.

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

Under current law, federal net operating losses incurred in tax years beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such federal net operating loss carryforwards in a taxable year is limited to 80% of taxable income in such year. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage point change (by value) in the equity ownership of certain stockholders over a rolling three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. As a result of our IPO in October 2018 and private placements and other transactions that have occurred since our incorporation, we may have experienced an "ownership change". We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. We anticipate incurring significant additional net losses for the foreseeable future, and our ability to utilize net operating loss carryforwards associated with any such losses to offset future taxable income may be limited to the extent we incur future ownership changes. In addition, at the state level, there may be periods during which the use of net operating loss carryforwards is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. As a result, we may be unable to use all or a material portion of our net operating loss carryforwards and other tax attributes, which could adversely affect our future cash flows.

Risks Related to Our Business and Industry

Our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of product candidate development and the likelihood of obtaining regulatory approval.

We have concentrated our research, development and manufacturing efforts on our engineered allogeneic T cell therapy and our future success depends on the successful development of this therapeutic approach. We are in the early stages of developing our platform and we have experienced significant development challenges, such as with the prior clinical hold by the FDA, and there can be no assurance that any development problems we have now or experience in the future will not cause significant delays or unanticipated costs, or that such development problems can be overcome. We may also experience delays in developing a sustainable, reproducible and scalable manufacturing process or transferring that process to commercial facilities or partners, which may prevent us from completing our clinical studies or commercializing our products on a timely or profitable basis, if at all. For instance, it will take additional time and expense to transfer any product manufacturing to CF1, which may be further delayed if we are unable to meet regulatory conditions.

In addition, since we are in the early stages of clinical development, we do not know all the doses to be evaluated in pivotal trials or, if approved, commercially. Finding a suitable dose for our cell therapy product candidates as well as ALLO-647 may delay our anticipated clinical development timelines. These unknowns and other emerging findings from our clinical trials may result in protocol amendments, which may result in additional costs and may also delay our anticipated clinical development timelines. In addition, our expectations with regard to our scalability and costs of manufacturing may vary significantly as we develop our product candidates and understand these critical factors.

We are also advancing product candidates against unexplored targets and with new technology. For example, in our TRAVERSE trial we are advancing ALLO-316 against a target, CD70. ALLO-316 may have limited efficacy, even accounting for the selection of patients with CD70 positive tumors, or have off-target toxicities. Since CD70 is found on activated T and other immune cells, ALLO-316 may also cause fratricide resulting in the loss of ALLO-316 cells, either during the ALLO-316 manufacturing process or after ALLO-316 is administered to patients, or may deplete host T or other immune cells.

CAR T administration and/or the lymphodepletion that is required before administration of CAR T cells, may increase the risk of prolonged blood cell count suppression (cytopenia) or other adverse events including infections or inflammatory conditions such as CRS, ICANS, and/or immune effector cell-associated hemophagocytic lymphohistiocytosis-like syndrome (IEC-HS), which can be life-threatening and results in death. These events have been observed in our clinical trials and have resulted in pausing enrollment or requiring protocol amendments. For example, in our ongoing ALLO-316 TRAVERSE trial, we implemented risk mitigation measures for IEC-HS, which delayed and increased the cost of conducting the clinical trial.

In our ALPHA3 trial, we are advancing cema-cel for the treatment of patients with LBCL who have completed R-CHOP and have attained a remission, but who still test positive for MRD. As part of this trial, under Investigational Device Exemption (IDE), we plan to use an investigational assay developed by Foresight Diagnostics to determine if a patient is MRD positive. There is a risk that the assay may not function as intended and that the assay may not be sufficiently sensitive to detect the presence of low levels of MRD or sufficiently specific to avoid unacceptable rates of false positives. In addition, there are logistical risks with collecting and sending patient samples to Foresight Diagnostics for testing, and there is a risk that the MRD assay will not be timely performed on the patient samples. If the MRD assay does not function as intended or is not timely performed on patient samples, it could negatively impact the rate of enrollment or the clinical results of the ALPHA3 trial. In addition, we are reliant on Foresight Diagnostics to perform MRD testing. A delay or failure by Foresight Diagnostics to perform MRD testing may negatively impact our ability to conduct ALPHA3 trial as planned, or prevent us from conducting ALPHA3 trial.

The clinical study requirements of the FDA, European Medicines Agency (EMA) and other regulatory agencies and the criteria these regulators use to determine the safety and efficacy of a product candidate are determined according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for novel product candidates such as ours can be more complex and consequently more expensive and take longer than for other, better known or extensively studied pharmaceutical or other product candidates. For example, the regulatory approval process for cema-cel based on our ALPHA3 trial is more complex because it incorporates a companion diagnostic. We also face additional challenges in obtaining regulatory approval for ALLO-647, which we use as part of our lymphodepletion regimen, and for which we would seek to obtain approval concurrently with approval of a CAR T cell product candidate. Approvals by the EMA and FDA for existing autologous CAR T therapies, such as Kymriah and Yescarta, may not be indicative of what these regulators may require for approval of our therapies. Also, the use of healthy donor material in our allogeneic CAR T product candidates may create product variability challenges for us, and we do not yet fully understand the impact of donor variability on clinical outcomes.

More generally, approvals by any regulatory agency may not be indicative of what any other regulatory agency may require for approval or what such regulatory agencies may require for approval in connection with new product candidates. Moreover, our product candidates may not perform successfully in clinical trials or may be associated with adverse events that distinguish them from the autologous CAR T therapies that have previously been approved. For instance, allogeneic product candidates may result in GvHD or chromosomal abnormalities not experienced with autologous products. Additionally, any Phase 2 trial results, such as in the ALPHA3 trial, may not be representative of Phase 1 results, which were based on limited patients and a patient population in an advanced stage or LBCL. Even if we collect promising initial clinical data of our product candidates, longer-term data may reveal new adverse events or responses that are not durable. Unexpected clinical outcomes would significantly impact our business.

Our business is highly dependent on the success of our lead product candidates. If we are unable to advance clinical development, obtain approval of and successfully commercialize our lead product candidates for the treatment of patients in approved indications, our business would be significantly harmed.

Our business and future success depends on our ability to advance clinical development, obtain regulatory approval of, and then successfully commercialize, our lead product candidates. Because cema-cel, ALLO-316 and our BCMA program candidates are among the first allogeneic products to be evaluated in the clinic, the failure of any such product candidates, or the failure of other allogeneic T cell therapies, including for reasons due to safety, efficacy or durability, may impede our ability to develop our product candidates, and significantly influence physicians' and regulators' opinions in regard to the viability of our entire pipeline of allogeneic T cell therapies. For instance, all of our clinical trials were previously put on clinical hold due to an observation in the ALPHA2 trial. While the clinical hold has been resolved, we could be subject to a clinical hold in the future due to unexpected observations, adverse patient outcomes or other issues.

All of our product candidates, including our lead product candidates, will require additional clinical and non-clinical development, regulatory review and approval in multiple jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. In addition, because our other product candidates are based on similar technology as our lead product candidates, if any of the lead product candidates encounters additional safety issues, efficacy problems, manufacturing problems, developmental delays, regulatory issues or other problems, our development plans and business would be significantly harmed.

Our product candidates may cause undesirable side effects or have other properties that have halted and could in the future halt their clinical development, prevent their regulatory approval, limit their commercial potential or result in significant negative consequences.

Future undesirable or unacceptable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Approved autologous CAR T therapies and those under development have shown frequent rates of CRS, neurotoxicity, serious infections, prolonged cytopenia and hypogammaglobulinemia, hemophagocytic lymphohistiocytosis/macrophage activation syndrome (HLH/MAS) and adverse events have resulted in the death of patients. We have observed certain of these adverse events for our allogeneic CAR T product candidates. Other adverse events could also emerge in autologous CAR T therapies over time. For instance, patients who received an autologous anti-BCMA CAR T cell therapy have experienced neurocognitive and hypokinetic movement disorder with features of Parkinson's disease that emerged months after treatment and may have been due to BCMA expression within the brain. Our anti-BCMA product candidates have the risk of causing similar adverse events.

In January 2024 the FDA sent letters to all companies with approved autologous CAR T therapies requesting them to add a black box warning on the label of their autologous CAR T therapies. The FDA is requiring label updates to include a black box warning that T-cell malignancies may occur following treatment with BCMA- and CD19-directed genetically modified autologous T-cell immunotherapies. The required warnings are specific to autologous therapies. Such T-cell malignancies have been observed in approximately 1 patient for every 1,000 patients treated with autologous therapies. Because our allogeneic therapies are based on similar technology, until we have treated more patients, there is a risk that we may find similar T-cell malignancies following treatment with our allogeneic CAR T product candidates. If such malignancies are observed, regulatory authorities, such as the FDA, may require a similar black box warning or other safety-related labeling statements on our products' label, if approved, which could prevent us from achieving or maintaining market acceptance and adversely affect our business, financial condition, results of operations and prospects.

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. In addition, we utilize a lymphodepletion regimen, which generally includes fludarabine, cyclophosphamide and ALLO-647, that may cause serious adverse events. For instance, because the regimen will cause a transient and sometimes prolonged immune suppression, patients will have an increased risk of infection that may be unable to be cleared by the patient and ultimately lead to other serious adverse events or death. Our lymphodepletion regimen has caused and may also cause prolonged cytopenia and aplastic anemia. We are also exploring various dosing strategies for lymphodepletion in our clinical trials, such as including varying doses of the chemotherapy agents and/or ALLO-647 or eliminating one or more of the agents, which may alter the risk of serious adverse events or have other undesirable outcomes such as a reduction of the efficacy of treatment.

In our and Servier's clinical trials of allogeneic CAR T product candidates, the most common severe or life-threatening adverse events resulted from CRS, serious infections, febrile neutropenia, prolonged cytopenia including prolonged pancytopenia, haemophagocytic lymphohistiocytosis, hypokalemia, multiple organ dysfunction syndrome, neutropenic sepsis and aplastic anemia. As reported, patients have died from adverse events and future patients may also experience toxicity resulting in death. For additional safety data, please see the section entitled "Business—Product Pipeline and Development Strategy" included in this Annual Report.

As we treat and re-treat more patients with our product candidates in our clinical trials, new less common side effects may also emerge or increased incidence of previously observed side effects may occur. There is a risk that the FDA may not agree that sufficient mitigating procedures are included in our protocols to address such side effects, and FDA may impose a clinical hold as it evaluates risks associated with such side effects and/or as we work with the agency to implement protocol amendments to appropriately manage such side effects. For instance, we observed a chromosomal abnormality that led to a previous clinical hold on our clinical trials. While our investigation concluded that the chromosomal abnormality had no clinical significance and was unrelated to our manufacturing process, our oncology manufacturing process includes gene engineering by using lentivirus and TALEN nucleases that may in the future cause insertion, deletion, or chromosomal translocation that may result in allogeneic CAR T cells to proliferate uncontrollably and adverse events. In addition, we have

observed liver enzyme elevations, including one adverse event – autoimmune hepatitis – that qualified as a dose-limiting toxicity in our TRAVERSE trial.

We may also combine the use of our product candidates with other investigational therapies that may cause separate adverse events or events related to the combination.

If unacceptable toxicities arise in the development of our product candidates, we could suspend or terminate our trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Any data safety monitoring board may also suspend or terminate a clinical trial at any time on various grounds, including a finding that the research patients are being exposed to an unacceptable health risk, including risks inferred from other unrelated immunotherapy trials. Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff, as toxicities resulting from T cell therapy are not normally encountered in the general patient population and by medical personnel. We have trained and expect to have to train medical personnel using CAR T cell product candidates to understand the side effect profile of our product candidates for both our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient deaths. Any of these occurrences may harm our business, financial condition and prospects significantly.

Our clinical trials may fail to demonstrate the safety and efficacy of any of our product candidates, which would prevent or delay regulatory approval and commercialization.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials, including in any post-approval studies.

There is typically an extremely high rate of attrition from the failure of product candidates proceeding through clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy, insufficient durability of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most product candidates that commence clinical trials are never approved as products.

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

Phase 1 data from our clinical trials is limited and may change as more patient data becomes available or may not be validated in any future or advanced clinical trial.

Data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data becomes available. Phase 1 results are preliminary in nature and should not be viewed as predictive of ultimate success. It is possible that such results will not continue or may not be repeated in any clinical trial of our product candidates. For instance, our Phase 2 ALPHA3 trial design is based in part on Phase 1 data from a limited number of patients treated with various doses of ALLO-501 or cema-cel manufactured using the Alloy process, and the larger Phase 2 ALPHA3 trial may not be consistent with the Phase 1 results. Furthermore, because patients in ALPHA3 will only have MRD after front-line treatment, and not radiographically measurable disease as was required for patients treated in our Phase 1 trials, it is possible that cema-cel may behave differently in terms of expansion, persistence and the ability to eradicate residual disease. In addition, our experience with our CD19 and BCMA programs indicates that manufacturing can impact clinical outcomes. The manufacturing runs we have completed and tested in the clinic are limited across our product candidates and any manufacturing variability that impacts clinical outcomes would significantly harm our business and prospects. We may also fail to develop any optimized manufacturing processes for any of our programs. Ultimately, if we cannot manufacture our product candidates with consistent and reproducible product characteristics, our ability to develop and commercialize any product candidate would be significantly impacted.

Phase 1 trials of novel products also commonly include a dose exploration phase during which adverse effects of treatment may emerge at higher doses that are new, unexpected, or occur at higher-than-expected frequencies or severity and may limit our ability to develop such products in one or more target indications or patient populations. Similarly, in dose expansion phase, we may discover that adverse effects, either known or novel, may negatively impact the emerging overall benefit-risk profile of our product candidates and may lead to the discontinuation or other significant alteration to the development plan.

Preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, initial, interim and preliminary data should be viewed with caution until the final data are available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects.

We may not be able to submit INDs to commence additional clinical trials on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed.

We plan to submit INDs or IND amendments for additional product candidates or indications in the future. We cannot be sure that submission of an IND or IND amendment will result in the FDA allowing testing and clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such clinical trials. The manufacturing of allogeneic CAR T cell therapy remains an emerging and evolving field. Accordingly, we expect CMC related topics, including product specification, will be a focus of IND reviews, which may delay the clearance of INDs or IND amendments. For instance, if we introduce changes to the manufacturing of our product candidates, regulatory authorities may require additional studies or clinical data to support the changes, which could delay our clinical trial timelines. Additionally, even if such regulatory authorities agree with the design and implementation of the clinical trials set forth in an IND, IND amendment or clinical trial application, we cannot guarantee that such regulatory authorities will not change their requirements in the future.

In addition, we have an open IND for ALLO-647, which is being used as part of lymphodepletion in all our clinical trials. Any regulatory issues related to ALLO-647 or to the development of ALLO-647, if it is used as part of a lymphodepletion regimen in a clinical study, could delay such study and delay the development of our allogeneic CAR T cell product candidates and significantly affect our business.

We may encounter substantial delays in our clinical trials, or may not be able to conduct our trials on the timelines we expect.

Clinical testing is expensive, time consuming and subject to uncertainty. We cannot guarantee that any clinical studies will be conducted as planned or completed on schedule, if at all. Even if our trials begin as planned, issues may arise that could suspend or terminate such clinical trials. A failure of one or more clinical studies can occur at any stage of testing, and our future clinical studies may not be successful. Events that may prevent successful or timely completion of clinical development include:

- inability to generate sufficient preclinical, toxicology or other in vivo or in vitro data to support the initiation of clinical studies;
- delays in sufficiently developing, characterizing, controlling or optimizing a manufacturing process suitable for clinical trials, including the validation and deployment of release assays;
- difficulty sourcing healthy donor material of sufficient quality and in sufficient quantity to meet our development needs;
- delays in developing, obtaining regulatory approval for, or implementing suitable assays for screening patients for eligibility for trials with respect to certain product candidates;
- the screen failure rate for clinical trials of our product candidates may be higher than we anticipate, requiring us to screen larger numbers of patients than originally planned, for example, the number of patients who have MRD at the end of front-line treatment in ALPHA3 may be lower than we expect;
- delays in reaching a consensus with regulatory agencies on study design;
- delays in reaching agreement on acceptable terms with prospective contract research organizations (CROs) and clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical study sites;
- delays in obtaining required IRB approval at each clinical study site;
- imposition of a temporary or permanent clinical hold by regulatory agencies for a number of reasons, including after review of an IND application or amendment, or equivalent application or amendment; as a result of a new safety

finding that presents uncertain or unreasonable risk to clinical trial participants; a negative finding from an inspection of our clinical study operations or study sites; developments on trials conducted by competitors for related technology that raises FDA concerns about risk to patients of the technology broadly; or if the FDA finds that the investigational protocol or plan is clearly deficient to meet its stated objectives;

- delays in recruiting suitable patients to participate in our clinical studies;
- difficulty collaborating with patient groups and investigators;
- failure by our CROs, other third parties or us to adhere to clinical study requirements;
- failure to perform in accordance with the FDA's GCP requirements or applicable regulatory guidelines in other countries;
- delays or failures in the transfer of manufacturing processes to any CDMO or our own manufacturing facility or any other development or commercialization partner for the manufacture of product candidates;
- delays in having patients complete participation in a study or return for post-treatment follow-up;
- patients dropping out of a study;
- occurrence of adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional trials;
- the cost of clinical studies of our product candidates being greater than we anticipate;
- clinical studies of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical studies or abandon product development programs;
- delays or failure to secure supply agreements with suitable raw material suppliers, or any failures by suppliers to meet our quantity or quality requirements for necessary raw materials; and
- shortage, interruption, or failure to secure commercially available and/or investigational drug products that are required to conduct clinical trials with our allogeneic CAR T product candidates;
- delays in manufacturing, testing, releasing, validating, or importing/exporting sufficient stable quantities of our product candidates for use in clinical studies or the inability to do any of the foregoing.

A pandemic or epidemic may also increase the risk of certain of the events described above and delay our development timelines. Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenue. In addition, in order to transition manufacturing of certain of our product candidates from our CDMO to our manufacturing facility, we will be required to meet certain regulatory conditions, such as establishing comparability with the product candidates manufactured at our CDMO, and our inability to meet such conditions would result in investment of additional resources, a delay in using our manufacturing facility for production and extend our clinical trial timelines. Similar conditions may apply if we make manufacturing or formulation changes to our product candidates. Clinical study delays could also shorten any periods during which our products have patent protection and may allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

Our clinical trials may also be delayed because of the availability of drugs required to be used under our protocols. For example, in some of our clinical trials, the study participants receive commercially available drugs for lymphodepletion before our allogeneic CAR T product candidates are administered, and receive other drugs to prevent infections and manage the treatment emergent adverse events. Shortage or lack of availability of these commercially available drugs that are necessary to conduct our clinical trials may cause delays in our clinical trials.

Monitoring and managing toxicities in patients receiving our product candidates is challenging, which could adversely affect our ability to obtain regulatory approval and commercialize.

For our clinical trials of our product candidates, we contract or will contract with academic medical centers and hospitals experienced in the assessment and management of toxicities arising during clinical trials. Nonetheless, these centers and hospitals may have difficulty observing patients and treating toxicities, which may be more challenging due to personnel changes, inexperience, shift changes, house staff coverage or related issues. This could lead to more severe or prolonged toxicities or even patient deaths, which could result in us or the FDA delaying, suspending or terminating one or more of our clinical trials, and which could jeopardize regulatory approval. We also expect the centers using our product candidates, if approved, on a commercial basis could have similar difficulty in managing adverse events. Medicines used at centers to help manage adverse side effects of our product candidates may not adequately control the side effects and/or may have a

detrimental impact on the efficacy of the treatment. Use of these medicines may increase with new physicians and centers administering our product candidates.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. For example, as we progress the ALPHA2 CLL cohort, ALPHA3 and TRAVERSE trials, we may face enrollment challenges, including an unwillingness of sites to participate, the exclusion of patients with certain disease characteristics or the ineligibility of patients that have received prior autologous CAR T therapies, which continue to gain adoption. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients. Because we anticipate a minority of the 1L patients we will test for MRD as part of screening for the ALPHA3 trial will be MRD positive, we will likely experience a very high screen failure rate, which will require screening a large number of patients to complete enrollment in the study. Because of the anticipated high screen failure rate, certain clinical trial sites may decline to participate in ALPHA3 or completion of enrollment may be significantly delayed. Future epidemics or pandemics may result in reduced enrollment and challenges to related clinical trial activities. The enrollment of patients may be more difficult, such as due to the perceptions of the safety of our clinical trials due to the previous clinical hold, and will depend on many factors, including:

- the patient eligibility criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to study sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- our ability to obtain and maintain patient consents;
- the competition from approved products in the same or other lines of therapy and and/or disease indications and from product candidates in other clinical trials; and
- the risk that patients enrolled in clinical trials will drop out of the trials before the infusion of our product candidates or trial completion.

Since we only need to conduct a limited number of manufacturing runs to generate clinical supply, the diversity of our supply is limited during clinical trials. As a result, some patients may have antibodies to certain donor specific antigens at titers that could negatively impact the activity of our product candidates and which would render the patients ineligible for treatment. Furthermore, cellular mechanisms of allogeneic tissue rejection may limit the efficacy of our products. In addition, we have introduced an IVD assay in the TRAVERSE trial to screen for patients with CD70+ tumors and will utilize an MRD assay in the ALPHA3 trial to screen for patients who are MRD positive, both of which are restricting or will restrict the number of patients eligible for the trials.

Development and research use of an experimental diagnostic assay or test, such as that we are using to determine CD70 expression on tumor tissue of potential participants in the TRAVERSE trial or to identify MRD positive patients in the ALPHA3 trial, may influence results of the study in expected or unexpected ways. For example, emerging safety and efficacy outcomes could lead us to impose, tighten or expand "cutoff" values of CD70 expression to determine enrollment eligibility for TRAVERSE. Assay performance or necessary changes we make to the assay(s) during development may reduce the pace of enrollment or may lead to alterations in the expected benefit risk profile as compared to results collected prior to the change. The diagnostic assay itself may not perform as expected due to identifiable or obscure factors. It is also possible that we may not be aware of such underperformance of the assay which could lead to incorrect conclusions. This could, in turn, impact enrollment and interpretation of the clinical trial results.

Our clinical trials will also compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. For example, our collaboration with Foresight Diagnostics is nonexclusive. As a result, there is a risk that Foresight Diagnostics might work with our competitors to enable a competing clinical trial involving the same MRD positive patient population that we plan to enroll in ALPHA3, which would reduce the number of patients who are available to participate in ALPHA3, and potentially delay completion of ALPHA3. Since the number of qualified clinical investigators is limited, some of our clinical trial sites are also being used by some of our competitors, which may reduce the number of patients who are available for our clinical trials in that clinical trial site.

As our clinical trials require conditioning patients with chemotherapy, including agents such as cyclophosphamide and fludarabine, and physicians use other drugs prophylactically or to manage adverse events, our ability to enroll may be impacted by the shortage of such agents or drugs. For instance, the FDA has reported a shortage of fludarabine and any failure or delays by us or by our clinical trial sites to obtain sufficient quantities of fludarabine may delay our ability to enroll and treat patients in our clinical trials.

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, monoclonal antibodies, hematopoietic cell transplantation as well as autologous CAR T cell therapies, rather than enroll patients in our clinical trial, including if our product candidates have or are perceived to have additional safety or efficacy risks or if using our product candidates may affect insurance coverage of conventional therapies. For instance, the development of autologous CAR T cell therapies continues to rapidly advance, including into earlier lines of treatment of LBCL and treatment of R/R multiple myeloma, as described under the section entitled "Business—Competition" included in this Annual Report. We also may experience risks associated with a new class of therapies, bispecific antibodies, which have been approved for multiple myeloma and LBCL. The compelling results and related approvals impact our ability to enroll patients with R/R multiple myeloma or LBCL in our clinical trials. Moreover, patients eligible for allogeneic CAR T cell therapies but ineligible for autologous CAR T cell therapies due to aggressive cancer and inability to wait for autologous CAR T cell therapies may be at greater risk for complications and death from therapy or may experience a reduction in efficacy as compared to patients who are well enough and whose disease is sufficiently slow growing as to be eligible for autologous CAR T cell therapy.

Delays in patient enrollment may result in increased costs or may affect the timing or outcome of our clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates.

The market opportunities for certain of our product candidates may be limited to those patients who are ineligible for or have failed prior treatments and may be small.

The FDA often approves new therapies initially only for use in patients with R/R metastatic disease. We may initially seek approval of certain of our product candidates in this setting. Subsequently, for those products that prove to be sufficiently beneficial, if any, we would expect to seek further approval in earlier lines of treatment, and for cema-cel we expect to initially seek approval in the first line consolidation setting. There is no guarantee that our product candidates, even if approved, would be approved for earlier lines of therapy, and, prior to any such approvals, we will have to conduct additional clinical trials, including potentially comparative trials against the then-current standard of care, which in some cases may include comparative trials against approved therapies. We may also target a similar patient population as autologous CAR T product candidates, including approved autologous CAR T products. Our therapies may not be as safe and effective as autologous CAR T therapies and may only be approved for patients who are ineligible for autologous CAR T therapy.

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 who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, or market research and may prove to be incorrect. Further, new studies or therapies may change the estimated incidence or prevalence of these cancers. The number of patients may turn out to be lower than expected. Additionally, the potentially addressable patient population for our product candidates may be limited, such as due to the eligibility criteria of our trials, or may not be amenable to treatment with our product candidates.

We may fail to successfully manufacture our product candidates, operate our own manufacturing facility, or obtain regulatory approval to utilize or commercialize from our manufacturing facility or at a CDMO, which could adversely affect our clinical trials and the commercial viability of our product candidates.

We may not be able to achieve clinical or commercial manufacturing of our products on our own or at a CDMO, including the inability to satisfy demands for any of our product candidates. We have limited experience in managing the allogeneic T cell engineering process, and our allogeneic processes may be more difficult or more expensive than the approaches taken by our competitors. Until we complete our clinical trials, we cannot be sure that the manufacturing processes employed by us or the technologies that we incorporate for manufacturing will result in consistent T cell production that will be safe and effective.

We operate a manufacturing facility located in Newark, California that is designed to support our clinical trials and potential commercial production and worldwide distribution of allogeneic CAR T cell products for blood cancers and solid tumors. Introducing any product manufactured at our manufacturing facility into an ongoing clinical trial would be subject to FDA review, and may result in increased costs and delays in conducting such trial, submitting a biologics license application (BLA) and/or gaining FDA approval. Similar conditions may apply if we make process changes to our product candidates, as

we plan to do for our BCMA program. In addition, any process or raw material change could introduce unacceptable product variability and impact our ability to manufacture on a consistent and reproducible basis. Ultimately, any failure or delays in manufacturing and qualification of our product candidates at our CDMO or at our own manufacturing facility could delay our clinical trials.

We do not yet have sufficient information to reliably estimate the cost of the commercial manufacturing of our product candidates, and the actual cost to manufacture our product candidates could materially and adversely affect the commercial viability of our product candidates. The commercial dose and treatment regimen may affect our ability to scale and will affect our cost per dose. For instance, because our anti-BCMA product candidates may require a higher dose than ALLO-501A, it is possible that it may be more difficult to scale production of our anti-BCMA product candidates to meet demand. As a result, we may never be able to develop a commercially viable product. Our manufacturing facility will also require FDA approval before it can be used for commercial production, which we may never obtain. Even if approved, we would be subject to ongoing periodic unannounced inspection by the FDA, EMA, the Drug Enforcement Administration and corresponding state agencies to ensure strict compliance with cGMP, and other government regulations.

The manufacture of biopharmaceutical products is complex and requires significant expertise, including the development of advanced manufacturing techniques and process controls. Manufacturers of cell therapy products often encounter difficulties in production, particularly in validating initial production and ensuring the absence of contamination. Other problems can include difficulties with production costs and yields, quality control, including stability of the product, operator error, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. The application of new regulatory guidelines or parameters, such as those related to release testing, may also adversely affect our ability to manufacture our product candidates. Furthermore, if contaminants are discovered in our supply of product candidates or in the manufacturing facilities, such supply may have to be discarded and our manufacturing facility may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot assure you that any stability or other issues relating to the manufacture of our product candidates will not occur in the future.

We or any of our vendors may fail to manage the logistics of storing and shipping our raw materials and product candidates. Storage failures and shipment delays and problems caused by us, our vendors or other factors not in our control, such as weather, could result in the inability to manufacture product, the loss of usable product or prevent or delay the delivery of product candidates to patients.

We may also experience manufacturing difficulties due to resource constraints or as a result of labor disruptions, such as due to a future pandemic, epidemic or disputes. If we were to encounter any of these difficulties, our ability to provide our product candidates to patients would be jeopardized.

As a company, we 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.

As a company, we have no experience in marketing products. We intend to develop an in-house marketing organization and sales force, which will require significant capital expenditures, management resources and time. We will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain marketing and sales personnel.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we will pursue collaborative arrangements regarding the sales and marketing of our products; however, there can be no assurance that we will be able to establish or maintain such collaborative arrangements, or if we are able to do so, that they will have effective sales forces or be on favorable terms. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates.

There can be no assurance that we will be able to develop in-house sales and distribution capabilities or establish or maintain relationships with third-party collaborators to commercialize any product that receives regulatory approval in the United States or in other markets.

A variety of risks associated with conducting research and clinical trials abroad and marketing our product candidates internationally could materially adversely affect our business.

We plan to globally develop our product candidates. Accordingly, we expect that we will be subject to additional risks related to operating in foreign countries, including:

- differing regulatory requirements in foreign countries;
- unexpected changes in tariffs, trade barriers, price and exchange controls and other regulatory requirements;
- differing standards and privacy requirements for the conduct of clinical trials;
- increased difficulties in managing the logistics and transportation of storing and shipping product candidates produced in the United States, shipping the product candidate to the patient abroad, and shipping patient samples to the United States for screening tests;
- import and export requirements and restrictions;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- differing payor reimbursement regimes, governmental payors or patient self-pay systems, and price controls;
- potential liability under the Foreign Corrupt Practices Act of 1977 or comparable foreign regulations;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- challenges with obtaining any local supply of drugs or agents used with our product candidates, which are required by certain local clinical trial sites before conducting any study; and
- business interruptions resulting from future health epidemics or pandemics, or natural or man-made disasters, including earthquakes, tsunamis, fires or other medical epidemics, or geo-political actions, including war and terrorism.

These and other risks associated with our collaborations with Servier and Cellectis, each based in France, our collaboration with Notch, based in Canada, and our joint venture for China, Taiwan, South Korea and Singapore with Overland Pharmaceuticals (CY) Inc., may materially adversely affect our ability to attain or maintain profitable operations.

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

The biopharmaceutical industry, and the immuno-oncology industry specifically, is characterized by intense competition and rapid innovation. Our competitors may be able to develop other compounds or drugs that are able to achieve similar or better results. Our potential competitors include major multinational 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 staff and experienced marketing and manufacturing organizations and well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors, either alone or with collaborative partners, may succeed in developing, acquiring or licensing on an exclusive basis drug or biologic products that are more effective, safer, more easily commercialized or less costly than our product candidates or may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products.

Specifically, engineered T cells face significant competition from multiple companies. Success of other therapies could impact our regulatory strategy and delay or prevent regulatory approval of our product candidates. Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our

product candidates for use in limited circumstances. For additional information regarding our competition, see the section entitled "Business—Competition" included in this Annual Report.

We are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific, medical and other personnel. We are highly dependent on our management, including our Executive Chair, our President and Chief Executive Officer, our Executive Vice President, Research & Development and Chief Medical Officer, our Executive Vice President, Chief Technical Officer, our Chief Financial Officer, and our General Counsel. The loss of the services of any of our executive officers, other key employees, and other scientific and medical advisors, and our inability to find suitable replacements could result in delays in product development and harm our business.

We conduct substantially all of our operations at our facilities in the San Francisco Bay area. This region is headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all. Attrition may lead to higher costs for hiring and retention, diversion of management time to address retention matters and disrupt the business.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options and restricted stock unit (RSU) awards that vest over time. The value to employees of stock options and RSU awards that vest over time have been significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract more lucrative offers from other companies. We completed an option exchange program in July 2022 to alleviate the significant number of employee options that were underwater at that time. Our stock price has significantly declined since the option exchange program and a significant number of our employee options remain underwater and may not provide the intended incentive for employees to remain at our company. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Although we have employment agreements with our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. We do not maintain "key person" insurance policies on the lives of these individuals or the lives of any of our other employees. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers as well as junior, mid-level and senior scientific and medical personnel.

Our reduction in force undertaken to extend our cash runway and focus more of our capital resources on our prioritized research and development programs might not achieve our intended outcome.

In January 2024, our board of directors approved a reduction in force affecting approximately 22% of our workforce, in order to preserve cash and prioritize investment in our core clinical programs. The reduction in force may result in unintended consequences and costs, such as the loss of institutional knowledge and expertise, attrition beyond the intended number of employees, decreased morale among our remaining employees, and the risk that we may not achieve the anticipated benefits of the reduction in force. In addition, while positions have been eliminated, certain functions necessary to our operations remain, and we might not successfully distribute the duties and obligations of our terminated employees among our remaining employees. The reduction in workforce could also make it difficult for us to pursue, or prevent us from pursuing, new opportunities and initiatives due to insufficient personnel, or require us to incur additional and unanticipated costs to hire new personnel to pursue such opportunities or initiatives. If we are unable to realize the anticipated benefits from the reduction in force, or if we experience significant adverse consequences from the reduction in force, our business, financial condition and results of operations may be materially adversely affected.

The size of our workforce has fluctuated and we will need to manage the size of our organization as we continue to advance our product candidates.

As our development, manufacturing and commercialization plans and strategies develop, we have grown our employee base and allocated resources to multiple new functions, but in January 2024 we implemented a 22% reduction in force, and we will need to continue to manage the size of our organization to ensure that we can successfully execute our strategic plans. As our product candidates advance toward commercialization, we expect to hire employees in areas that include sales and marketing. Future growth imposes significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;

- managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to commercialize our product candidates will depend, in part, on our ability to effectively manage our growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants. There can be no assurance that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. We may also be subject to penalties or other liabilities if we mis-classify employees as consultants. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring and retaining employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop, manufacture and commercialize our product candidates and, accordingly, may not achieve our research, development, manufacturing and commercialization goals. Conversely, if we expand ahead of our business progress, we may take on unnecessary costs.

We may form or seek additional strategic alliances or enter into additional licensing arrangements in the future, and we may not realize the benefits of such alliances or licensing arrangements.

We may form or seek additional strategic alliances, create joint ventures or collaborations or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to our product candidates and any future product candidates that we may develop. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety and efficacy. Any delays in entering into new strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies for certain indications, which would harm our business prospects, financial condition and results of operations.

If we license products or new technologies or acquire businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. For instance, our agreements with Cellectis, Servier, Notch, Antion, and Foresight Diagnostics require significant research and development that may not result in the development and commercialization of product candidates. We cannot be certain that, following a strategic transaction or license, we will achieve the results, revenue or specific net income that justifies such transaction.

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

We actively evaluate various strategic transactions on an ongoing basis. We may acquire other businesses, products or technologies as well as pursue joint ventures or investments in complementary businesses. The success of our strategic transactions, including our acquisition of CAR T cell assets from Pfizer, licenses with Cellectis, Servier, Notch, Antion, our strategic collaboration with Foresight Diagnostics, and our joint venture with Overland Pharmaceuticals (CY) Inc. and any future strategic transactions depends on the risks and uncertainties involved including:

- technical difficulties associated with advancing partnered programs;
- unanticipated liabilities related to acquired companies or joint ventures;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- retention of key employees;
- managerial challenges associated with the oversight of partnered programs;

- costs and uncertainties related to managing disputes with any strategic partners;
- increases in our expenses and reductions in our cash available for operations and other uses;
- inability of our strategic partners to access suitable capital;
- 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.

If any of these risks or uncertainties occur, we may not realize the anticipated benefit of any acquisition or strategic transaction.

Additionally, 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. For instance, our joint venture with Overland Pharmaceuticals (CY) Inc. has faced challenges relating to the regulatory and competitive environment in China for allogeneic CAR T products, as well as challenges within the capital markets for financing allogeneic CAR T development. Our joint venture may face manufacturing difficulties, such as from changes in raw materials or processes due to local regulations, or delivering our licensed product candidates in China, Taiwan, South Korea or Singapore, which could prevent any development or commercialization of our licensed product candidates in the region. The joint venture will also require significant operational and financial support in the future by us or third parties, and any future financing of the joint venture would increase our expenses or dilute our ownership in the joint venture. We may also face unknown liabilities due to supporting our joint venture, such as due to any misuse of materials supplied to our joint venture.

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.

If our security measures, or those of our CROs, CDMOs, collaborators, contractors, consultants or other third parties upon whom we rely, are or were compromised or the security, confidentiality, integrity or availability of our information technology, software, services, networks, communications or data is compromised, limited or fails, we could experience a material adverse impact.

In the ordinary course of our business, we collect, process, receive, store, use, generate, transfer, disclose, make accessible, protect, secure, dispose of, transmit, and share (collectively, processing) proprietary, confidential and sensitive information, including personal data (including health information), intellectual property, trade secrets, information we collect about patients in connection with clinical trials, and proprietary business information owned or controlled by ourselves or other parties (collectively, sensitive information). We rely upon certain third parties, such as CROs and CDMOs, to process our proprietary, confidential and sensitive information. We may also share or receive sensitive information with our partners, CROs, CDMOs, or other third parties. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, we may also experience adverse consequences.

Cyberattacks, malicious internet-based activity, online and offline fraud and other similar activities threaten the confidentiality, integrity, and availability of our sensitive information and information technology systems, and those of the third parties upon which we rely. Such threats are prevalent and are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. These threats come from a variety of sources, including traditional computer "hackers," "hacktivists," organized criminal threat actors, threat actors, personnel (such as through theft or misuse), sophisticated nation-states, and nation-state-supported actors. Some actors now engage and are expected to continue to engage in cyber-attacks, including without limitation nation-state actors for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we, and the third parties upon which we rely, may be vulnerable to a heightened risk of these attacks, including retaliatory cyber-attacks, that could materially disrupt our systems and operations, supply chain, and ability to produce and distribute our product candidates. We and the third parties upon which we rely are subject to a variety of evolving threats, including but not limited to social-engineering attacks (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service credential stuffing attacks, credential harvesting, adware, ransomware, supply chain attacks, personnel misconduct or error, attacks enhanced or facilitated by AI, and other similar threats. Our information technology systems and data may also be subject to failure or disruption from software bugs, server malfunction, software or hardware failures, loss of data or other information technology assets, telecommunications failures, natural disasters such as earthquakes, fires, and floods, and other similar issues.

In particular, severe ransomware attacks are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, disruptions to our clinical trials, loss of data (including data related to clinical trials), significant expense to restore data or systems, reputational loss and the diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. In addition, our reliance on third-party service providers could introduce new cybersecurity risks and vulnerabilities, including supply-chain attacks, and other threats to our business operations. Such supply chain attacks have increased in frequency and severity, and we cannot guarantee that third parties and infrastructure in our supply chain have not been compromised or that they do not contain exploitable defects or bugs that could result in a breach to our information technology systems or the third-party information technology systems that support us and our services. Additionally, future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate companies into our information technology environment and security program.

Any of the previously identified or similar threats could cause a security incident or other interruption. A security incident or other interruption could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive information. A security incident or other interruption could disrupt our ability (and that of third parties upon whom we rely) to manufacture or deliver our product candidates.

We may expend significant resources, or modify our business activities and operations, including our clinical trial activities, in an effort to protect against security incidents. Certain data privacy and security obligations may require us to implement and maintain specific security measures or use industry-standard or reasonable security measures to protect our information technology systems and sensitive information.

Although we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We have experienced attempts to compromise our information technology systems or otherwise cause a security incident, but, to our knowledge, such attempts have been unsuccessful. In addition, from time to time, our vendors inform us of security incidents. To date, our review of such incidents as reported to us did not reveal material information being lost, Allogene-specific security vulnerabilities or provide any useful information or insight into our systems or environment. However, we may not have all information related to such incidents and future incidents could have an adverse impact on our business.

We take steps designed to detect, mitigate, and remediate vulnerabilities in our information systems (such as our hardware and/or software, including that of third parties upon which we rely). We may, however, be unable to detect and remediate vulnerabilities in our information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security incident has occurred, meaning that such vulnerabilities could be exploited. Unremediated high risk or critical vulnerabilities pose material risks to our business. Further, we may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities. We may also face heightened physical and information technology risks due to our sharing office space with other tenants at certain of our sites. Any failure to prevent or mitigate security incidents or improper access to, use of, or disclosure of our clinical data or patients' personal data could result in significant liability under state, federal, and international law and may cause a material adverse impact to our reputation, affect our ability to conduct our clinical trials and potentially disrupt our business. In addition, as many of our employees work from home at least part of the time and utilize network connections outside our premises, including while at home, or in transit, this poses increased risks to our information technology systems and data.

Applicable data protection laws, privacy policies, data protection obligations and public company disclosure obligations may require us to notify relevant stakeholders, including affected individuals, regulators and investors, of certain security incidents. Such disclosures are costly, and the disclosures or the failure to comply with such requirements could lead to adverse consequences. If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, we may also experience adverse consequences. These consequences may include: government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing sensitive information (including personal data); litigation (including class claims) and mass arbitration; indemnification obligations; negative publicity; reputational harm; monetary fund diversions; interruptions in our operations (including availability of data); financial loss; and other similar harms. Whether a cybersecurity incident is reportable to our investors may not be straightforward, may take considerable time to determine, and may be subject to change as the investigation of the incident progresses, including changes that may significantly alter any initial disclosure that we provide. Moreover, experiencing a material cybersecurity incident and any mandatory disclosures could lead to negative

publicity, loss of investor or partner confidence in the effectiveness of our cybersecurity measures, diversion of management's attention, governmental investigations, lawsuits, and the expenditure of significant capital and other resources.

Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that the limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations.

We cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or adequately mitigate liabilities arising out of our privacy and security practices, or that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

In addition to experiencing a security incident, third parties may gather, collect, or infer sensitive information about us from public sources, data brokers, or other means that reveals competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position. Additionally, sensitive information could be leaked, disclosed, or revealed as a result of or in connection with the use of generative artificial intelligence technologies by our employees, personnel, or vendors.

Changes in funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept payment of user fees, statutory, regulatory and policy changes, and business disruptions, such as those caused by the COVID-19 pandemic. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

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

These laws may impact, among other things, our clinical research program, as well as our proposed and future sales, marketing and education programs. In particular, the promotion, sales and marketing of healthcare items and services is subject to extensive laws and regulations designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive and other business arrangements. We may also be subject to federal, state and foreign laws governing the privacy and security of identifiable patient information, price reporting, false claims and provider transparency. If our operations are found to be in violation of any of these laws that apply to us, we may be subject to significant civil, criminal and administrative penalties.

We are subject to stringent and evolving privacy laws, regulations and standards as well as policies, contracts and other obligations related to data privacy and security. Our actual or perceived failure to comply with such obligations could lead to enforcement or litigation (including class claims) and mass arbitration demands, fines or penalties, a disruption of clinical trials or commercialization of products, reputational harm, or other adverse business effects.

In the ordinary course of business, we process sensitive information. Accordingly, we are, or may become, subject to numerous data privacy and security obligations, such as various federal, state, local and foreign data privacy and security laws, regulations, guidance, and industry standards as well as external and internal privacy and security policies, contracts and other

obligations that apply to data privacy and security and our processing of personal data and the processing of personal data on our behalf.

In the United States, federal, state, and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal data privacy laws, consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act) and other similar laws (e.g., wiretapping laws). For example, the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH), and their respective implementing regulations, imposes requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH, through its implementing regulations, makes certain of HIPAA's privacy and security standards directly applicable to business associates, defined as a person or organization, other than a member of a covered entity's workforce, that creates, receives, maintains or transmits protected health information for or on behalf of a covered entity for a function or activity regulated by HIPAA as well as their covered subcontractors.

In the past few years, numerous U.S. states have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data. As applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt-out of certain data processing activities, such as targeted advertising, profiling, and automated decision-making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020 (CPRA) (collectively, CCPA), applies to personal data of consumers, business representatives, and employees who are California residents, and requires covered companies to provide specific disclosures in privacy notices and honor requests of such individuals to exercise certain privacy rights. The CCPA provides for fines of up to $7,500 per intentional violation and allows private litigants affected by certain data breaches to recover significant statutory damages. Although there are limited exemptions for clinical trial data under the CCPA, as our business progresses, the CCPA may become applicable and significantly impact our business activities, exemplifying the vulnerability of our business to evolving regulatory environment related to personal data and protected health information. Similar laws are being considered in other states, as well as at the federal and local levels, and we expect more states to pass similar laws in the future. While many of these state laws, like the CCPA, also exempt some data processed in the context of clinical trials, these developments and others like them will further complicate compliance efforts, and increase legal risk and compliance costs for us and the third parties upon whom we rely.

Outside the United States, there are an increasing number of laws, regulations and industry standards concerning governing privacy, data protection, information security and cross-border personal data transfers. For example, the European Union's General Data Protection Regulation (EU GDPR), the United Kingdom's GDPR (UK GDPR) (collectively, GDPR), and Australia's Privacy Act, China's Personal Information Protection Law (PIPL), and Canada's Personal Information Protection and Electronic Documents Act (PIPEDA) (and various related provincial laws) and Anti-Spam Legislation (CASL) may apply to our operations and impose strict requirements for processing personal data.

For example, under the GDPR, companies may face temporary or definitive bans on data processing and other corrective actions; fines of up to €20,000,000 under the EU GDPR / 17.5 million pounds sterling under the UK GDPR, or up to 4% annual total revenue, in each case, whichever is greater; or private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests.

In the ordinary course of business, we may transfer personal data from Europe and other jurisdictions to the United States or other countries. Europe and other jurisdictions have enacted laws requiring data to be localized or limiting the transfer of personal data to other countries. In particular, the European Economic Area (EEA) and the United Kingdom (UK) have significantly restricted the transfer of personal data to the United States and other countries whose privacy laws it generally believes are inadequate. Other jurisdictions may adopt similarly stringent interpretations of their data localization and cross-border data transfer laws. Although there are currently various mechanisms that may be used to transfer personal data from the EEA and UK to the United States in compliance with law, such as the EEA and UK's standard contractual clauses, the UK's International Data Transfer Agreement / Addendum, and the EU-U.S. Data Privacy Framework and the UK extension thereto (which allows for transfers for relevant U.S.-based organizations who self-certify compliance and participate in the Framework), these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the United States. If there is no lawful manner for us to transfer personal data from the EEA, UK, or other jurisdictions to the United States, or if the requirements for a legally-compliant transfer are too onerous, we may face significant adverse consequences, including the interruption or degradation of our operations (such as by limiting our ability to conduct clinical trial activities in Europe and elsewhere), the need to relocate part of or all of our business or data processing activities to other jurisdictions (such as Europe) at significant expense, the inability to transfer data and work with partners, vendors and other third parties, increased exposure to regulatory actions, substantial fines, and injunctions against

processing personal data necessary to operate our business. Additionally, companies that transfer personal data out of the EEA and UK to other jurisdictions, particularly to the United States, are subject to increased scrutiny from regulators, individual litigants, and activist groups. Some European regulators have also ordered certain companies to suspend or permanently cease certain transfers out of Europe for allegedly violating the GDPR's cross-border data transfer limitations.

In addition, privacy advocates and industry groups have proposed, and may propose, standards with which we are legally or contractually bound to comply. We are also bound by contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful. We publish privacy notices and other statements regarding data privacy and security. If any of our privacy notices or related materials or statements are found to be deficient, lacking in transparency, deceptive, unfair, or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators or other adverse consequences. Furthermore, our employees and personnel may use generative artificial intelligence technologies to perform their work, and the disclosure and use of personal data in such technologies is subject to various privacy laws and other privacy obligations.

Our obligations related to data privacy and security are quickly changing, becoming increasingly stringent fashion, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. As a result, preparing for and complying with these obligations requires significant resources and may necessitate changes to our information technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors, consultants or other third parties that process personal data on our behalf.

Although we endeavor to comply with our applicable privacy and security obligations, we may at times fail (or be perceived to have failed) to do so. Moreover, despite our efforts, we may not be successful in achieving compliance if our employees, third-party collaborators, service providers, contractors or consultants fail to comply with such obligations, which could negatively impact our business operations and compliance posture. If we or the third parties on which we rely fail, or are perceived to have failed, to address or comply with obligations related to data privacy and security obligations, we could face significant consequences including, but not limited to, government enforcement actions (e.g., investigations, fines, penalties, audits and inspections, and similar); litigation (including class-related claims) and mass arbitration demands; additional reporting requirements and/or oversight; temporary or permanent bans on all or some processing of personal data; orders to destroy or not use personal data; and imprisonment of company officials. In particular, plaintiffs have become increasingly more active in bringing privacy-related claims against companies, including class claims and mass arbitration demands. Some of these claims allow for the recovery of statutory damages on a per violation basis, and, if viable, carry the potential for monumental statutory damages, depending on the volume of data and the number of violations. Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: interruptions or stoppages in our business operations (including clinical trials); inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or substantial changes to our business model or operations.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any products. 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 product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates;
- injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;

- the inability to commercialize any product candidate; and
- a decline in our share price.

Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop, alone or with corporate collaborators. Our insurance policies may also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. While we have obtained and expect to obtain clinical trial insurance for our clinical trials, 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. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

Risks Related to the Development of Our Product Candidates

Our engineered allogeneic T cell product candidates represent a novel approach to cancer treatment that creates significant challenges for us.

We are developing a pipeline of allogeneic T cell product candidates that are engineered from healthy donor T cells to express CARs and are intended for use in any eligible patient with certain cancers. Advancing these novel product candidates creates significant challenges for us, including:

- manufacturing our product candidates to our or regulatory specifications and in a timely manner to support our clinical trials, and, if approved, commercialization;
- sourcing clinical and, if approved, commercial supplies for the raw materials used to manufacture our product candidates;
- understanding and addressing variability in the quality of a donor's T cells, which could ultimately affect our ability to produce product in a reliable and consistent manner and treat certain patients;
- educating medical personnel regarding the potential side effect profile of our product candidates, if approved, such as the potential adverse side effects related to CRS, neurotoxicity, GvHD, prolonged cytopenia, aplastic anemia and neutropenic sepsis;
- using medicines to preempt or manage adverse side effects of our product candidates and such medicines may be difficult to source or costly or may not adequately control the side effects and/or may have other safety risks or a detrimental impact on the efficacy of the treatment;
- conditioning patients with chemotherapy and ALLO-647 or other lymphodepletion agents in advance of administering our product candidates, which may be difficult to source, costly or increase the risk of infections and other adverse side effects;
- obtaining regulatory approval, as the FDA and other regulatory authorities have limited experience with development of allogeneic T cell therapies for cancer; and
- establishing sales and marketing capabilities upon obtaining any regulatory approval to gain market acceptance of a novel therapy.

Gene-editing is a relatively new technology, and if we are unable to use this technology in our intended product candidates, our revenue opportunities will be materially limited.

Cellectis' TALEN technology, which we use in our oncology programs, and Arbor's CRISPR technology, which we use in our AID program, both involve relatively new approaches to gene editing, using sequence-specific DNA-cutting enzymes, or nucleases, to perform precise and stable modifications in the DNA of living-cells and organisms, and we have very little experience with Arbor's CRISPR technology. Cellectis and Arbor have not created nucleases for all gene sequences that we may seek to target, and they may not agree to or have difficulty creating nucleases for other gene sequences that we may seek to target, which could limit the usefulness of this technology. This technology may also not be shown to be effective in clinical studies that Cellectis, we or other licensees of Cellectis technology or Arbor's CRISPR technology may conduct, or may be associated with safety issues that may negatively affect our development programs. For instance, gene-editing may create unintended changes to the DNA such as a non-target site gene-editing, a large deletion, or a DNA translocation, any of which could lead to oncogenesis. In our ALPHA2 trial, we observed a chromosomal abnormality, and the FDA placed our clinical trials on hold following this observation. While our investigation concluded that gene editing was not responsible for the chromosomal abnormality and the hold was resolved, we may discover future abnormalities caused by gene editing or other

factors that would impact our development plans. The gene editing of our product candidates may also not be successful in limiting the risk of GvHD or premature rejection by the patient.

In addition, the gene-editing industry is rapidly developing, and our competitors may introduce new technologies that render our technology obsolete or less attractive. New technology could emerge at any point in the development cycle of our product candidates. As competitors use or develop new technologies, any failures of such technology could adversely impact our program. We also may be placed at a competitive disadvantage, and competitive pressures may force us to implement new technologies at a substantial cost, and which would delay our development programs. In addition, our competitors may have greater financial, technical and personnel resources that allow them to enjoy technological advantages and may in the future allow them to implement new technologies before we can. We cannot be certain that we will be able to implement technologies on a timely basis or at a cost that is acceptable to us. If we are unable to maintain technological advancements consistent with industry standards, our operations and financial condition may be adversely affected.

We are heavily reliant on our partners, Cellectis and Servier, for access to TALEN gene editing technology for the manufacturing and development of our oncology product candidates.

A critical aspect to manufacturing allogeneic T cell product candidates involves gene editing the healthy donor T cells in an effort to avoid GvHD and to limit the patient's immune system from attacking the allogeneic T cells. GvHD results when allogeneic T cells start recognizing the patient's normal tissue as foreign. For our oncology product candidates, we use Cellectis' TALEN gene-editing technology to inactivate a gene coding for TCRα, a key component of the natural antigen receptor of T cells, to cause the engineered T cells to be incapable of recognizing foreign antigens. Accordingly, when injected into a patient, the intent is for the engineered T cell not to recognize the tissue of the patient as foreign and thus avoid attacking the patient's tissue. In addition, we use TALEN gene editing in our oncology product candidates to inactivate the CD52 gene in donor T cells, which codes for the target of an anti-CD52 monoclonal antibody. Anti-CD52 monoclonal antibodies deplete CD52 expressing T cells in patients while sparing therapeutic allogeneic T cells lacking CD52. By administering an anti-CD52 antibody prior to infusing our oncology product candidates, we believe we have the potential to reduce the likelihood of a patient's immune system from rejecting the engineered allogeneic T cells for a sufficient period of time to enable a window of persistence during which the engineered allogeneic T cells can actively target and destroy the cancer cells. However, the antibody may not have the benefits that we anticipate and could have adverse effects.

We rely on an agreement with Cellectis for exclusive rights to use TALEN technology for 15 select cancer targets, including BCMA, FLT3, CD70, DLL3, Claudin 18.2 and other targets included in our pipeline. We also rely on Cellectis, through our agreement with Servier, for exclusive rights to UCART19, ALLO-501 and ALLO-501A. Any other gene-editing technology used to research and develop product candidates directed at targets not covered by our existing agreements with Cellectis and Servier will require significant investment and time for advancement. In addition, the Cellectis gene-editing technology may fail to produce viable product candidates. Moreover, both Servier and Cellectis may terminate our respective agreements in the event of a material breach of the agreements, or upon certain insolvency events. Cellectis has challenged and may in the future challenge certain performance by Servier, such as its development of products licensed under the Cellectis-Servier Agreement in ALL, and any failure by those parties to resolve such matters may have an adverse impact on us. If our agreements were terminated or we required other gene editing technology, such a license or technology may not be available to us on reasonable terms, or at all, and advancing other gene editing technology would require significant resources.

Servier's discontinuation of its involvement in the development of CD19 Products and Servier's disputes with us and Cellectis may have adverse consequences.

On September 15, 2022, Servier sent a notice of discontinuation (Discontinuation) of its involvement in the development of all CD19 Products pursuant to the Servier Agreement. Despite there being no obligation under the terms of the Servier Agreement to do so, Servier believes that we had to exercise the Ex-US Option within a limited timeframe that passed. Servier also communicated to us that it believes it does not have to contribute to development costs 90 days from its notice of discontinuation, pending our exercise of the Ex-US Option. We disagree with these assertions relating to both the maintenance of the Ex-US Option as well as contribution to development costs during our consideration of the Ex-US Option. Any failure of Servier to fulfill its obligations may be harmful to us.

Servier also licenses certain rights to the CD19 Products from Cellectis and sublicenses those rights to us. Cellectis has challenged certain performance by Servier and has also challenged the ability of Servier to grant a world-wide sublicense pursuant to our Ex-US Option. Servier's Discontinuation and any subsequent actions may further strain our relationship with Servier, as well as the relationships between Servier and Cellectis, and between us and Cellectis. Any failure to resolve Cellectis challenges could impact our agreement with Servier and could have a significant adverse impact on our business, financial condition and prospects.

Additionally, in December 2022, Servier sent us a notice for material breach due to our purported refusal to allow an audit of certain manufacturing costs under our cost share arrangement. While we do not believe Servier has such an audit right, we submitted to a review of our manufacturing costs of CD19 Products to recover outstanding manufacturing costs owed by Servier to us. In July 2023, Servier sent us a second notice for material breach alleging that we overcharged Servier based on Servier and its accounting firm's review of costs eligible for cost-sharing under the Servier Agreement. We disagree with the material breach allegations and we are disputing such allegations. Absent a resolution between the parties, disputed matters may be resolved in arbitration as specified in the Servier Agreement. While we intend to vigorously pursue our rights and remedies to dispute Servier's allegations and enforce our contractual rights, any legal outcome is inherently uncertain, will add to our costs and divert management time, and could result in a termination of the Servier Agreement which would have a significant adverse impact on our business, financial condition, and prospects.

Under the Servier Agreement, Servier sublicenses to us certain rights it has licensed from Cellectis relating to Cellectis' TALEN gene editing technology (Cellectis-Servier Primary License). In its Form 20-F filed with the SEC, Cellectis has asserted that it believes that Servier has not complied with its performance obligations under the Cellectis-Servier Primary License, which Cellectis believes may involve material breaches of the Cellectis-Servier Primary License. There is a risk that Cellectis may terminate the Cellectis-Servier Primary License. The Servier Agreement provides us with certain rights to obtain a direct license with Cellectis in the event the Cellectis-Servier Primary License is terminated, however, there can be no assurance that we will be able to obtain such a direct license and failure to do so would have a significant adverse impact on our business, financial condition, and prospects.

Our oncology development strategy relies on incorporating an anti-CD52 monoclonal antibody as part of the lymphodepletion preconditioning regimen prior to infusing allogeneic CAR T cell product candidates.

Our oncology product candidates utilize an anti-CD52 monoclonal antibody as part of a lymphodepletion regimen to be infused prior to infusing our product candidates. The anti-CD52 antibody may reduce the likelihood of a patient's immune system rejecting the engineered allogeneic T cells for a sufficient period of time to enable a window of persistence during which such engineered allogeneic T cells can actively target and destroy cancer cells. However, the antibody may not have the benefits that we anticipate and could have adverse effects. For instance, our lymphodepletion regimen, including using an anti-CD52 antibody, will cause immune suppression that can be of unpredictable depth and duration and that may be associated with an increased risk of infection, such as to common viral or bacterial or opportunistic pathogens, that may be unable to be cleared and ultimately lead to other serious adverse events or death.

In the prior CALM and PALL trials, a commercially available monoclonal antibody, alemtuzumab, that binds CD52 was used. Alemtuzumab is known to have risk of causing certain adverse events. In 2020, the EMA completed a pharmacovigilance review of alemtuzumab in the context of the treatment of multiple sclerosis following reports of immune-mediated conditions and problems affecting the heart and blood vessels, including fatal cases. The EMA recommended that alemtuzumab should not be used in patients with certain heart, circulation or bleeding disorders or in patients who have autoimmune disorders other than multiple sclerosis. The EMA also recommended that alemtuzumab only be given in a hospital with ready access to intensive care facilities and specialists who can manage serious adverse reactions. The use of our anti-CD52 antibody may result in the same or similar adverse events as alemtuzumab, and we have chosen to administer our product candidates at centers experienced at managing patients with advanced malignancies as well as toxicities associated with immunomodulatory therapies, which significantly limits the sites that are eligible to participate in our clinical trials. If the EMA or other regulatory agencies further limit the use of alemtuzumab or anti-CD52 antibodies, our clinical program would be adversely affected.

To secure our own readily available source of anti-CD52 antibody, we are developing our own monoclonal anti-CD52 antibody, ALLO-647, which we use in our clinical trials. ALLO-647 may cause serious adverse events that alemtuzumab may cause, including fatal adverse events, infusion related reactions, immune thrombocytopenia, glomerular nephropathies, thyroid disorders, autoimmune cytopenias, autoimmune hepatitis, hemophagocytic lymphohistiocytosis, acquired hemophilia, infections, stroke, and progressive multifocal leukoencephalopathy. In addition, we are exploring various dosing strategies for lymphodepletion in our clinical trials, such as including varying doses of the chemotherapy agents and/or ALLO-647 or eliminating one or more of the agents, which may alter the risk of serious adverse events or have other undesirable outcomes such as a reduction of the efficacy of treatment. Additionally, our experimental lymphodepletion regimens may show different safety profiles when paired with different allogeneic CAR T product candidates such that regimens deemed safe with one CAR T product candidate may be determined to be associated with unacceptable toxicity when combined with another CAR T candidate or with the same candidate in a different patient population. If observed, these differences may require additional clinical exploration and may cause delays in the execution or termination of development campaigns. See the section entitled "Business—Product Pipeline and Development Strategy" included in this Annual Report for information on safety events.

If we are unable to successfully develop and manufacture ALLO-647 in the timeframe we anticipate, or at all, such as if regulatory authorities do not agree with our selected dose or approve of the use of ALLO-647 in combination with our allogeneic T cell product candidates, our clinical trial timelines and ability to commercialize any of our oncology product candidates would be significantly delayed.

Risks Related to Our Reliance on 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 meet expected deadlines, we may not be able to obtain regulatory approval of or commercialize our product candidates.

We depend and will continue to depend upon independent investigators and collaborators, such as universities, medical institutions, CROs and strategic partners to conduct our preclinical and clinical trials under agreements with us.

We negotiate budgets and contracts with CROs and study sites, which may result in delays to our development timelines and increased costs. 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 applicable protocol, legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCPs, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP regulations. In addition, our clinical trials must be conducted with biologic product produced under cGMPs and will require a large number of test patients. Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Any third parties conducting our clinical trials are and will not be our employees and, except for remedies available to us under our agreements with such third parties, we cannot control whether or not 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 studies or other drug 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 expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and 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 would 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 enter into arrangements with alternative trial sites or CROs or do so on commercially reasonable terms. Switching or adding third parties to conduct our clinical trials involves substantial cost and requires extensive management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines.

We rely on third parties to manufacture and store our clinical product supplies, and we may have to rely on third parties to produce and process our product candidates, if approved.

While we utilize CF1 for clinical manufacturing of our product candidates, we may continue to use CDMOs from time to time to manufacture product candidates in the United States while we manage all other aspects of the supply, including planning, CDMO oversight, disposition and distribution logistics. For example, in the past, Servier was responsible for UCART19 manufacturing, and experienced UCART19 supply issues that limited its ability to recruit new patients. There can be no assurance that we will not experience supply or manufacturing issues in the future.

We do not have long-term agreements in place with CDMOs for the manufacture of our cell therapies or of ALLO-647. If we are unable to contract with CDMOs on acceptable terms or at all, our clinical development program would be delayed and our business would be significantly harmed. For example, in February 2024 Catalent, Inc. and Novo Holdings announced that they have entered into a merger agreement under which Novo Holdings will acquire Catalent. The merger is expected to close towards the end of 2024, and shortly thereafter Novo Holdings intends to sell three Catalent fill-finish sites and related assets acquired in the merger to Novo Nordisk. ALLO-647 is manufactured at one of these sites, and there is a risk that the pendency of the merger and/or the merger itself could impact our ability to utilize the Catalent site for manufacturing ALLO-647. If we are unable to manufacture ALLO-647 at Catalent, we would be required to identify, qualify and establish an alternative manufacturing site and we may be unable to do so in a timely manner, if at all, which could significantly delay our clinical development timelines.

We have built our own manufacturing facility for cell products (CF1) and are in the process of transitioning the manufacture of certain product candidates to our manufacturing facility. Manufacturing product candidates in our own facility requires that we meet certain regulatory conditions, which may delay or extend our clinical trial timelines. As we transition more manufacturing to CF1, there is a risk that we may need to re-engage our CDMO to manufacture material, which would be costly and there is a risk that the CDMO may be unavailable or may fail in manufacturing, such as due to the CDMO having to retrain its personnel, or train new personnel, to manufacture our material.

We have not yet caused our product candidates to be manufactured or processed on a commercial scale and may not be able to achieve manufacturing and processing and may be unable to create an inventory of mass-produced, off-the-shelf product to satisfy demands for any of our product candidates. Our clinical supply is also limited to small quantities and any latent defects discovered in our supply could significantly delay our development timelines.

In addition, our actual and potential future reliance on a limited number of third-party manufacturers exposes us to the following risks:

- We may be unable to identify manufacturers on acceptable terms or at all because the number of potential manufacturers is limited and the FDA may have questions regarding any replacement contractor. This may require new testing and regulatory interactions. In addition, a new manufacturer would have to be educated in, or develop substantially equivalent processes for, production of our products after receipt of FDA questions, if any.
- Our third-party manufacturers might be unable to timely formulate and manufacture our product or produce the quantity and quality required to meet our clinical and commercial needs, if any.
- Contract manufacturers may not be able to execute our manufacturing procedures appropriately.
- Contract manufacturers may be subject to adverse legislative actions.
- Manufacturers are subject to ongoing periodic unannounced inspection by the FDA, the Drug Enforcement Administration and corresponding state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. We do not have control over third-party manufacturers' compliance with these regulations and standards.
- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our products.
- Our future contract manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store and distribute our products.
- Our third-party manufacturers could breach or terminate their agreement with us.

Our contract manufacturers would also be subject to the same risks we face in developing our own manufacturing capabilities, as described above. Our current and potential future CDMOs may also be required to shut down in response to health epidemics or pandemics, or they may prioritize manufacturing for therapies or vaccines for other diseases. In addition, our CDMOs have certain responsibilities for storage of raw materials and in the past have lost or failed to adequately store our raw materials. We also rely on third parties to store our released product candidates, and any failure to adequately store our product candidates could result in significant delay to our development timelines. Any additional or future damage or loss of raw materials or product candidates could materially impact our ability to manufacture and supply our product candidates. Each of these risks could delay our clinical trials, the approval, if any, of our product candidates by the FDA or the commercialization of our product candidates or result in higher costs or deprive us of potential product revenue.

In addition, we rely on third parties to perform release tests on our product candidates prior to delivery to patients. If these tests are not appropriately done and test data are not reliable, patients could be put at risk of serious harm.

We rely on T cells from healthy donors to manufacture our product candidates, and if we do not obtain an adequate supply of T cells from qualified donors, development of those product candidates, or commercialization, if approved, may be adversely impacted.

Unlike autologous CAR T companies, we are reliant on receiving healthy donor material to manufacture our product candidates. Healthy donor T cells vary in type and quality, and this variation makes producing standardized product candidates more difficult and makes the development and commercialization pathway of those product candidates more uncertain. We 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 the manufacturing runs we have completed and tested in the clinic are limited across our product candidates. As we gain experience, we may find that our screening process fails to identify suitable donor material and we may discover unacceptable variability with the material after production. We may also have to update our specifications for new risks that may emerge, such as to screen for new viruses or chromosomal abnormalities.

We have strict specifications for donor material, which include specifications required by regulatory authorities. If we are unable to identify and obtain donor material that satisfy specifications, agree with regulatory authorities on appropriate specifications, or address variability in donor T cells, there may be inconsistencies in the product candidates we produce 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.

In addition, vendors have and are facing challenges in obtaining donor material. While we have donor material on hand, if our vendors are unable to secure donor material, we may no longer have sufficient donor material to manufacture our product candidates.

Cell-based therapies rely on the availability of specialty raw materials, which may not be available to us on acceptable terms or at all.

Our product candidates require many specialty raw materials, including viral vectors that deliver the CAR sequence and electroporation technology, some of which are manufactured by small companies with limited resources and experience to support a commercial product, and the suppliers may not be able to deliver raw materials to our specifications. We do not have contracts with many of the suppliers, and we may not be able to contract with them on acceptable terms, or at all. As a result of logistical challenges and recent inflation, we may experience higher costs or delays in receiving, or fail to secure entirely, key raw materials to support clinical or commercial manufacturing. Certain raw materials also require third-party testing, and some of the testing service companies may not have capacity or be able to conduct the testing that we request.

In addition, many of our suppliers normally support blood-based hospital businesses and generally do not have the capacity to support commercial products manufactured under cGMP by biopharmaceutical firms. The suppliers may be ill-equipped to support our needs, including generating data required for a BLA and in non-routine circumstances like an FDA inspection or medical crisis, such as widespread contamination.

We also face competition for supplies from other cell therapy companies. Such competition may make it difficult for us to secure raw materials or the testing of such materials on commercially reasonable terms or in a timely manner.

Some raw materials are currently available from a single supplier, or a small number of suppliers. We cannot be sure 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 purpose. 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 in the event we must switch to a new supplier. For example, for certain raw materials we previously had to find an alternative supplier, which required qualifying the new supplier, which required meeting regulatory requirements for such qualification. If we need to transition to an alternative supplier in the future, it could result in additional costs, delays, diversion of resources or reduced manufacturing yields, any of which would negatively impact our operating results. Further, 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.

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

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials. We and our suppliers are subject to federal, state and local laws and regulations in the United

States governing the use, manufacture, storage, handling and disposal of medical and hazardous materials, and there is a risk of contamination or injury resulting from medical or hazardous materials. For instance, we have had and may continue to have environmental notice of violations at our manufacturing facility. As a result of any such contamination or injury, we may incur liability or local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical or hazardous materials. In addition, we have previously shipped certain materials to our joint venture with Overland Pharmaceuticals (CY) Inc. in China and may do so again in the future. Any violation by our joint venture in the use, manufacture, storage, handling and disposal under foreign law may subject us to additional liability.

Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

Risks Related to Government Regulation

The FDA regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing, and distribution of drug products, including biologics, are subject to extensive regulation by the FDA and other regulatory authorities in the United States. We are not permitted to market any biological drug product in the United States until we receive approval of a BLA from the FDA. We have not previously submitted a BLA to the FDA, or similar approval filings to comparable foreign authorities. A BLA must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and effectiveness for each desired indication. The BLA must also include significant information regarding CMC matters for the product, and any delay or failure in generating such data to meet the evolving CMC regulatory requirements would delay any BLA filing.

We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. For example, the FDA has limited experience with commercial development of allogeneic T cell therapies for cancer. We may also request clinical trial initiation or regulatory approval of future CAR-based product candidates by target, regardless of cancer type or origin, which the FDA may have difficulty accepting. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support licensure. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain licensure of the product candidates based on the completed clinical trials, as the FDA often adheres to the Advisory Committee's recommendations. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive and lengthy, and approval may not be obtained.

We have previously experienced a delay in our clinical trials due to a clinical hold, and may experience future delays in completing planned clinical trials for a variety of reasons, including delays related to:

- obtaining regulatory authorization to begin a trial, if applicable, including regulatory approval of any companion diagnostic, if applicable;
- the availability of financial resources to commence and complete the planned trials;
- 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 trial sites;
- developing and implementing processes and procedures with collaborators relating to the collection and transfer of patient samples and the timely performance of a companion diagnostic on such samples;
- obtaining approval at each clinical trial site by an independent IRB;
- obtaining regulatory and other approvals to modify the conduct of a clinical trial;
- recruiting suitable patients to participate in a trial;
- delays by a collaboration partner in running a companion diagnostic on patient samples;
- having patients complete a trial, including having patients enrolled in clinical trials dropping out of the trial prior to treatment, or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- addressing any patient safety concerns that arise during the course of a trial;

- adding new clinical trial sites; or
- manufacturing sufficient quantities of qualified materials under cGMPs, releasing product in accordance with specifications, and delivering product candidates for use in clinical trials.

We could also encounter future delays if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles, or with respect to the ALPHA3 trial, in lieu of observation alone. Further, a clinical trial may be suspended or terminated by us, the IRBs for the institutions in which such trials are being conducted or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions, lack of adequate funding to continue the clinical trial, or based on a recommendation by any Data Safety Monitoring Committee. The FDA's review of our data of our clinical trials may, depending on the data, also result in the delay, suspension or termination of one or more of our clinical trials, which would also delay or prevent the initiation of our other planned clinical trials. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenue will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may ultimately lead to the denial of regulatory approval of our product candidates.

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 or maintaining any regulatory approval.

Because we are developing novel CAR T cell immunotherapy product candidates that are unique biological entities, the regulatory requirements that we will be subject to 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 and guidance from regulatory authorities 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. For example, in the United States, the FDA has established the Office of Tissues and Advanced Therapies (OTAT), formerly known as the Office of Cellular, Tissue and Gene Therapies (OCTGT), within its Center for Biologics Evaluation and Research (CBER) to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. Gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee (IBC), a local institutional committee that reviews and oversees basic and clinical research conducted at the institution participating in the clinical trial. Although the FDA decides whether individual gene therapy protocols may proceed, review process and determinations of other reviewing bodies can impede or delay the initiation of a clinical study, even if the FDA has reviewed the study and approved its initiation. Conversely, the FDA can place an IND application on clinical hold even if such other entities have provided a favorable review. Furthermore, each clinical trial must be reviewed and approved by an independent IRB at or servicing each institution at which a clinical trial will be conducted. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other regulatory bodies to change the requirements for approval of any of our product candidates.

Complex regulatory environments exist in other jurisdictions in which we might consider seeking regulatory approvals for our product candidates, further complicating the regulatory landscape. For example, in the EU a special committee called the Committee for Advanced Therapies (CAT) was established within the EMA in accordance with Regulation (EC) No 1394/2007 on advanced-therapy medicinal products (ATMPs) to assess the quality, safety and efficacy of ATMPs, and to follow scientific developments in the field. ATMPs include gene therapy products as well as somatic cell therapy products and tissue engineered products. In this regard, on May 28, 2014, the EMA issued a recommendation that UCART19 be considered a gene therapy product under Regulation (EC) No 1394/2007 on ATMPs. We believe our product candidates may receive a similar recommendation.

These various regulatory review committees and advisory groups and new or revised guidelines that they promulgate from time to time may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. Because the regulatory landscape for our CAR T cell immunotherapy product candidates is new, we may face even more cumbersome and complex regulations than those emerging for gene therapy products and cell therapy products. Furthermore, even if our product candidates obtain required regulatory approvals, such approvals may later be withdrawn as a result of changes in regulations or the interpretation of regulations by applicable regulatory agencies.

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

The FDA may disagree with our regulatory plan and we may fail to obtain regulatory approval of our CAR T cell product candidates.

The general approach for FDA approval of a new biologic or drug is for the sponsor to provide dispositive data from two well-controlled, Phase 3 clinical studies of the relevant biologic or drug in the relevant patient population. Phase 3 clinical studies typically involve hundreds of patients, have significant costs and take years to complete. We expect ongoing FDA feedback on our trials, some of which may lead to changes in the trials, which could cause future delays to our trials. In addition, even if we believe the results are sufficiently compelling, such as for the ALPHA2 (CLL) and ALPHA3 trials, the FDA could ultimately require longer-term follow-up results, additional data from our clinical trials or additional trials that could delay or prevent our first BLA submission. The FDA may require that we conduct a comparative trial against an approved therapy including potentially an approved autologous T cell therapy, which would significantly delay our development timelines and require substantially more resources. In addition, the FDA may only allow us to evaluate patients that have failed or who are ineligible for autologous therapy, which are extremely difficult patients to treat and patients with advanced and aggressive cancer, and our product candidates may fail to improve outcomes for such patients.

If the FDA grants accelerated approval for our product candidates, as a condition for accelerated approval, the FDA may require us to perform post-marketing studies to verify and describe the predicted effect on irreversible morbidity or mortality or other clinical endpoint, and the drug or biologic may be subject to withdrawal procedures by the FDA that are more accelerated than those available for regular approvals. The FDA may ultimately refuse to grant accelerated approval for our product candidates and require a Phase 3 clinical trial prior to approval, particularly since our product candidates represent a novel treatment. In addition, the standard of care may change with the approval of new products in the same indications that we are studying. This may result in the FDA or other regulatory agencies requesting additional studies to show that our product candidate is superior to the new products.

Our clinical trial results may also not support approval. In addition, our product candidates could be delayed in receiving approval or fail to receive regulatory approval for many reasons, including the following:

- the inability to resolve any future clinical hold;
- the FDA or comparable foreign 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 comparable foreign regulatory authorities that our product candidates are safe and effective for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval, including due to the heterogeneity of patient populations;
- we may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities will review extensive CMC data, our manufacturing process and inspect the relevant commercial manufacturing facility and may not approve our manufacturing process or facility;
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval; and

- we may be unable to agree on any required pediatric investigation plan with regulatory authorities prior to any BLA filing.

We may be unable to obtain regulatory approval for ALLO-647 in a timely manner or at all, which could delay any approval or commercialization of our allogeneic T cell product candidates.

As we are concurrently developing ALLO-647 to be used as part of the lymphodepletion regimen for our allogeneic CAR T cell product candidates, mapping a co-development path for dual approval of ALLO-647 and any of our CAR T cell product candidates and coordinating concurrent review with different divisions of the FDA create additional regulatory uncertainty for us and may delay the development of our product candidates. We expect the Center for Drug Evaluation and Research division of the FDA to exercise authority over the regulatory approval of ALLO-647 while the CBER division will oversee the regulatory approval of our allogeneic CAR T cell product candidates.

In addition, the FDA is requiring us to demonstrate the overall contribution of ALLO-647 to the benefit to risk ratio of the lymphodepletion regimen for cema-cel. We plan to assess ALLO-647 though part one of the ALPHA3 trail. Some clinical trial sites may elect not to participate, and we cannot be certain when or whether we will be able to successfully enroll the ALPHA3 trial in a timely manner or that the outcome of this study will support FDA approval of both cema-cel and ALLO-647. Any delays to ALLO-647 approval could delay any approval or commercialization of our allogeneic CAR T cell product candidates.

If we, or our collaborators, are required by the FDA, or similar regulatory authorities, to obtain approval (or clearance, or certification) of a companion diagnostic device in connection with approval of one of our product candidates, and we, or our collaborators, do not obtain, or face delays in obtaining, approval (or clearance, or certification) of a companion diagnostic device, we will not be able to commercialize the product candidate, and our ability to generate revenue will be materially impaired.

According to FDA guidance, if the FDA determines that a companion diagnostic device is essential to the safe and effective use of a novel therapeutic product or 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. If a satisfactory companion diagnostic is not commercially available, we may be required to create or obtain one that would be subject to regulatory approval requirements. For example, we are collaborating with Foresight Diagnostics as part of our clinical trial enrollment process for ALPHA3 to identify patients with MRD that we believe may be most likely to benefit from treatment with cema-cel. The process of validating such diagnostic can be time consuming and costly.

Companion diagnostics are developed in conjunction with clinical programs for the associated product and are subject to regulation as medical devices by the FDA and comparable foreign regulatory authorities, and, to date, the FDA has generally required premarket approval of companion diagnostics for cancer therapies. Generally, when a companion diagnostic is essential to the safe and effective use of a therapeutic product, the FDA requires that the companion diagnostic be approved before, or concurrent with, approval of the therapeutic product and before a product can be commercialized. The approval of a companion diagnostic as part of the therapeutic product's labeling limits the use of the therapeutic product to only those patients who are determined to have MRD that the companion diagnostic was developed to detect.

If the FDA, or a comparable foreign regulatory authority, requires approval (or certification or clearance) of a companion diagnostic for any of our product candidates, whether before or after the product candidate obtains marketing approval, we and/or third-party collaborators may encounter difficulties in developing and obtaining approval (or clearance, or certification) for these companion diagnostics. Any delay or failure by us or third-party collaborators to develop or obtain regulatory approval (or clearance, or certification) of a companion diagnostic could delay or prevent approval or continued marketing of our related product candidates. We, or our collaborators, may also experience delays in developing a sustainable, reproducible, and scalable manufacturing process for the companion diagnostic or in transferring that process to commercial partners or negotiating insurance reimbursement plans, all of which may prevent us from completing our clinical trials or commercializing our product candidates, if approved, on a timely or profitable basis, if at all.

Our ALPHA3 trial design requires the use of Foresight Diagnostics' PhasED-Seq Circulating Tumor DNA Platform as a companion diagnostic for cema-cel. Foresight Diagnostics intends to file an IDE with the FDA seeking approval of PhasEd-Seq as a companion diagnostic. There can be no assurance that Foresight Diagnostic will timely file its IDE, or that the FDA will approve Foresight Diagnostics' IDE, which could significantly delay the start of our ALPHA3 trial.

Furthermore, in order to commercialize cema-cel based on the outcome of our ALPHA3 trial, the Foresight Diagnostics' MRD assay must be approved by regulatory agencies as a companion diagnostic test. A delay or failure by

Foresight Diagnostics to obtain regulatory approval may delay the commercialization of cema-cel, if approved based on the outcome of our ALPHA3 trial.

Regenerative Medicine Advanced Therapy designation and fast track designation may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that our product candidates will receive marketing approval.

We have received Regenerative Medicine Advanced Therapy (RMAT) designation for ALLO-715 and cema-cel and fast track designation for ALLO-605 and ALLO-316. There is no assurance that we will be able to obtain RMAT designation or fast track designation for any of our additional product candidates. RMAT designation and fast track designation do not change the FDA's standards for product approval, and there is no assurance that such designation will result in expedited review or approval or that the approved indication will not be narrower than the indication covered by the designation. Additionally, RMAT designation and fast track designation can be revoked if the criteria for eligibility cease to be met as clinical data emerges.

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

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States when there is no reasonable expectation that the cost of developing and making available the drug or biologic in the United States will be recovered from sales in the United States for that drug or biologic. In order to obtain orphan drug designation, the request must be made before submitting a BLA. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages, and user-fee waivers. After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

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

The FDA granted orphan drug designation to ALLO-605 and ALLO-715 for the treatment of multiple myeloma. We plan to seek orphan drug designation for additional product candidates in specific orphan indications in which there is a medically plausible basis for the use of these products, but may never receive such designations. Some of our product candidates target indications that are not orphan indications. In addition, even with orphan drug designation, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition, or if a subsequent applicant demonstrates clinical superiority over our products, if approved.

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

The gene-editing technologies that we use are novel. Public perception may be influenced by claims that gene editing is unsafe, and products incorporating gene editing may not gain the acceptance of the public or the medical community. Given the previous clinical hold involved a chromosomal abnormality, our manufacturing or gene editing may be further scrutinized or may be viewed as unsafe, even though our investigation found that the abnormality was not related to our manufacturing or gene editing. In particular, our success will depend upon physicians specializing in our targeted diseases prescribing our

product candidates 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 gene editing may result in fewer physicians prescribing our treatments or may reduce the willingness of patients to utilize our treatments or participate in clinical trials for our product candidates.

In addition, given the novel nature of gene-editing and cell therapy technologies, governments may place import, export or other restrictions in order to retain control or limit the use of the technologies. For instance, any limits on exporting certain of our technology to China may adversely affect Allogene Overland, a joint venture established by us and Overland Pharmaceuticals (CY) Inc. Increased negative public opinion or more restrictive government regulations either in the United States or internationally, would have a negative effect on our business or financial condition and may delay or impair the development and commercialization of our product candidates or demand for such product candidates.

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

The Biologics Price Competition and Innovation Act of 2009 (BPCIA) was enacted as part of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the Affordable Care Act) to establish an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an approved biologic. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the reference product was approved under a BLA. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty and could have a material adverse effect on the future commercial prospects for our biological products.

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

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

The use of engineered T cells as a potential cancer treatment is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers and others in the medical community. We expect physicians in the large bone marrow transplant centers to be particularly important to the market acceptance of our products and we may not be able to educate them on the benefits of using our product candidates for many reasons. For example, certain of the product candidates that we will be developing 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 a safe and effective treatment;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment 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 in the absence of coverage and adequate reimbursement by third-party payors and government authorities;

- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

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

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

Successful sales of our product candidates, if approved, depend on the availability of coverage and adequate reimbursement from third-party payors including governmental healthcare programs, such as Medicare and Medicaid, managed care organizations and commercial payors, among others. Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In addition, because our product candidates represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from our product candidates.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Obtaining coverage and adequate reimbursement from third-party payors is critical to new product acceptance.

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

The advancement of healthcare reform may negatively 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 foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our products. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability.

Our business could be negatively impacted by environmental, social and corporate governance (ESG) matters or our reporting of such matters.

There is an increasing focus from certain investors, employees, partners, and other stakeholders concerning ESG matters. While we have internal efforts directed at ESG matters and preparations for any increased required future disclosures, we may be perceived to be not acting responsibly in connection with these matters, which could negatively impact us. Moreover, the SEC has recently proposed, and may continue to propose, certain mandated ESG reporting requirements, such as the SEC's proposed rules designed to enhance and standardize climate-related disclosures, which, if finally approved, would significantly increase our compliance and reporting costs and may also result in disclosures that certain investors or other stakeholders deem to negatively impact our reputation or that harm our stock price. In addition, we currently do not report our environmental emissions, and lack of reporting could result in certain investors declining to invest in our common stock.

Risks Related to Our Intellectual Property

We depend on intellectual property licensed from third parties and termination of any of these licenses could result in the loss of significant rights, which would harm our business.

We are dependent on patents, know-how and proprietary technology, both our own and licensed from others. We depend substantially on our license agreements with Pfizer, Servier and Cellectis. These licenses may be terminated upon certain conditions. Any termination of these licenses could result in the loss of significant rights and could harm our ability to commercialize our product candidates. For example, we are dependent on our license with Cellectis for gene-editing technology that is necessary to produce certain of our engineered T cells. In addition, we are reliant on Servier in-licensing from Cellectis some of the intellectual property rights they are licensing to us, including certain intellectual property rights relating to ALLO-501 and cema-cel. To the extent these licensors fail to meet their obligations under their license agreements, which we are not in control of, we may lose the benefits of our license agreements with these licensors. For instance, Cellectis has challenged and may in the future challenge certain performance by Servier, such as its development of products licensed under the Cellectis-Servier Agreement in ALL, and any failure by those parties to resolve such matters may have an adverse impact on us. In the future, we may also enter into additional license agreements that are material to the development of our product candidates.

Disputes may also arise between us and our licensors regarding intellectual property subject to a license agreement, including those related to:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes may infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners.

For example, Servier has sent us a notice for material breach alleging that we overcharged them for costs eligible for cost-sharing under our license agreement with them. In addition, the parties are disputing the impact of Servier's discontinuation of ex-US development on the parties' rights and obligations under the license agreement. If we are unable to resolve our dispute with Servier, or if other disputes arise over intellectual property that we have licensed, or license in the future, it could prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, and we may be unable to successfully develop and commercialize the affected product candidates.

We are generally also subject to all of the same risks with respect to protection of intellectual property that we license, as we are for intellectual property that we own, which are described below. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize products could suffer.

If our efforts to protect the proprietary nature of the intellectual property related to our technologies are not adequate, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and license agreements to protect the intellectual property related to our technologies. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market.

Under the Servier Agreement, we have an exclusive license to develop and commercialize certain anti-CD19 allogeneic T cell product candidates, including cema-cel, and we hold the commercial rights to these product candidates in the United States. We also have an exclusive worldwide license from Cellectis to its TALEN gene-editing technology for the development of allogeneic T cell product candidates directed against 15 different cancer antigens. The Servier Agreement gives us access to TALEN gene-editing technology for all product candidates under the agreement. Certain intellectual property which is covered by these agreements may have been developed with funding from the U.S. government. If so, our rights in this intellectual property may be subject to certain research and other rights of the government.

Additional patent applications have been filed, and we anticipate additional patent applications will be filed, both in the United States and in other countries, as appropriate. However, we cannot predict:

- if and when patents will issue;
- the degree and range of protection any issued patents will afford us against competitors including whether third parties will find ways to invalidate or otherwise circumvent our patents;

- whether or not others will obtain patents claiming aspects similar to those covered by our patents and patent applications; or
- whether we will need to initiate litigation or administrative proceedings which may be costly whether we win or lose.

Composition of matter patents for biological and pharmaceutical products such as CAR-based product candidates often provide a strong form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain that the claims in our pending patent applications covering compositions of matter of our product candidates will be considered patentable by the United States Patent and Trademark Office (USPTO) or by patent offices in foreign countries, or that the claims in any of our issued patents will be considered valid and enforceable by courts in the United States or foreign countries. Method of use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products "off-label." Although off-label prescriptions may infringe method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

The strength of patents in the biotechnology and pharmaceutical fields involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. Even if the patents do successfully issue, third parties may challenge the patentability, validity, enforceability or scope thereof, for example through inter partes review (IPR), post-grant review or ex parte reexamination before the USPTO, or oppositions and other comparable proceedings in foreign jurisdictions, which may result in such patents being cancelled, narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by the patents and patent applications we hold with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced. United States patent applications containing or that at any time contained a claim not entitled to a priority date before March 16, 2013 are subject to the "first to file" system implemented by the America Invents Act (2011).

This first to file system will require us to be cognizant going forward of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates. Furthermore, for United States applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the USPTO, to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. For United States applications containing a claim not entitled to priority before March 16, 2013, there is a greater level of uncertainty in the patent law in view of the passage of the America Invents Act, which brought into effect significant changes to the United States patent laws, including new procedures for challenging patent applications and issued patents.

Confidentiality agreements with employees and third parties, including any strategic partners, may not prevent unauthorized disclosure or use of trade secrets and other proprietary information.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and any other elements of our product discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. Trade secrets, however, may be difficult to protect. Although we require all of our employees to assign their inventions to us, and require all of our employees and key consultants who have access to our proprietary know-how, information, or technology to enter into confidentiality agreements, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or inappropriately used, or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. For example, we have and may continue to transfer technology to Allogene Overland or its affiliates in certain developing countries, and we cannot be certain that we or Allogene Overland or any of its affiliates will be able to protect or enforce any proprietary rights in these countries. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, we will not be able to establish or maintain a

competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

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

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others.

Third parties may assert that we infringe their patents or are otherwise employing their proprietary technology without authorization and may sue us. We are aware of several U.S. patents held by third parties that may be considered by those third parties to be relevant to cell-based therapies. Generally, conducting clinical trials and other development activities in the United States is not considered an act of infringement. If and when any of our product candidates is approved by the FDA, third parties may then seek to enforce their patents by filing a patent infringement lawsuit against us. Patents issued 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. We may not be able to prove in litigation that any patent enforced against us is invalid.

Additionally, there may be third-party patents of which we are currently unaware with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may be alleged to infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of our product candidates, constructs or molecules used in or formed during the manufacturing process, or any final product itself, the holders of any such patents may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held not infringed, unpatentable, invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy or patient selection methods, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until such patent expires or is finally determined to be held not infringed, unpatentable, invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all. 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 impaired or delayed, which could in turn significantly harm our business.

Parties who may make claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign any of our alleged infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly.

We may not be successful in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses.

Presently we have rights to the intellectual property, through licenses from third parties and under patent applications that we own or will own, that we believe will facilitate the development of our product candidates. Because our programs may involve additional product candidates that may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights.

We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify. We may fail to acquire such rights or 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 event, we may be required to expend significant time and resources to develop or license replacement technology. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies, which may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

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

Competitors may infringe our patents or the patents of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that 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. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure.

Interference proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation or interference proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States.

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

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

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

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

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

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

We or our licensors may in the future be subject to claims that former employees, collaborators, or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship. If we or our licensors fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable 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 such claims, litigation could result in substantial costs and be a distraction to management and other employees.

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

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate, as applicable, is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include IPR, ex parte re-examination and post grant review in the United States, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover and protect our product candidates. The outcome following legal assertions of unpatentability, invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of unpatentability, invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection could have a material adverse impact on our business.

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

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in the 2013 case, *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. While we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, the U.S. Congress or the USPTO may impact the value of our patents.

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

We may not be able to protect our intellectual property rights outside the United States. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In

addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

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

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

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to Ownership of Our Common Stock

The price of our stock has been and may continue to be volatile, and you could lose all or part of your investment.

The trading price of our common stock following our IPO in October 2018 has been and is likely to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this "Risk Factors" section, these factors include:

- the commencement, enrollment or results of our clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse results or delays in clinical trials;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- our failure to commercialize our product candidates;
- adverse regulatory decisions;
- changes in laws or regulations applicable to our products, including but not limited to clinical trial requirements for approvals;
- adverse developments concerning the manufacture or supply of our product candidates;
- our inability to obtain adequate product supply for any approved product or inability to do so at acceptable prices;
- our inability to establish collaborations if needed;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to immuno-oncology or related to the use of our product candidates or pre-conditioning regimen;
- introduction of new products or services offered by us or our competitors;

- changes in the status of one or more of our license or collaboration agreements, including any material disputes, amendments or terminations;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- our ability to effectively manage our growth;
- the size and growth of our initial cancer target markets;
- our ability to successfully treat additional types of cancers or at different stages;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or immunotherapy in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- changes in the market valuations of similar companies;
- overall performance of the equity markets;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock;
- changes in accounting practices;
- ineffectiveness of our disclosure controls or internal controls;
- disagreements with our auditor or termination of an auditor engagement;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- changes in the structure of healthcare payment systems;
- significant lawsuits, including patent or stockholder litigation;
- significant business disruptions caused by health epidemics or pandemics, or natural or man-made disasters;
- general political and economic conditions; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the Nasdaq Global Select Market and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which would harm our business, operating results or financial condition.

Our failure to establish and maintain effective internal control over financial reporting could result in material misstatements in our financial statements, our failure to meet our reporting obligations and cause investors to lose confidence in our reported financial information, which in turn could cause the trading price of our common stock to decline.

Maintaining effective disclosure controls and procedures and internal control over financial reporting are necessary for us to produce reliable financial statements. We are required, pursuant to Section 404 (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 control over financial reporting. Complying with Section 404 requires a rigorous compliance program as well as adequate time and resources. We may not be able to complete our internal control evaluation, testing and any required remediation in a timely fashion. Additionally, if we or our auditors identify one or more material weaknesses in our internal control over financial reporting, we will not be able to assert that our internal controls are effective. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis.

In 2021, we implemented a new enterprise resource planning (ERP) system, which required the investment of significant financial and human resources. We plan to continue to implement new ERP modules, which we also expect will require significant resources. Any failure to maintain or implement new or improved internal controls related to our ERP

system or otherwise could result in material weaknesses, result in material misstatements in our consolidated financial statements and cause us to fail to meet our reporting obligations. This could cause us to lose public confidence and could cause the trading price of our common stock to decline.

For so long as we remain a non-accelerated filer, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act. An independent assessment of the effectiveness of our internal control over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal control over financial reporting could lead to financial statement restatements and require us to incur the expense of remediation.

We have identified a material weakness in our internal control over financial reporting. This material weakness could continue to adversely affect our ability to report our results of operations and financial condition accurately and in a timely manner.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Our management is likewise required, on a quarterly basis, to evaluate the effectiveness of our internal controls and to disclose any changes and material weaknesses identified through such evaluation in those internal controls. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

As described elsewhere in this Annual Report, we have identified a material weakness in our internal control over financial reporting. As a result of this material weakness, our management has concluded that our internal control over financial reporting was not effective as of December 31, 2023. For a discussion of management's consideration of the material weakness identified, see Part II, Item 9A: Controls and Procedures included in this Annual Report.

To respond to this material weakness, we plan to devote significant effort and resources to the remediation and improvement of our internal control over financial reporting. While we have processes to identify and appropriately apply applicable accounting requirements, we plan to enhance these processes to better evaluate our research and understanding of the nuances of the complex accounting standards that apply to our financial statements. Our plans at this time include retaining third-party subject matter experts with significant relevant experience to help with accounting treatment of significant non-routine transactions. The elements of our remediation plan can only be accomplished over time, and we can offer no assurance that these initiatives will ultimately have the intended effects.

Any failure to maintain such internal control could adversely impact our ability to report our financial position and results from operations on a timely and accurate basis. If our financial statements are not accurate, investors may not have a complete understanding of our operations. Likewise, if our financial statements are not filed on a timely basis, we could be subject to sanctions or investigations by the stock exchange on which our common stock is listed, the SEC or other regulatory authorities. In either case, a material adverse effect on our business could be the result of ineffective internal controls. Ineffective internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

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

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

We currently anticipate that we will retain any future cash flow or earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock.

Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control which could limit the market price of our common stock and may prevent or frustrate attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change of control of our company or changes in our board of directors that our stockholders might consider favorable. Some of these provisions include:

- a board of directors divided into three classes serving staggered three-year terms, such that not all members of the board will be elected at one time;
- a prohibition on stockholder action through written consent, which requires that all stockholder actions be taken at a meeting of our stockholders;
- a requirement that special meetings of stockholders be called only by the chair of the board of directors, the chief executive officer, or by a majority of the total number of authorized directors;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors;
- a requirement that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of not less than two-thirds of all outstanding shares of our voting stock then entitled to vote in the election of directors;
- a requirement of approval of not less than two-thirds of all outstanding shares of our voting stock to amend any bylaws by stockholder action or to amend specific provisions of our certificate of incorporation; and
- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval and which preferred stock may include rights superior to the rights of the holders of common stock.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporate Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. These anti-takeover provisions and other provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make it more difficult for stockholders or potential acquirors to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving our company. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing or cause us to take other corporate actions you desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

General Risk Factors

Unstable market, economic and geo-political conditions may have serious adverse consequences on our business, financial condition and stock price.

The global credit and financial markets have experienced extreme volatility and disruptions in the past. These disruptions have resulted and may continue to result in severely diminished liquidity and credit availability, high inflation, declines in consumer confidence, disruptions in access to bank deposits or lending commitments due to bank failures and uncertainty about economic stability, declines in economic growth, and uncertainty about economic stability. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. Our general business strategy may be adversely affected by any such economic downturn, volatile business environment, higher inflation, or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult, more costly and more dilutive. Our portfolio of corporate and government bonds would also be adversely impacted. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our operations, growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive an economic downturn or rising inflation, which could directly affect our ability to attain our operating goals on schedule and on budget.

Other international and geo-political events could also have a serious adverse impact on our business. For instance, in February 2022, Russia initiated military action against Ukraine, and in October 2023, Hamas attacked Israel. In both cases, ongoing conflicts have ensued. In response to the Russian invasion, the United States and certain other countries imposed significant sanctions and trade actions against Russia and could impose further sanctions, trade restrictions, and other retaliatory actions. While we cannot predict the broader consequences, these conflicts and retaliatory and counter-retaliatory actions could materially adversely affect global trade, currency exchange rates, inflation, regional economies, and the global economy, which in turn may increase our costs, disrupt our supply chain, impair our ability to raise or access additional capital when needed on acceptable terms, if at all, or otherwise adversely affect our business, financial condition, and results of operations.

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

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, including by any of our directors, officers or larger stockholders, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

If securities or industry analysts issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

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

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity.

Risk management and strategy

We take a risk-based approach in implementing and maintaining various information security processes designed to identify, assess and manage material risks from cybersecurity threats to our critical computer networks, third party hosted services, communications systems, hardware and software, and our critical data, including intellectual property, confidential information that is proprietary, strategic or competitive in nature, and information related to our clinical trials, products in development, and proprietary technologies ("Information Systems and Data").

Our information security function, supported by members of our IT and Legal departments and our third-party IT service providers, helps identify, assess and manage the Company's cybersecurity threats and risks. This team helps to identify and assess risks from cybersecurity threats by monitoring and evaluating our threat environment using various methods including, for example: automated tools, subscribing to reports and services that identify cybersecurity threats and analyzing such reports of threats and actors, conducting scans of our threat environment, evaluating threats reported to us, coordinating with law enforcement as appropriate about certain threats, having third parties conduct threat assessments, conducting vulnerability assessments, and working with third parties to conduct certain tests of our environment.

Depending on the environment and systems, we implement and maintain various technical, physical, and organizational measures, processes, standards and policies designed to manage and mitigate material risks from cybersecurity threats to our Information Systems and Data, including, for example: incident detection and response procedures; an incident response policy; a vulnerability management policy; a disaster recovery plan; conducting risk assessments; encrypting certain of our data; maintaining network security controls, segmenting certain data; maintaining access and physical security controls; asset management, tracking, and disposal protocols; systems monitoring; a assessing vendor risk; employee training; penetration testing conducted by third parties; and maintaining cybersecurity insurance.

The cybersecurity risk management and mitigation measures we implement for certain of our Information Assets including for example (1) cybersecurity risk is addressed as a component of the Company's enterprise risk management assessment processes; (2) the information security function works with senior management to prioritize our risk management processes and mitigate cybersecurity threats that are more likely to lead to a material impact to our business; (3) our senior management evaluates material risks from cybersecurity threats against our overall business objectives and reports to the audit committee of the board of directors, which evaluates our overall enterprise risk, (4) policies and procedures to manage how Information Systems and Data are collected, maintained and stored, (5) communicating with and training personnel on cybersecurity risks and trends.

We use third-party service providers to assist us from time to time to identify, assess, and manage material risks from cybersecurity threats, including for example: professional services firms, cybersecurity consultants, cybersecurity software providers, managed cybersecurity service providers, and penetration testing firms.

We use third-party service providers to perform a variety of functions throughout our business, such as application providers, contract research organizations (CROs), contract development and manufacturing organizations (CDMOs) and supply chain resources. We assess vendors using a risk-based approach to manage cybersecurity risks associated with our use of certain of these providers. Through these practices, we may conduct risk assessments of vendors, provide and review security questionnaires, review vendors' written information security programs and security assessments, and impose contractual obligations related to information security on our vendors. Depending on the nature of the services provided, the sensitivity of the Information Systems and Data at issue, and the identity of the provider, our vendor management process may involve different levels of assessment designed to help identify cybersecurity risks associated with a provider and impose contractual obligations related to cybersecurity on the provider.

For a description of the risks from cybersecurity threats that may materially affect the Company and how they may do so, see our risk factors under Part I. Item 1A. Risk Factors in this Annual Report on Form 10-K, including "*If our security measures, or those of our CROs, CDMOs, collaborators, contractors, consultants or other third parties upon whom we rely, are or were compromised or the security, confidentiality, integrity or availability of our information technology, software, services, networks, communications or data is compromised, limited or fails, we could experience a material adverse impact.*"

Governance

Our board of directors addresses the Company's cybersecurity risk management as part of its general oversight function. The board of directors' audit committee is responsible for overseeing Company's cybersecurity risk management processes, including oversight and mitigation of risks from cybersecurity threats. Members of the Audit Committee receive scheduled updates from senior management.

Our cybersecurity risk assessment and management processes are implemented and maintained by certain Company management, including our Director of IT Security and Executive Director/Head of IT. Our Director of IT Security has over 13 years of experience leading IT security and has certifications including CISSP and CCSP. Our Executive Director IT Data Management, Analytics and Integration has over 20 years of experience in IT, data engineering, and data analytics.

Our Director of IT Security is responsible for hiring appropriate personnel, helping to integrate cybersecurity risk considerations into the Company's overall IT risk management strategy, communicating key priorities to relevant personnel, overseeing cybersecurity operations, and managing the cybersecurity technologies, processes, and projects. Our Executive Director of IT Data Management, Analytics and Integration is responsible for approving budgets, helping prepare for cybersecurity incidents, approving cybersecurity processes, and conducting regular reviews of security assessments and other security-related reports.

Our cybersecurity incident response and vulnerability management policies are designed to escalate certain cybersecurity incidents to members of management depending on the circumstances, including Director of IT Security, Data Management, Analytics and Integration, and General Counsel. Director of IT Security, Data Management, Analytics and Integration, and General Counsel work with the Company's cross functional incident response team to help the Company mitigate and remediate cybersecurity incidents of which they are notified. In addition, the Company's incident response and vulnerability management policies and procedures include reporting to the audit committee of the board of directors for certain cybersecurity incidents.

The audit committee receives periodic reports from Data Management, Analytics and Integration and General Counsel concerning the Company's significant cybersecurity threats and risk and the processes the Company has implemented to address them. The audit committee also receives various reports, summaries or presentations related to cybersecurity threats, risk and mitigation.

Item 2. Properties.

Our corporate headquarters are located in South San Francisco, California, which consists of approximately 68,072 square feet for office and laboratory space. Our lease for our headquarter space commenced on March 1, 2019. On December 10, 2021, we amended our lease for an additional 47,566 square feet of office and laboratory space as part of the same building as our headquarters. The lease relating to the expansion premises commenced on April 1, 2022. The lease for both the existing and expansion premises will expire on March 31, 2032.

We entered into an additional lease in October 2018 for approximately 14,943 square feet of office and laboratory space in South San Francisco near our headquarters. On December 10, 2021, we amended our lease to extend the term of the lease to be co-terminus with our lease for our headquarters.

In February 2019, we entered into a lease for approximately 118,000 square feet to develop a state-of-the-art cell therapy manufacturing facility in Newark, California. The lease commenced in November 2020 and has an initial term of 15 years and eight months.

We believe that our existing facilities and other available properties will be sufficient for our needs for the foreseeable future.

Item 3. Legal Proceedings.

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

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

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

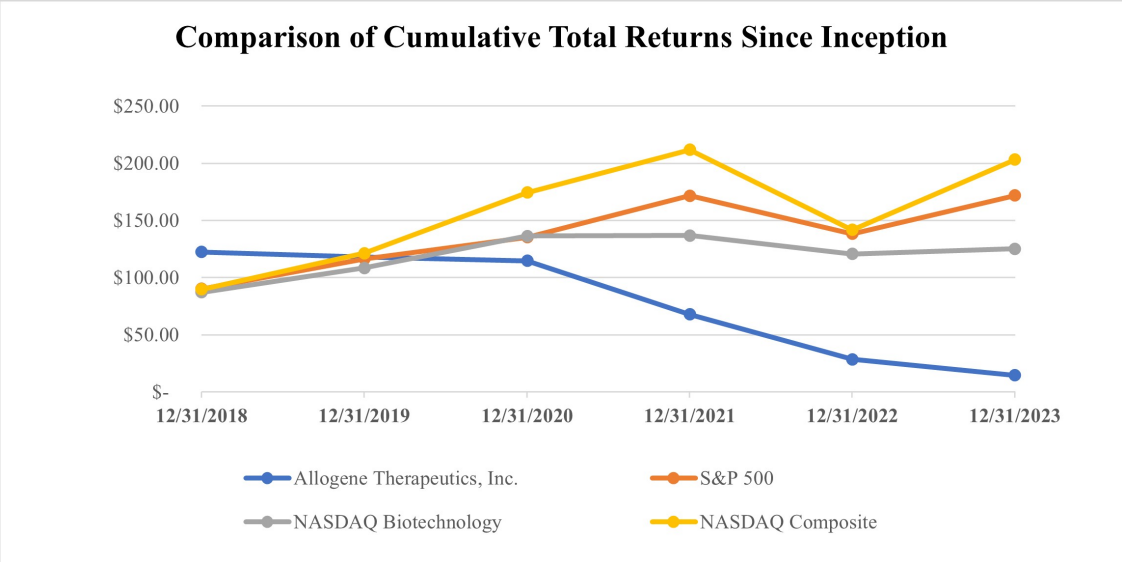
Holders of Common Stock

As of March 14, 2024, there were approximately 68 holders of record of our common stock.

Stock Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference into any of our filings under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The following graph shows the value of an investment of $100 from October 11, 2018 (the date our common stock commenced trading on The Nasdaq Global Select Market) through December 31, 2023, in our common stock, the Standard & Poor's 500 Index (S&P 500), the Nasdaq Biotechnology Index, and Nasdaq Composite Index. The historical stock price performance of our common stock shown in the performance graph is not necessarily indicative of future stock price performance.



	Cumulative Total Return date ended						
	10/11/2018	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Allogene Therapeutics, Inc.	$ 100.00	$ 122.41	$ 118.09	$ 114.73	$ 67.82	$ 28.59	$ 14.59
S&P 500	$ 100.00	$ 90.28	$ 116.35	$ 135.26	$ 171.64	$ 138.27	$ 171.77
Nasdaq Biotechnology	$ 100.00	$ 87.25	$ 108.54	$ 136.42	$ 135.56	$ 120.77	$ 125.28
Nasdaq Composite	$ 100.00	$ 89.81	$ 121.45	$ 174.45	$ 211.76	$ 141.67	$ 203.18

Dividend Policy

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

policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 6. [Reserved]

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

The following discussion contains management's discussion and analysis of our financial condition and results of operations and should be read together with the historical consolidated financial statements and the notes thereto included in "Financial Statements and Supplementary Data". This discussion contains forward-looking statements that reflect our plans, estimates and beliefs and involve numerous risks and uncertainties, including but not limited to those described in the "Risk Factors" section of this Annual Report. Actual results may differ materially from those contained in any forward-looking statements. You should carefully read "Special Note Regarding Forward-Looking Statements" and "Risk Factors."

Overview

We are a clinical stage immuno-oncology company pioneering the development of genetically engineered allogeneic T cell product candidates for the treatment of cancer and autoimmune diseases. We are developing a pipeline of "off-the-shelf" T cell product candidates that are designed to target and kill cancer cells in patients or eliminate pathogenic autoreactive cells in patients with autoimmune disorders. Our engineered T cells are allogeneic, meaning they are derived from healthy donors for intended use in any patient, rather than from an individual patient for that patient's use, as in the case of autologous T cells. We believe this key difference will enable us to deliver readily available treatments faster, more reliably, at greater scale, and to more patients.

We have a deep pipeline of allogeneic chimeric antigen receptor (CAR) T cell product candidates targeting multiple promising antigens in a host of hematological malignancies, solid tumors and autoimmune disease. Earlier this year, however, we announced our 2024 Platform Vision under which we are now focusing on four core programs.

We are currently focused on developing cemacabtagene ansegedleucel (cema-cel, previously ALLO-501A) in large B-cell lymphoma (LBCL) and chronic lymphocytic leukemia (CLL). We plan to initiate a pivotal Phase 2 clinical trial (ALPHA3) in mid-2024 for cema-cel as part of a first line (1L) treatment plan for newly diagnosed and treated LBCL patients who are likely to relapse and need further therapy. The design of the ALPHA3 1L consolidation trial builds upon the results demonstrated in the Phase 1 ALPHA2 trial and leverages an investigational diagnostic test developed by Foresight Diagnostics, Inc. that we believe will identify patients who have achieved remission by standard disease assessment but who have minimal residual disease (MRD) at the completion of 1L chemoimmunotherapy. The ALPHA3 trial is designed to study the impact of treating MRD positive patients with cema-cel. The study will randomize approximately 230 patients who achieve a complete response or partial response to 1L therapy, but who are MRD positive. The patients will be randomized to either consolidation with cema-cel or the current standard of care, which is observation. The design, with a primary endpoint of event free survival (EFS), will initially include two lymphodepletion arms (one with standard fludarabine and cyclophosphamide plus ALLO-647 and one with standard fludarabine and cyclophosphamide but without ALLO-647). One lymphodepletion arm will be discontinued following a planned interim analysis in mid-2025 designed to select the most appropriate regimen for this patient population. In view of the potential of the earlier line ALPHA3 trial, we have deprioritized the third line (3L) LBCL ALPHA2 and EXPAND trials.

We have initiated the Phase 1b cohort of our ALPHA2 trial to evaluate cema-cel following lymphodepletion with fludarabine/cyclophosphamide and ALLO-647 in patients with relapsed/refractory chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). This cohort will include up to 40 patients, and we expect to release initial data by year-end 2024.

We are enrolling a Phase 1 clinical trial (TRAVERSE) of ALLO-316, an allogeneic CAR T cell product candidate targeting CD70, in adult patients with advanced or metastatic RCC. We presented interim results from the TRAVERSE trial at the American Association of Cancer Research (AACR) Annual Meeting in April 2023. We have implemented a protocol

amendment that incorporates a diagnostic and treatment algorithm into the study design. The algorithm is designed to mitigate the treatment-associated hyperinflammatory response without compromising the CAR T function needed to eradicate solid tumors. The next update from this trial is planned for a medical forum in the second quarter of 2024 and will discuss the algorithm. A more robust data update from the ongoing trial with the updated protocol is planned for later in 2024.

We are developing ALLO-329, a next-generation allogeneic CAR T cell product candidate targeting both CD19 and CD70 for the treatment of certain autoimmune diseases (AID). Inclusion of an anti-CD70 CAR in ALLO-329 incorporates the Dagger® technology, which is designed to reduce or eliminate the need for standard chemotherapy by preventing premature rejection while targeting CD19+ B-cells and CD70+ activated T-cells, both of which play a role in AID. Initiation of this Phase 1 trial with ALLO-329 is expected in early 2025.

We are developing an anti-CD52 monoclonal antibody, ALLO-647, which is a proprietary component of our lymphodepletion regimen. ALLO-647 may be able to reduce the likelihood of a patient's immune system rejecting the engineered allogeneic T cells for a sufficient period of time to enable a window of persistence during which our engineered allogeneic T cells can actively target and destroy cancer cells. During Part A of our pivotal ALPHA3 trial, we will be assessing ALLO-647's contribution to the overall benefit to risk ratio of the lymphodepletion regimen for cema-cel. Patients will be randomized to receive cema-cel and a lymphodepletion regimen with fludarabine and cyclophosphamide either with or without ALLO-647. We plan to select the lymphodepletion regimen with which we will complete enrollment in the study (Part B) in the first half of 2025.

While we have additional programs in our pipeline, our development priorities are focused on cema-cel (1L Consolidation and CLL), ALLO-316, and ALLO-329. We will explore opportunities to partner with collaborators on product candidates across our pipeline.

On January 4, 2024, our board of directors approved a reduction in our workforce of approximately 22% of our employees in connection with our pipeline prioritization and clinical development strategy.

Since inception, we have had significant operating losses. Our net loss was $327.3 million for the year ended December 31, 2023. As of December 31, 2023, we had an accumulated deficit of $1.6 billion. As of December 31, 2023, we had $448.7 million in cash and cash equivalents and investments and we expect our cash runway to fund operations into 2026. We expect to continue to incur net losses for the foreseeable future, and we expect our research and development expenses and general and administrative expenses will continue to increase.

Our Research and Development and License Agreements

Asset Contribution Agreement with Pfizer

In April 2018, we entered into an Asset Contribution Agreement (Pfizer Agreement) with Pfizer pursuant to which we acquired certain assets and assumed certain liabilities from Pfizer, including agreements with Cellectis and Servier as described below, and other intellectual property for the development and administration of CAR T cells for the treatment of cancer. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the Pfizer Agreement.

Research Collaboration and License Agreement with Cellectis

In June 2014, Pfizer entered into a Research Collaboration and License Agreement with Cellectis. In April 2018, Pfizer assigned the agreement to us pursuant to the Pfizer Agreement. In March 2019, we terminated the agreement with Cellectis and entered into a new license agreement with Cellectis. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further descriptions of the prior agreement with Cellectis and the new license agreement with Cellectis.

Exclusive License and Collaboration Agreement with Servier

In October 2015, Pfizer entered into an Exclusive License and Collaboration Agreement (Servier Agreement) with Servier to develop, manufacture and commercialize certain allogeneic anti-CD19 CAR products, including UCART19, in the United States with the option to obtain the rights over certain additional allogeneic anti-CD19 CAR product candidates and for allogeneic CAR T cell product candidates directed against one additional target. In April 2018, Pfizer assigned the agreement to us pursuant to the Pfizer Agreement. In October 2019, we agreed to waive our rights to the one additional target.

On September 15, 2022, Servier sent a notice of discontinuation (Discontinuation) of its involvement in the development of all licensed products directed against CD19, including UCART19, ALLO-501 and cema-cel (collectively,

CD19 Products), pursuant to the Servier Agreement. Servier's Discontinuation provides us with the right to elect a license to the CD19 Products outside of the United States (Ex-US Option) and does not otherwise affect our current exclusive license for the development and commercialization of CD19 Products in the United States. Upon any exercise of the Ex-US Option by us, our potential milestone payments with respect to ALLO-501A would increase for any first dosing in Phase 2, first dosing in Phase 3 and regulatory approval by €46 million in the aggregate. In addition, upon any such exercise of the Ex-US Option, Servier's obligation to reimburse us for 40% of the development costs for CD19 Products would cease. However, Servier has disputed the implications of the Discontinuation, namely whether development cost contributions continue and the timeframe during which we have the right to elect a license to CD19 Products outside of the United States. Moreover, in December 2022, Servier sent us a notice for material breach due to our purported refusal to allow an audit of certain manufacturing costs under our cost share arrangement. While we do not believe Servier has such an audit right, we submitted to a review of our manufacturing costs of CD19 Products to recover outstanding manufacturing costs owed by Servier to us. In July 2023, Servier sent us a second notice for material breach alleging that we overcharged Servier based on Servier and its accounting firm's review of costs eligible for cost-sharing under the Servier Agreement. We disagree with the material breach allegations and we are disputing such allegations. For more information, see "Risk Factors—*Servier's discontinuation of its involvement in the development of CD19 Products and Servier's disputes with us and Cellectis may have adverse consequences.*"

See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the Servier Agreement.

Collaboration and License Agreement with Notch

On November 1, 2019, we entered into a Collaboration and License Agreement (the Notch Agreement) with Notch Therapeutics Inc. (Notch), pursuant to which Notch granted us an exclusive, worldwide, royalty-bearing, sublicensable license under certain of Notch's intellectual property to develop, make, use, sell, import, and otherwise commercialize therapeutic gene-edited T cell and/or natural killer cell products from induced pluripotent stem cells directed at certain CAR targets for initial application in NHL, B-cell precursor acute lymphoblastic leukemia (ALL) and multiple myeloma. In addition, Notch has granted us an option to add certain specified targets to our exclusive license in exchange for an agreed upon per-target option fee.

The Notch Agreement includes a research collaboration to conduct research and pre-clinical development activities to generate engineered cells directed to our exclusive targets, which will be conducted in accordance with an agreed research plan and budget under the oversight of a joint development committee. In connection with the execution of the Notch Agreement, we made an upfront payment to Notch of $10.0 million. In addition, we made a $5.0 million investment in Notch's series seed convertible preferred stock, resulting in us having a 25% ownership interest in Notch's outstanding capital stock on a fully diluted basis immediately following the investment. In February 2021, we made an additional $15.9 million investment in Notch's Series A preferred stock. In October 2021, we made an additional $1.8 million investment in Notch's common stock. Immediately following this transaction, our share in Notch was 23.0% on a voting interest basis. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the Notch Agreement.

On January 25, 2024, we entered into an Amended and Restated Collaboration and License Agreement (the Amended Notch Agreement) with Notch. The Amended Notch Agreement amends and restates the Notch Agreement, dated as of November 1, 2019. Under the Amended Notch Agreement, we have relinquished our exclusive rights to all original CAR targets (the Released Targets) except for one CAR target, and have agreed to limit our option right to only one additional CAR target. If the option is exercised, we will have a minimum funding commitment for the overall development program. If Notch subsequently out-licenses any of the Released Targets, we will be entitled to receive a percentage of upfront and/or milestone payments associated therewith up to a set cap, and will be entitled to a low, single-digit royalty on net sales of products containing a Released Target. In addition, with respect to our previous equity investments in Notch, the Amended Notch Agreement grants us certain anti-dilution protections up to certain limits for certain pre-IPO equity financings.

Strategic Alliance with The University of Texas MD Anderson Cancer Center

On October 6, 2020, we entered into a strategic five-year collaboration agreement with The University of Texas MD Anderson Cancer Center (MD Anderson) for the preclinical and clinical investigation of allogeneic CAR T cell product candidates. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the agreement with MD Anderson.

License Agreement with Allogene Overland Biopharm (CY) Limited

On December 14, 2020, we entered into a License Agreement with Allogene Overland Biopharm (CY) Limited (Allogene Overland), a joint venture established by us and Overland Pharmaceuticals (CY) Inc. (Overland), pursuant to a Share

Purchase Agreement, dated December 14, 2020, for the purpose of developing, manufacturing and commercializing certain allogeneic CAR T cell therapies for patients in greater China, Taiwan, South Korea and Singapore (the JV Territory). Allogene Overland subsequently assigned the License Agreement to a wholly-owned subsidiary, Allogene Overland Biopharm (HK) Limited (Allogene Overland HK). On April 1, 2022, Allogene Overland HK assigned the License Agreement to Allogene Overland Biopharm (PRC) Co., Limited. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the License Agreement and Share Purchase Agreement with Allogene Overland.

Collaboration and License Agreement with Antion

On January 5, 2022, we entered into an exclusive collaboration and global license agreement (Antion Collaboration and License Agreement) with Antion Biosciences SA (Antion) for Antion's miRNA technology (miCAR), to advance multiplex gene silencing as an additional tool to develop next generation allogeneic CAR T products. On July 11, 2023, we entered into an amendment to the Antion Collaboration and License Agreement, which included a $2 million investment in Antion's preferred shares and the acquisition of warrants to purchase an additional $3 million of Antion's preferred shares. See Note 6 to our consolidated financial statements included elsewhere in this Annual Report for further description of the Antion Agreement and the July 2023 amendment.

Strategic Collaboration Agreement with Foresight Diagnostics

On January 3, 2024, we entered into a Strategic Collaboration Agreement (the Foresight Agreement) with Foresight Diagnostics, Inc. (Foresight Diagnostics). Pursuant to the Foresight Agreement, the parties have agreed to collaborate on a non-exclusive basis in the development of Foresight Diagnostics' MRD assay as an in vitro diagnostic to identify the MRD+ patient population to be enrolled in our planned ALPHA3 trial of cemacabtagene ansegedleucel, or cema-cel (previously known as ALLO-501A) for treatment of large B cell lymphoma (LBCL). Under the Foresight Agreement, we have agreed to use the commercially reasonable efforts to obtain regulatory approval of cema-cel, and Foresight Diagnostics has agreed to use its commercially reasonable efforts to obtain regulatory approval of an MRD assay for use as an in vitro diagnostic with cema-cel.

Components of Results of Operations

Revenues

As of December 31, 2023, our revenue has been exclusively generated from our collaboration and license agreement with Allogene Overland Biopharm (PRC) Co., Limited. See Notes 1 and 6 to our consolidated financial statements appearing elsewhere in this Annual Report for more information related to our recognition of revenue and the Allogene Overland agreement.

In the future, we may generate revenue from a combination of product sales, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. We expect that any revenue we generate will fluctuate from quarter to quarter as a result of the timing and amount of license fees, milestones and other payments, and the amount and timing of payments that we receive upon the sale of our products, to the extent any are successfully commercialized. If we fail to complete the development of our product candidates in a timely manner or obtain regulatory approval of them, our ability to generate future revenue, and our results of operations and financial position, will be materially adversely affected.

Operating Expenses

Research and Development

To date, our research and development expenses have related primarily to discovery efforts, preclinical and clinical development, and manufacturing of our product candidates. Research and development expenses for the year ended December 31, 2023 included costs associated with our clinical and preclinical stage pipeline candidates and research into newer technologies. The most significant research and development expenses relate to costs incurred for the development of our most advanced product candidates and include:

- expenses incurred under agreements with our collaboration partners and third-party contract organizations, investigative clinical trial sites that conduct research and development activities on our behalf, and consultants;
- costs related to production of clinical materials, including fees paid for raw materials and to contract manufacturers;

- laboratory and vendor expenses related to the execution of preclinical and clinical trials;
- employee-related expenses, which include salaries, benefits and stock-based compensation;
- facilities and other expenses, which include expenses for rent and maintenance of facilities, depreciation and amortization expense and supplies; and
- other significant research and development costs including overhead costs.

We expense all research and development costs in the periods in which they are incurred. We accrue for costs incurred as the services are being provided by monitoring the status of the project and the invoices received from our external service providers. We adjust our accrual as actual costs become known. Where contingent milestone payments are due to third parties under research and development arrangements or license agreements, the milestone payment obligations are expensed when the milestone results are achieved.

We have reimbursed Servier for 60% of the costs associated with the prior development of UCART19, including for the long-term follow-up of patients in the CALM and PALL clinical trials of UCART19. We believe Servier is required to reimburse us for 40% of the costs associated with the development of ALLO-501 and cema-cel.

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 our research and development expenses to increase in the future as our clinical programs progress and as we seek to initiate clinical trials of additional product candidates. The cost of advancing our manufacturing process as well as the cost of manufacturing product candidates for clinical trials are included in our research and development expense. We also expect to incur increased research and development expenses as we selectively identify and develop additional product candidates. However, it is difficult to determine with certainty the duration and completion costs of our current or future preclinical programs and clinical trials of our product candidates.

The duration, costs and timing of clinical trials and development of our product candidates will depend on a variety of factors that include, but are not limited to, the following:

- per patient trial costs;
- biomarker analysis costs;
- the cost and timing of manufacturing for the trials;
- the number of patients that participate in the trials;
- the number of sites included in the trials;
- the countries in which the trials are conducted;
- the length of time required to enroll eligible patients;
- the total number of cells that patients receive;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies, including to resolve any future clinical hold;
- the duration of patient follow-up; and
- the efficacy and safety profile of the product candidates.

In addition, the probability of success for each product candidate will depend on numerous factors, including safety, efficacy, competition, manufacturing capability and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each product candidate, as well as an assessment of each product candidate's commercial potential.

Because our product candidates are still in clinical and preclinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of product candidates or whether, or when, we may achieve profitability.

We do not track most of our external research and development expenses by programs or product candidates because most of our external research and development expenses could be used for different programs or product candidates.

General and Administrative

General and administrative expenses consist primarily of salaries and other staff-related costs, including stock-based compensation for options and restricted stock units granted. Other significant costs include costs relating to facilities and overhead costs, legal fees relating to corporate and patent matters, insurance, investor relations costs, fees for accounting and consulting services, information technology, costs and support for our board of directors and board committees, and other general and administrative costs. General and administrative costs are expensed as incurred, and we accrue for services provided by third parties related to the above expenses by monitoring the status of services provided and receiving estimates from our service providers, and adjusting our accruals as actual costs become known.

We expect our general and administrative expenses to increase over the next several years to support our continued research and development activities, manufacturing activities, potential commercialization of our product candidates and operating as a public company. These increases are anticipated to include increased costs related to the hiring of additional personnel, developing commercial infrastructure, fees to outside consultants, lawyers and accountants, and costs associated with being a public company such as expenses related to services associated with maintaining compliance with Nasdaq listing rules and SEC requirements, complying with and advancing environmental, social and governance matters, and insurance and investor relations costs.

Other Income (Expense), Net:

Interest and Other Income, Net

Interest and other income, net primarily consists of interest earned on our cash and cash equivalents and investments, as well as investment gains and losses recognized during the period.

Other Income (Expenses)

Other income (expenses) consists of non-operating income and expenses, including primarily our share of net losses for the period from, and impairment of, our equity method investments and impairment of our equity investment.

Results of Operations

Comparison of the Years Ended December 31, 2023, 2022 and 2021

The following sets forth our results of operations for the years ended December 31, 2023, 2022, and 2021 (in thousands):

	Year Ended December 31,			Change	
	2023	2022 (As Restated)	2021 (As Restated)	2023 vs 2022	2022 vs 2021
Collaboration revenue - related party	$ 95	$ 156	$ 114,089	$ (61)	$ (113,933)
Operating expenses:					
Research and development	242,914	256,387	220,176	(13,473)	36,211
General and administrative	71,673	79,305	74,105	(7,632)	5,200
Impairment of long-lived asset	13,245	—	—	13,245	—
Total operating expenses	327,832	335,692	294,281	(7,860)	41,411
Loss from operations	(327,737)	(335,536)	(180,192)	7,799	(155,344)
Other income (expense), net:					
Interest and other income, net	18,307	4,566	1,714	13,741	2,852
Other expenses	(17,835)	(9,444)	(3,573)	(8,391)	(5,871)
Total other income (expense), net	472	(4,878)	(1,859)	5,350	(3,019)
Net loss	$ (327,265)	$ (340,414)	$ (182,051)	$ 13,149	$ (158,363)

Collaboration revenue - related party

Collaboration revenue was $0.1 million and $0.2 million for the years ended December 31, 2023 and 2022, respectively. Revenue recognized in the years ended December 31, 2023 and 2022 was mainly due to participation in the joint steering committee performance obligation related to the License Agreement entered into with Allogene Overland on December 14, 2020.

Collaboration revenue was $0.2 million and $114.1 million for the years ended December 31, 2022 and 2021, respectively. The decrease of $113.9 million was due to the revenue recognized related to the license of intellectual property and delivery of the know-how, which was delivered in the first quarter of 2021, under the License Agreement entered into with Allogene Overland in December 2020.

Research and Development Expenses

The following table shows the primary components of our research and development expenses for the periods presented:

	Year Ended December 31,			Change	
	2023	2022	2021	2023 vs. 2022	2022 vs. 2021
Personnel	$ 112,457	$ 129,604	$ 112,903	$ (17,147)	$ 16,701
Development costs	74,644	71,293	69,025	3,351	2,268
Facilities and depreciation	44,684	43,457	29,300	1,227	14,157
Other	11,129	12,033	8,948	(904)	3,085
Total research and development expenses	242,914	256,387	220,176	(13,473)	36,211

Our research and development expenses included $119.0 million of internal expense and $123.9 million of external expenses for the year ended December 31, 2023. Our research and development expenses included $133.6 million of internal expenses and $122.8 million of external expenses for the year ended December 31, 2022.

Research and development expenses were $242.9 million and $256.4 million for the years ended December 31, 2023 and 2022, respectively. The net decrease of $13.5 million was primarily due to a decrease in personnel related costs of $17.1 million, of which $13.5 million was decreased stock-based compensation expense, offset by an increase in external costs related to the advancement of our product candidates of $3.4 million due to the timing of process development activities and manufacturing runs.

Research and development expenses were $256.4 million and $220.2 million for the years ended December 31, 2022 and 2021, respectively. The net increase of $36.2 million was primarily due to an increase in building rent and facilities costs of $14.2 million, an increase in personnel related costs of $16.7 million, of which $3.5 million was increased stock-based compensation expense, and an increase in external costs relating to the advancement of our product candidates of $2.3 million due to the timing of process development activities and manufacturing runs.

General and Administrative Expenses

General and administrative expenses were $71.7 million and $79.3 million for the years ended December 31, 2023 and 2022, respectively. The net decrease of $7.6 million was primarily due to a decrease in personnel related costs of $5.7 million, of which $4.1 million was decreased stock-based compensation expense, and a decrease in expenses related to corporate communications of $1.8 million.

General and administrative expenses were $79.3 million and $74.1 million for the years ended December 31, 2022 and 2021, respectively. The net increase of $5.2 million was primarily due to an increase in personnel related costs of $3.4 million, an increase in expenses related to corporate communications of $2.8 million, partially offset by a $1.5 million decrease in business and consulting fees.

Impairment of long-lived asset

In December 2023, we made a decision to sublease one of our leased buildings in South San Francisco. We vacated and ceased occupancy of this building in December 2023 and currently we are actively marketing the leased building for sublease. We determined that the change in how this property is being used could indicate impairment and recorded long-lived asset impairment loss based on the performed impairment analysis.

Interest and Other Income, Net

Interest and other income, net was $18.3 million and $4.6 million for the years ended December 31, 2023 and 2022, respectively. The $13.7 million increase was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Interest and other income, net was $4.6 million and $1.7 million for the years ended December 31, 2022 and 2021, respectively. The $2.9 million increase was due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Other expenses

Other expenses were $17.8 million and $9.4 million for the years ended December 31, 2023 and 2022, respectively. The $8.4 million increase was primarily due to impairment loss of $7.0 million related to our equity method investment and equity investment recorded for the year ended December 31, 2023.

Other expenses were $9.4 million and $3.6 million for the years ended December 31, 2022 and 2021, respectively. The $5.9 million increase was primarily due to higher share of net losses in our equity method investments.

Quarterly Discussion and Analysis

The following discussion should be read in conjunction with our accompanying restated unaudited interim condensed consolidated financial statements disclosed in Part II. Item 8. Financial Statements and Supplementary Data, Note 15 "Selected Quarterly Financial Data (Unaudited)", of this Annual Report.

The following sets forth our results of operations for the three months ended March 31, 2023 and 2022 (in thousands):

	Three Months Ended March 31,		Change	
	2023	2022	$	%
	(As Restated)	(As Restated)		
Collaboration revenue - related party	$ 30	$ 39	$ (9)	(23)%
Operating expenses:				
Research and development	80,238	60,156	20,082	33 %
General and administrative	18,884	19,897	(1,013)	(5)%
Total operating expenses	99,122	80,053	19,069	24 %
Loss from operations	(99,092)	(80,014)	(19,078)	24 %
Other income (expense), net:				
Interest and other income, net	2,059	492	1,567	318 %
Other income (expenses), net	(2,936)	914	(3,850)	(421)%
Total other income (expense), net	(877)	1,406	(2,283)	(162)%
Net loss	(99,969)	(78,608)	(21,361)	27 %

Collaboration revenue - related party

Collaboration revenue recognized for the three months ended March 31, 2023 and 2022 was mainly due to participation in the joint steering committee performance obligation related to the License Agreement entered into with Allogene Overland on December 14, 2020.

Research and Development Expenses

The following table shows the primary components of our research and development expenses for the periods presented:

	Three Months Ended March 31,		
	2023	2022	Change
Personnel	$ 34,173	$ 33,079	$ 1,094
Development costs	31,261	14,323	16,938
Facilities and depreciation	11,193	10,070	1,123
Other	3,611	2,684	927
Total research and development expenses	80,238	60,156	20,082

Our research and development expenses included $35.2 million of internal expenses and $45.0 million of external expenses for the three months ended March 31, 2023. Our research and development expenses included $33.9 million of internal expenses and $26.2 million of external expenses for the three months ended March 31, 2022.

Research and development expenses were $80.2 million and $60.1 million for the three months ended March 31, 2023 and 2022, respectively. The increase of $20.1 million was driven primarily by an increase in external costs relating to the advancement of our product candidates due to the timing of development activities and manufacturing runs of $16.9 million and an increase in facilities costs and depreciation expense of $1.1 million.

General and Administrative Expense

General and administrative expenses were $18.9 million and $19.9 million for the three months ended March 31, 2023 and 2022, respectively. The decrease of $1.0 million was primarily due to an decrease in personnel related costs.

Interest and Other Income, Net

Interest and other income, net was $2.1 million and $0.5 million for the three months ended March 31, 2023 and 2022, respectively. The increase of $1.6 million was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Other income (expenses), Net

Other expenses were $2.9 million for the three months ended March 31, 2023 and other income was $0.9 million for the three months ended March 31, 2022. The increase in other expenses of $3.8 million was primarily due to higher share of net losses in our equity method investments.

The following sets forth our results of operations for the three and six months ended June 30, 2023 and 2022 (in thousands):

	Three Months Ended June 30,		Change	Six Months Ended June 30,		Change
	2023	2022	$	2023	2022	$
	(As Restated)	(As Restated)		(As Restated)	(As Restated)	
Collaboration revenue - related party	$ 22	$ 64	$ (42)	$ 52	$ 103	$ (51)
Operating expenses:						
Research and development	62,038	57,171	4,867	142,276	117,327	24,949
General and administrative	18,524	19,509	(985)	37,408	39,406	(1,998)
Total operating expenses	80,562	76,680	3,882	179,684	156,733	22,951
Loss from operations	(80,540)	(76,616)	(3,924)	(179,632)	(156,630)	(23,002)
Other income (expense), net:						
Interest and other income, net	3,778	315	3,463	5,837	807	5,030
Other expenses	(2,470)	(3,990)	1,520	(5,406)	(3,076)	(2,330)
Total other income (expense), net	1,308	(3,675)	4,983	431	(2,269)	2,700
Net loss	(79,232)	(80,291)	1,059	(179,201)	(158,899)	(20,302)

Collaboration revenue - related party

Collaboration revenue recognized for the three and six months ended June 30, 2023 and 2022 was mainly due to participation in the joint steering committee performance obligation related to the License Agreement entered into with Allogene Overland on December 14, 2020.

Research and Development Expenses

The following table shows the primary components of our research and development expenses for the periods presented:

	Three Months Ended June 30,			Six Months Ended June 30,		
	2023	2022	Change	2023	2022	Change
Personnel	$ 29,574	$ 34,926	$ (5,352)	$ 63,748	$ 68,005	$ (4,257)
Development costs	18,218	8,078	10,140	49,479	22,401	27,078
Facilities and depreciation	11,457	11,039	418	22,650	21,110	1,540
Other	2,789	3,128	(339)	6,399	5,811	588
Total research and development expenses	62,038	57,171	4,867	142,276	117,327	24,949

Our research and development expenses included $31.1 million of internal expenses and $30.9 million of external expenses for the three months ended June 30, 2023. Our research and development expenses included $36.1 million of internal expenses and $21.1 million of external expenses for the three months ended June 30, 2022.

Research and development expenses were $62.0 million and $57.2 million for the three months ended June 30, 2023 and 2022, respectively. The increase of $4.9 million was driven primarily by a decrease in Servier cost recoveries of $11.0 million, offset by a decrease in personnel related costs of $5.4 million and a decrease in external costs relating to the advancement of our product candidates due to the timing of development activities and manufacturing runs of $0.9 million.

Our research and development expenses included $66.3 million of internal expenses and $75.9 million of external expenses for the six months ended June 30, 2023. Our research and development expenses included $70.1 million of internal expenses and $47.2 million of external expenses for the six months ended June 30, 2022.

Research and development expenses were $142.3 million and $117.3 million for the six months ended June 30, 2023 and 2022, respectively. The increase of $24.9 million was driven primarily by a decrease in Servier cost recoveries of $16.1 million and an increase in external costs relating to the advancement of our product candidates due to the timing of development activities and manufacturing runs of $11.0 million, offset by a decrease in personnel related costs of $4.3 million.

General and Administrative Expense

General and administrative expenses were $18.5 million and $19.5 million for the three months ended June 30, 2023 and 2022, respectively. The decrease of $1.0 million was primarily due to a decrease in personnel related costs of $0.4 million and a decrease in expenses related to corporate communications and outside services of $0.3 million.

General and administrative expenses were $37.4 million and $39.4 million for the six months ended June 30, 2023 and 2022, respectively. The decrease of $2.0 million was primarily due to a decrease in personnel related costs of $1.4 million and a decrease in expenses related to corporate communications and outside services of $0.6 million.

Interest and Other Income, Net

Interest and other income, net was $3.8 million and $0.3 million for the three months ended June 30, 2023 and 2022, respectively. The increase of $3.5 million was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Interest and other income, net was $5.8 million and $0.8 million for the six months ended June 30, 2023 and 2022, respectively. The increase of $5.0 million was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Other expenses

Other expenses were $2.5 million and $4.0 million for the three months ended June 30, 2023 and 2022, respectively. The decrease of $1.5 million was primarily due to lower share of net losses in our equity method investments.

Other expenses were $5.4 million and $3.1 million for the six months ended June 30, 2023 and 2022, respectively. The increase of $2.3 million was primarily due to higher share of net losses in our equity method investments.

The following sets forth our results of operations for the three and nine months ended September 30, 2023 and 2022 (in thousands):

	Three Months Ended September 30,		Change	Nine Months Ended September 30,		Change
	2023	2022	$	2023	2022	$
	(As Restated)	(As Restated)		(As Restated)	(As Restated)	
Collaboration revenue - related party	$ 22	$ 27	$ (5)	$ 74	$ 130	$ (56)
Operating expenses:						
Research and development	45,977	63,641	(17,664)	188,253	180,968	7,285
General and administrative	17,041	18,897	(1,856)	54,449	58,303	(3,854)
Total operating expenses	63,018	82,538	(19,520)	242,702	239,271	3,431
Loss from operations	(62,996)	(82,511)	19,515	(242,628)	(239,141)	(3,487)
Other income (expense), net:						
Interest and other income, net	6,205	1,002	5,203	12,042	1,809	10,233
Other expenses	(5,496)	(2,733)	(2,763)	(10,902)	(5,809)	(5,093)
Total other income (expense), net	709	(1,731)	2,440	1,140	(4,000)	5,140
Net loss	(62,287)	(84,242)	21,955	(241,488)	(243,141)	1,653

Collaboration revenue - related party

Collaboration revenue recognized for the three and nine months ended September 30, 2023 and 2022 was mainly due to participation in the joint steering committee performance obligation related to the License Agreement entered into with Allogene Overland on December 14, 2020.

Research and Development Expenses

The following table shows the primary components of our research and development expenses for the periods presented:

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2023	2022	Change	2023	2022	Change
Personnel	$ 26,170	$ 32,748	$ (6,578)	$ 89,917	$ 100,753	$ (10,836)
Development costs	6,494	16,799	(10,305)	55,973	39,200	16,773
Facilities and depreciation	11,104	11,349	(245)	33,754	32,459	1,295
Other	2,209	2,745	(536)	8,609	8,556	53
Total research and development expenses	45,977	63,641	(17,664)	188,253	180,968	7,285

Our research and development expenses included $28.1 million of internal expenses and $17.9 million of external expenses for the three months ended September 30, 2023. Our research and development expenses included $33.6 million of internal expenses and $30.0 million of external expenses for the three months ended September 30, 2022.

Research and development expenses were $46.0 million and $63.6 million for the three months ended September 30, 2023 and 2022, respectively. The decrease of $17.7 million was driven primarily by a decrease in external costs relating to the advancement of our product candidates due to the timing of development activities and manufacturing runs of $10.3 million and a decrease in personnel related costs of $6.6 million, of which $4.3 million was stock-based compensation expense.

Our research and development expenses included $94.5 million of internal expenses and $93.8 million of external expenses for the nine months ended September 30, 2023. Our research and development expenses included $103.8 million of internal expenses and $77.2 million of external expenses for the nine months ended September 30, 2022.

Research and development expenses were $188.3 million and $181.0 million for the nine months ended September 30, 2023 and 2022, respectively. The increase of $7.3 million was driven primarily by a decrease in Servier cost recoveries of $19.7 million and an increase in facilities costs of $1.3 million, offset by a decrease in personnel related costs of $10.8 million, of which $12.4 million was a decrease in stock-based compensation expense, and a decrease in external costs relating to the advancement of our product candidates due to the timing of development activities and manufacturing runs of $2.9 million.

General and Administrative Expense

General and administrative expenses were $17.0 million and $18.9 million for the three months ended September 30, 2023 and 2022, respectively. The decrease of $1.9 million was primarily due to a decrease in personnel related costs of $2.1 million, of which $1.5 million was stock-based compensation expense.

General and administrative expenses were $54.4 million and $58.3 million for the nine months ended September 30, 2023 and 2022, respectively. The decrease of $3.9 million was primarily due to a decrease in personnel related costs of $3.6 million, of which $3.3 million was stock-based compensation expense.

Interest and Other Income, Net

Interest and other income, net was $6.2 million and $1.0 million for the three months ended September 30, 2023 and 2022, respectively. The increase of $5.2 million was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Interest and other income, net was $12.0 million and $1.8 million for the nine months ended September 30, 2023 and 2022, respectively. The increase of $10.2 million was primarily due to higher yields and a corresponding increase in the interest earned on our cash, cash equivalents and investments.

Other expenses

Other expenses were $5.5 million and $2.7 million for the three months ended September 30, 2023 and 2022, respectively. The increase of $2.8 million was primarily due to impairment loss related to our equity method investment recorded for the three months ended September 30, 2023.

Other expenses were $10.9 million and $5.8 million for the nine months ended September 30, 2023 and 2022, respectively. The increase of $5.1 million was primarily due to higher share of net losses and impairment of our equity method investments.

Liquidity and Capital Resources

To date, we have incurred significant net losses and negative cash flows from operations. As of December 31, 2023, we had $448.7 million in cash, cash equivalents and investments. We believe that the aggregate of our current cash, cash equivalents and investments available for operations will be sufficient to fund our operations for at least the next 12 months from the date this Annual Report on Form 10-K is filed with the SEC.

Our operations have been financed primarily by net proceeds from the sale and issuance of our convertible preferred stock, the issuance of convertible promissory notes, net proceeds from our IPO, our at-the-market (ATM) offerings, our June 2020 underwritten public offering, and upfront cash payment of $40.0 million received in December 2020 pursuant to our License Agreement with Allogene Overland. In November 2019, we entered into a sales agreement with Cowen and Company, LLC (Cowen), as amended on November 2, 2022 and November 2, 2023, under which we may from time to time issue and sell shares of our common stock through Cowen in ATM offerings. During the year ended December 31, 2023, we sold an aggregate of 20,894,565 shares of common stock in ATM offerings resulting in net proceeds of $91.1 million. The specified dollar limit on the amount of common stock that may be sold under the sales agreement was removed pursuant to the November 2, 2023 amendment to the sales agreement.

Capital Resources

Our primary use of cash is for operating expenses, which consist primarily of clinical manufacturing and research and development expenditures related to our lead product candidates, other research efforts, and to a lesser extent, general and administrative 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 and accrued expenses and other current liabilities.

Our product candidates are still in the early stages of clinical and preclinical development and the outcome of these efforts is uncertain. Accordingly, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our product candidates or whether, or when, we may achieve profitability. Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity or debt financings and collaboration and license arrangements. If, and when, we do raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. 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. If we are unable to raise capital when needed, we will need to delay, reduce or terminate planned activities to reduce costs. Doing so will likely harm our ability to execute our business plans.

Cash Flows

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

	Year Ended December 31,		
	2023	2022	2021
	(in thousands)		
Net cash (used in) provided by:			
Operating activities	$ (237,733)	$ (220,519)	$ (184,812)
Investing activities	163,289	106,159	163,655
Financing activities	95,695	2,950	11,963
Net increase (decrease) in cash, cash equivalents and restricted cash	$ 21,251	$ (111,410)	$ (9,194)

Operating Activities

During the year ended December 31, 2023, cash used in operating activities of $237.7 million was attributable to a net loss of $327.3 million, substantially offset by non-cash charges of $104.8 million and a net change of $15.3 million in our net operating assets and liabilities. The non-cash charges consisted primarily of stock-based compensation of $66.0 million, depreciation and amortization of $14.2 million, share of losses from equity method investments of $10.7 million, impairment of long-lived assets of $13.2 million, impairment of equity investment and equity method investment of $7.0 million, net amortization and accretion on investment securities of $6.8 million, and non-cash rent expense of $0.6 million. The net change in operating assets and liabilities was primarily due to a $7.5 million decrease in accounts payable, a $6.8 million decrease in accrued and other current liabilities, a $1.5 million increase in other long-term assets, and a $0.6 million decrease in other long-term liabilities, offset by a $1.1 million decrease in prepaid expenses and other current assets.

During the year ended December 31, 2022, cash used in operating activities of $220.5 million was attributable to a net loss of $340.4 million, substantially offset by non-cash charges of $116.0 million and a net change of $3.9 million in our net operating assets and liabilities. The non-cash charges consisted primarily of stock-based compensation of $83.6 million, depreciation and amortization of $14.3 million, share of losses from equity method investments of $12.9 million, net amortization and accretion on investment securities of $2.9 million, and non-cash rent expense of $2.4 million. The net change in operating assets and liabilities was primarily due to a $4.9 million increase in accounts payable, a $2.5 million decrease in prepaid expense and other current assets, and a $1.7 million increase in accrued and other current liabilities, offset by an increase in other long-term assets of $3.3 million and a decrease in other long-term liabilities of $1.9 million.

During the year ended December 31, 2021, cash used in operating activities of $184.8 million was attributable to a net loss of $182.1 million, a net change of $31.9 million in our net operating assets and liabilities substantially offset by non-cash charges of $29.2 million. The non-cash charges consisted primarily of stock-based compensation of $80.8 million, non-cash collaboration revenue from related party of $75.7 million, depreciation and amortization of $10.5 million, net amortization and accretion on investment securities of $7.0 million, share of losses from equity method investments of 4.1 million, and non-cash rent expense of $2.6 million. The net change in operating assets and liabilities was primarily due to a $38.3 million decrease in deferred revenue within current liabilities, a $0.8 million decrease in accounts payable, and a $0.6 million increase in other long-term assets, offset by a $3.7 million increase in accrued and other current liabilities, a $3.2 million decrease in prepaid expenses and other current assets and a $0.9 million increase in other long-term liabilities.

Investing Activities

During the year ended December 31, 2023, net cash provided by investing activities of $163.3 million was related to cash inflows from maturities of investments of $597.8 million and cash provided by investment sales of $5.6 million, offset by the purchase of investments of $438.6 million and purchases of property and equipment of $1.5 million.

During the year ended December 31, 2022, net cash provided by investing activities of $106.2 million was related to cash inflows from maturities of investments of $359.5 million, offset by the purchase of investments of $248.1 million and purchases of property and equipment of $5.2 million.

During the year ended December 31, 2021, net cash used in investing activities of $163.7 million was related to cash inflows from maturities of investments of $728.4 million, offset by the purchase of investments of $525.6 million, purchases of property and equipment of $21.4 million, and purchase of stock in equity method investment of $17.7 million.

Financing Activities

During the year ended December 31, 2023, net cash provided by financing activities of $95.7 million was related to $91.1 million in net proceeds from the issuance of common stock through ATM transactions, $2.5 million of cash provided by the sale of common stock through our employee stock purchase plan, and $2.1 million of cash provided by the issuance of common stock upon exercise of stock options.

During the year ended December 31, 2022, net cash provided by financing activities of $3.0 million was related to proceeds from the employee stock purchase plan of $2.5 million and proceeds from the issuance of common stock upon the exercise of stock options of $0.5 million.

During the year ended December 31, 2021, net cash provided by financing activities of $12.0 million was related to proceeds from the issuance of common stock upon the exercise of stock options of $8.3 million and proceeds from the employee stock purchase plan of $3.6 million.

Contractual Obligations and Commitments

Material Cash Commitments and Requirements

Our commitments primarily consist of obligations under our agreements with Pfizer, Cellectis, Servier and Notch. Under these agreements we are required to make milestone payments upon successful completion of certain regulatory and sales milestones on a target-by-target and country-by-country basis. The payment obligations under the license agreements are contingent upon future events such as our achievement of specified development, regulatory and commercial milestones and we will be required to make development milestone payments and royalty payments in connection with the sale of products developed under these agreements. As of December 31, 2023, we were unable to estimate the timing or likelihood of achieving the milestones or making future product sales. For additional information regarding our agreements, see Note 6 to our consolidated financial statements included elsewhere in this Annual Report.

Our operating lease obligations primarily consist of lease payments on our research, lab and office facilities in South San Francisco, California, as well as lease payments on our cell manufacturing facility in Newark, California. For additional information regarding our lease obligations, see Note 7 to our consolidated financial statements included elsewhere in this Annual Report.

Additionally, we have entered into agreements with third-party contract manufacturers for the manufacture and processing of certain of our product candidates for clinical testing purposes, and we have entered and will enter into other contracts in the normal course of business with contract research organizations for clinical trials and other vendors for other services and products for operating purposes. These agreements generally provide for termination or cancellation, other than for costs already incurred. As of December 31, 2023, we had non-cancellable purchase commitments of $2.1 million.

On October 6, 2020, we announced we entered into a strategic five-year collaboration agreement with MD Anderson for the preclinical and clinical investigation of allogeneic CAR T cell product candidates. We and MD Anderson are collaborating on the design and conduct of preclinical and clinical studies with oversight from a joint steering committee. Under the terms of the agreement, we have committed up to $15.0 million of funding for the duration of the agreement. Payment of this funding is contingent on mutual agreement to study orders in order for any study to be included under the alliance. We made an upfront payment of $3.0 million to MD Anderson in the year ended December 31, 2020 and made an additional upfront payment of $3.0 million to MD Anderson in October 2023. We are obligated to make further payments to MD Anderson each year upon the anniversary of the agreement effective date through the duration of the agreement term. The agreement may be terminated by either party for material breach by the other party. Individual studies may be terminated for, among other things, material breach, health and safety concerns or where the institutional review board, the review board at the clinical site with oversight of the clinical study, requests termination of any study. Where any legal or regulatory authorization is finally withdrawn or terminated, the relevant study will also terminate automatically.

In July 2020, we entered into a Solar Power Purchase and Energy Services Agreement for the installation and operation of a solar photovoltaic generating system and battery energy storage system at our manufacturing facility in Newark, California. The agreement has a term of 20 years and commenced in September 2022. We are obligated to pay for electricity generated from the system at an agreed rate for the duration of the agreement term. Termination of the agreement by us will result in a termination payment due of approximately $4.3 million. In connection with the agreement, we maintain a letter of credit for the benefit of the service provider in the amount of $4.3 million.

We also have a Change in Control and Severance Plan that requires the funding of specific payments, if certain events occur, such as a change of control and the termination of employment without cause.

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 United States generally accepted accounting principles. 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. 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. Actual results may differ from these estimates under different assumptions or conditions.

We believe that the assumptions and estimates associated with accrued research and development expenditures, revenue recognition, research and development expenses, stock-based compensation and leases have the most significant impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Accrued Research and Development Costs

We accrue liabilities for estimated costs of research and development activities conducted by our collaboration partners and third-party service providers, which include the conduct of preclinical and clinical studies, and contract manufacturing activities. We recorded the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced, and includes these costs in the accrued and other current liabilities on the consolidated balance sheets and within research and development expense on the consolidated statements of operations and comprehensive loss.

We accrue for these costs based on factors such as estimates of the work completed in accordance with agreements established with our collaboration partners and third-party service providers. We make estimates in determining the accrued liabilities balance in each reporting period. As actual costs become known, we adjust its accrued liabilities. We have not experienced any material differences between accrued costs and actual costs incurred since our inception.

Revenue Recognition

Our revenue is generated through collaboration research and license agreements. The terms of these agreements may contain multiple deliverables which may include (i) grant of licenses, (ii) transfer of know-how, (iii) research and development activities, (iii) clinical manufacturing, and (iv) product supply. The payment terms of these agreements may include nonrefundable upfront fees, payments for research and development activities, payments based upon the achievement of certain milestones, royalty payments based on product sales derived from the collaboration, and payments for supplying product.

We analyze our collaboration arrangements to assess whether they are within the scope of ASC 808, Collaborative Arrangements (ASC 808) to determine whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, we first determine which elements of the collaboration are deemed to be within the scope of ASC 808 and those that are more reflective of a vendor-customer relationship and, therefore, within the scope of Topic 606, Revenue from Contracts with Customers (ASC 606). For elements of collaboration arrangements that are accounted for pursuant to ASC 808, an appropriate recognition method is determined and applied consistently, generally by analogy to Topic 606.

For elements of those arrangements that we determine should be accounted for under ASC 606, we assess which activities in our collaboration agreements are performance obligations that should be accounted for separately and determine the transaction price of the arrangement, which includes the assessment of the probability of achievement of future milestones and other potential consideration. A performance obligation represents a promise in a contract to transfer a distinct good or service to a customer, which represents a unit of accounting in accordance with ASC 606. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. We consider a performance obligation satisfied once we have transferred control of a good or service to the customer, meaning the customer has the ability to use and obtain the benefit of the good or service. A portion of the consideration should be allocated to each distinct performance obligation. The total consideration which we expect to collect in exchange for our products is an estimate and may be fixed or variable. We constrain the estimated variable consideration when we assess it is probable that a significant reversal

in the amount of cumulative revenue recognized may occur in future periods. The transaction price is re-evaluated, including the estimated variable consideration included in the transaction price and all constrained amounts, in each reporting period and as uncertain events are resolved or other changes in circumstances occur. The allocation of the transaction price is performed based on standalone selling prices, which are based on estimated amounts that we would charge for a performance obligation if it were sold separately. Revenue is recognized when, or as, performance obligations in the contracts are satisfied, in the amount reflecting the expected consideration to be received from the goods or services transferred to the customers. Funds received in advance are recorded as deferred revenue and are recognized as the related performance obligation is satisfied.

Research and Development Expenses

We expense research and development costs as incurred. Acquired intangible assets are expensed as research and development costs if, at the time of payment, the technology is under development; is not approved by the FDA or other regulatory agencies for marketing; has not reached technical feasibility; or otherwise has no foreseeable alternative future use.

Research and development expenses also include costs incurred for internal and sponsored and collaborative research and development activities. Research and development costs consist of salaries and benefits, including associated stock-based compensation, and laboratory supplies and facility costs, as well as fees paid to other entities that conduct certain research and development activities on our behalf. Costs associated with co-development activities performed under the various license and collaboration agreements, including milestones achieved, are included in research and development expenses.

Stock-Based Compensation

We recognize compensation costs related to stock-based awards granted to employees and directors, including stock options, based on the estimated fair value of the awards on the date of grant. We estimate the grant date fair value, and the resulting stock-based compensation, using the Black-Scholes option-pricing model, the lattice option pricing model or Monte Carlo simulation, whichever provides us the more precise grant fair value. The grant date fair value of the stock-based awards is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards.

The Black-Scholes option-pricing model and the lattice option pricing model require the use of subjective assumptions to determine the fair value of stock-based awards. These assumptions include:

- *Expected term*— The expected term represents the period that stock-based awards are expected to be outstanding. The expected term for option grants is determined using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the stock-based awards.
- *Expected volatility*— We use an average historical stock price volatility of comparable public companies within the biotechnology and pharmaceutical industry that were deemed to be representative of future stock price trends, in addition to some consideration to our own stock price volatility. We continue to utilize comparable public companies as part of this process as we do not have sufficient trading history for our common stock. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available.
- *Risk-free interest rate*—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.
- *Expected dividend*—We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.
- *Expected exercise barrier*—The modified options in accordance with the Stock Option Exchange Program are assumed to be exercised upon vesting and when the ratio of stock market price to exercise price reaches 2.57, or expiration, whichever is earlier. For additional information regarding our Stock Option Exchange Program, see Note 10 to our consolidated financial statements included elsewhere in this Annual Report.

For the years ended December 31, 2023, 2022 and 2021, stock-based compensation was $66.0 million, $83.6 million and $80.8 million, respectively. As of December 31, 2023 and 2022, we had $108.7 million and $153.6 million, respectively, of total unrecognized stock-based compensation.

Leases

We early adopted Accounting Standards Update (ASU) No. 2016-02, Leases as of January 1, 2018. For our long-term operating leases, we recognized right-of-use assets and lease liabilities on our consolidated balance sheet. The lease liabilities are determined as the present value of future lease payments using an estimated rate of interest that we would have to pay to borrow equivalent funds on a collateralized basis at the lease commencement date. The right-of-use assets are based on the liability adjusted for any prepaid or deferred rent. For each lease, the lease term at the commencement date is determined by considering whether renewal options and termination options are reasonably assured of exercise.

Rent expense for the operating lease is recognized on a straight-line basis over the lease term and is included in operating expenses on the consolidated statements of operations and comprehensive loss. Variable lease payments include lease operating expenses.

We elected to exclude from our consolidated balance sheets recognition of leases having a term of 12 months or less (short-term leases) and elected to not separate lease components and non-lease components for our long-term real estate leases.

Our long-lived assets, including right-of-use assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount of an asset group to the future net undiscounted cash flows that the assets are expected to generate. The long-lived assets recoverability test is performed at the asset group level, i.e., the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. If this test indicates that the carrying amount of the asset group is not recoverable, an impairment loss is measured as the amount by which the carrying amount of an asset group exceeds its fair value. Any impairment loss is allocated to the long-lived assets of the group on a pro rata basis using the relative carrying amounts of those assets, except that the carrying amount of an individual asset shall not be reduced below its fair value.

Recent Accounting Pronouncements

Please refer to Note 2 to our consolidated financial statements for a discussion of new accounting standards and updates that may impact us.

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

Interest Rate Risk

Our cash, cash equivalents and investments of $448.7 million as of December 31, 2023, consist of bank deposits, money market funds and available-for-sale securities. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations in interest income have not been significant for us. A 10% change in the interest rates in effect on December 31, 2023 would not have had a material effect on the fair market value of our cash equivalents and available-for-sale securities.

Foreign Currency Exchange Rate Risk

Our collaboration agreement with Servier requires collaboration payments for shared clinical development costs to be paid in euros, and thus we face foreign exchange risk as a result of entering into transactions denominated in currencies other than U.S. dollars. Due to the uncertain timing of expected payments in foreign currencies, we do not utilize any forward exchange contracts. All foreign transactions settle on the applicable spot exchange basis at the time such payments are made. An adverse movement in foreign exchange rates could have an effect on payments due and made to our collaboration partner as well as other foreign suppliers and for license agreements. A 10% change in the applicable foreign exchange rates during the periods presented would not have had a material effect on our consolidated financial statements. As of December 31, 2023, we had no receivables and $0.6 million of current liabilities denominated in foreign currency.

Item 8. Financial Statements and Supplementary Data.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2023 and 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Allogene Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Allogene Therapeutics, Inc. (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations and comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023 and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

Restatement of Financial Statements

As discussed in Note 1 to the consolidated financial statements, the 2022 and 2021 consolidated financial statements have been restated to correct misstatements.

Basis for Opinion

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

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

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

Critical Audit Matter

Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2018.
San Mateo, California
March 14, 2024

ALLOGENE THERAPEUTICS, INC.
Consolidated Balance Sheets
(In thousands, except share and per share amounts)

	December 31, 2023	December 31, 2022 (As Restated)
Assets		
Current assets:		
Cash and cash equivalents	$ 83,155	$ 61,904
Short-term investments	365,542	455,416
Prepaid expenses and other current assets	10,418	11,504
Total current assets	459,115	528,824
Long-term investments	—	59,151
Operating lease right-of-use asset	63,703	83,592
Property and equipment, net	99,478	112,839
Restricted cash	10,292	10,292
Other long-term assets	6,604	9,564
Equity method investments	3,645	17,317
Total assets	$ 642,837	$ 821,579
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 5,897	$ 13,890
Accrued and other current liabilities	31,096	39,743
Deferred revenue	86	95
Total current liabilities	37,079	53,728
Lease liability, noncurrent	88,346	95,122
Other long-term liabilities	5,179	5,847
Total liabilities	130,604	154,697
Commitments and Contingencies (Notes 6 and 7)		
Stockholders' equity:		
Preferred stock, $0.001 par value: 10,000,000 authorized as of December 31, 2023 and December 31, 2022; no shares were issued and outstanding as of December 31, 2023 and December 31, 2022	—	—
Common stock, $0.001 par value: 400,000,000 shares authorized as of December 31, 2023 and December 31, 2022; 168,642,238 and 144,438,304 shares issued and outstanding as of December 31, 2023 and December 31, 2022, respectively	169	144
Additional paid-in capital	2,075,252	1,911,632
Accumulated deficit	(1,562,233)	(1,234,968)
Accumulated other comprehensive loss	(955)	(9,926)
Total stockholders' equity	512,233	666,882
Total liabilities and stockholders' equity	$ 642,837	$ 821,579

The accompanying notes are an integral part of these consolidated financial statements.

ALLOGENE THERAPEUTICS, INC.
Consolidated Statements of Operations and Comprehensive Loss
(In thousands, except share and per share amounts)

	Year Ended December 31,		
	2023	2022 (As restated)	2021 (As restated)
Collaboration revenue - related party	$ 95	$ 156	$ 114,089
Operating expenses:			
Research and development	242,914	256,387	220,176
General and administrative	71,673	79,305	74,105
Impairment of long-lived asset	13,245	—	—
Total operating expenses	327,832	335,692	294,281
Loss from operations	(327,737)	(335,536)	(180,192)
Other income (expense), net:			
Interest and other income, net	18,307	4,566	1,714
Other expenses	(17,835)	(9,444)	(3,573)
Total other income (expense), net	472	(4,878)	(1,859)
Net loss	(327,265)	(340,414)	(182,051)
Other comprehensive income:			
Net unrealized gain (loss) on available-for-sale investments	8,971	(7,359)	(2,835)
Net comprehensive loss	$ (318,294)	$ (347,773)	$ (184,886)
Net loss per share, basic and diluted	$ (2.09)	$ (2.38)	$ (1.34)
Weighted-average number of shares used in computing net loss per share, basic and diluted	156,931,778	143,147,165	135,820,386

The accompanying notes are an integral part of these consolidated financial statements.

ALLOGENE THERAPEUTICS, INC.
Consolidated Statements of Stockholders' Equity
(In thousands, except share and per share data)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance — December 31, 2020 (As Restated)	140,474,305	140	1,725,552	(712,503)	268	1,013,457
Issuance of common stock upon exercise of stock options and vesting of RSUs	1,961,554	2	8,344	—	—	8,346
Vesting of early exercised common stock	—	—	3,848	—	—	3,848
Stock-based compensation	—	—	80,818	—	—	80,818
Employee stock purchase plan	187,206	—	3,617	—	—	3,617
Net loss (As Restated)	—	—	—	(182,051)	—	(182,051)
Net unrealized loss on available-for-sale investments	—	—	—	—	(2,835)	(2,835)
Balance — December 31, 2021 (As Restated)	142,623,065	142	1,822,179	(894,554)	(2,567)	925,200
Issuance of common stock upon exercise of stock options and vesting of RSUs	1,453,624	2	487	—	—	489
Vesting of early exercised common stock	—	—	2,905	—	—	2,905
Stock-based compensation	—	—	83,600	—	—	83,600
Employee stock purchase plan	361,615	—	2,461	—	—	2,461
Net loss (As Restated)	—	—	—	(340,414)	—	(340,414)
Net unrealized loss on available-for-sale investments	—	—	—	—	(7,359)	(7,359)
Balance — December 31, 2022 (As Restated)	144,438,304	144	1,911,632	(1,234,968)	(9,926)	666,882
Issuance of common stock from ATM offering, net of commissions and offering costs of $1.7 million	20,894,565	21	91,091	—	—	91,112
Issuance of common stock upon exercise of stock options and vesting of RSUs	2,718,410	3	2,084	—	—	2,087
Vesting of early exercised common stock	—	—	1,999	—	—	1,999
Stock-based compensation	—	—	65,951	—	—	65,951
Employee stock purchase plan	590,959	1	2,495	—	—	2,496
Net loss	—	—	—	(327,265)	—	(327,265)
Net unrealized gain on available-for-sale investments	—	—	—	—	8,971	8,971
Balance — December 31, 2023	168,642,238	$ 169	$ 2,075,252	$ (1,562,233)	$ (955)	$ 512,233

The accompanying notes are an integral part of these consolidated financial statements.

ALLOGENE THERAPEUTICS, INC.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2023	2022	2021
		(As Restated)	(As Restated)
Cash flows from operating activities:			
Net loss	$ (327,265)	$ (340,414)	$ (182,051)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	65,951	83,600	80,818
Depreciation and amortization	14,199	14,295	10,454
Net amortization/accretion on investment securities	(6,809)	2,891	6,955
Impairment of long-lived asset	13,245	—	—
Impairment of equity investment and equity method investment	7,000	—	—
Non-cash rent expense	642	2,433	2,611
Non-cash collaboration revenue - related party	(63)	(104)	(75,740)
Share of loss from equity method investments	10,672	12,883	4,090
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	1,086	2,517	3,199
Other long-term assets	(1,455)	(3,334)	(646)
Accounts payable	(7,502)	4,868	(767)
Accrued and other current liabilities	(6,820)	1,749	3,652
Deferred revenue	(3)	(21)	(38,297)
Other long-term liabilities	(611)	(1,882)	910
Net cash used in operating activities	(237,733)	(220,519)	(184,812)
Cash flows from investing activities:			
Purchases of property and equipment	(1,516)	(5,191)	(21,446)
Purchase of stock in equity method investment	—	—	(17,710)
Proceeds from sales of investments	5,623	—	—
Proceeds from maturities of investments	597,811	359,459	728,394
Purchase of investments	(438,629)	(248,109)	(525,583)
Net cash provided by (used in) investing activities	163,289	106,159	163,655
Cash flows from financing activities:			
Proceeds from issuance of common stock from ATM offering, net of commissions and issuance costs	91,112	—	—
Proceeds from issuance of common stock and upon exercise of stock options	2,087	489	8,346
Proceeds from issuance of common stock under the employee stock purchase plan	2,496	2,461	3,617
Net cash provided by financing activities	95,695	2,950	11,963
Net increase (decrease) in cash, cash equivalents and restricted cash	21,251	(111,410)	(9,194)
Cash, cash equivalents and restricted cash — beginning of period	72,196	183,606	192,800
Cash, cash equivalents and restricted cash — end of period	$ 93,447	$ 72,196	$ 183,606
Non-cash operating, investing and financing activities:			
Right-of-use asset obtained in exchange for lease liability	$ —	$ 31,361	$ 20,079
Property and equipment purchases in accounts payable and accrued and other current liabilities	$ —	$ 678	$ 1,725
Capitalized cloud computing costs included in accounts payable and accrued and other current liabilities	$ —	$ 415	$ —
Non-cash deferred revenue and other long-term liabilities	$ 3,094	$ 3,157	$ 3,260
Supplemental disclosure:			
Cash paid for amounts included in the measurement of lease liabilities	$ (12,049)	$ (9,540)	$ (6,013)
Cash received for amounts related to tenant improvement allowances from lessors	$ —	$ 325	$ 1,111

The accompanying notes are an integral part of these consolidated financial statements.

ALLOGENE THERAPEUTICS, INC.
Notes to Consolidated Financial Statements

Note 1. Description of Business and Summary of Significant Accounting Policies

Allogene Therapeutics, Inc. (the Company or Allogene) was incorporated on November 30, 2017 in the State of Delaware and is headquartered in South San Francisco, California. Allogene is a clinical-stage immuno-oncology company pioneering the development of genetically engineered allogeneic T cell product candidates for the treatment of cancer. The Company is developing a pipeline of off-the-shelf T cell product candidates that are designed to target and kill cancer cells.

Public Offerings

In November 2019, the Company entered into a sales agreement with Cowen and Company, LLC (Cowen), as amended on November 2, 2022 and November 2, 2023, under which the Company may from time to time issue and sell shares of its common stock through Cowen in at-the-market (ATM) offerings. The aggregate compensation payable to Cowen as the Company's sales agent equals up to 3.0% of the gross sales price of the shares sold through Cowen pursuant to the sales agreement. During the year ended December 31, 2020, the Company sold an aggregate of 848,663 shares of common stock in ATM offerings resulting in net proceeds of $26.2 million. During the year ended December 31, 2023, the Company sold an aggregate of 20,894,565 shares of common stock in ATM offerings resulting in net proceeds of $91.1 million. The specified dollar limit on the amount of common stock that may be sold under the sales agreement was removed pursuant to the November 2, 2023 amendment to the sales agreement.

In June 2020, the Company sold 13,457,447 shares of its common stock, which included 1,755,319 shares sold pursuant to the full exercise of the underwriters' option to purchase additional shares, in an underwritten public offering at a price of $47.00 per share, which resulted in gross proceeds of approximately $632.5 million. Net proceeds to the Company after deducting the underwriting discounts and commissions and other expenses were approximately $595.7 million.

Need for Additional Capital

The Company has sustained operating losses and expects to continue to generate operating losses for the foreseeable future. The Company’s ultimate success depends on the outcome of its research and development activities as well as the ability to commercialize the Company’s product candidates. The Company had cash, cash equivalents and investments of $448.7 million as of December 31, 2023. Since inception through December 31, 2023, the Company has incurred cumulative net losses of $1,562.2 million. Management expects to incur additional losses in the future to fund its operations and conduct product research and development and recognizes the need to raise additional capital to fully implement its business plan.

The Company intends to raise additional capital through the issuance of equity securities, debt financings or other sources in order to further implement its business plan. However, if such financing is not available at adequate levels, the Company will need to reevaluate its operating plan and may be required to delay the development of its product candidates. The Company expects that its cash and cash equivalents and investments will be sufficient to fund its operations for at least the next 12 months from the date the Company’s Annual Report on Form 10-K is filed with the Securities and Exchange Commission (SEC).

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP).

In June 2020, the Company formed a wholly-owned, Netherlands-based subsidiary, Allogene Therapeutics, B.V., to help prepare for and assist with the Company's activities in Europe. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary. All material intercompany balances and transactions have been eliminated during consolidation.

Restatement of financial statements

As described further in Note 6 and Note 8, on December 14, 2020, the Company entered into an Exclusive License Agreement (License Agreement) with Allogene Overland Biopharm (CY) Limited (Allogene Overland), a joint venture established by the Company and Overland Pharmaceuticals (CY) Inc. (Overland) pursuant to a Share Purchase Agreement

(Share Purchase Agreement), dated December 14, 2020, for the purpose of developing, manufacturing and commercializing certain allogeneic CAR T cell therapies for patients in greater China, Taiwan, South Korea and Singapore, which resulted in the Company acquiring shares of Allogene Overland's Seed Preferred Stock (Seed Preferred Shares) representing a 49% ownership interest in exchange for entering into a License Agreement.

In 2023, the Company re-evaluated its application of ASC Topic 606, *Revenue from Contracts with Customers (ASC 606)* and ASC Topic 323, *Investments - Equity Method and Joint ventures (ASC 323)* to its License Agreement and Share Purchase Agreement with Allogene Overland. Upon reassessment, the Company has determined the 49% of Allogene Overland's outstanding Seed Preferred Shares received as a partial consideration for the License Agreement should be initially measured at fair value of $79.0 million rather than the zero carryover basis originally attributed to the Seed Preferred Shares. The initial transaction price to determine revenue related to the License Agreement was revised to include the fair value of the Seed Preferred Shares of $79.0 million and was allocated to the identified performance obligations based on their estimated standalone selling price. Additional revisions were made in the year ended December 31, 2020 whereby, on the date when the Seed Preferred Shares were received, the Company recorded as "Other expenses" in its consolidated statements of operations and comprehensive loss the basis difference of $67.5 million between the fair value of the Seed Preferred Shares of $79.0 million and the amount of the Company's underlying equity in net assets of Allogene Overland of $11.5 million and reduced the carrying value of the Seed Preferred Shares to $11.5 million. In the year ended December 31, 2021, the collaboration revenue increased by $75.6 million and the remaining transaction price of $3.4 million will impact subsequent future periods when related performance obligations are satisfied. Further, the Company recorded its share of net losses of Allogene Overland in each reporting period and reduced the carrying value of the Seed Preferred Shares. Refer to the Impact of restatement section below which describes detailed impact of the restatement for all the periods presented.

The error resulted in an understatement of collaboration revenue and other expenses in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2022, 2021 and 2020, and an understatement of deferred revenue and equity method investment in the consolidated balance sheets as of December 31, 2022 and 2021. These annual periods were restated in the Amendment No. 1 to the Annual Report on Form 10-K/A for the year ended December 31, 2022 filed with the Securities and Exchange Commission (the SEC) on March 14, 2024.

The consolidated financial statements (as restated) also include adjustments to correct certain other previously identified misstatements relating to prior periods that the Company had determined to be immaterial, both individually and in aggregate, with a decrease in other expenses of $0.7 million for the year ended December 31, 2021 and an increase in other expenses of $2.0 million for the year ended December 31, 2022 in the consolidated statements of operations and comprehensive loss.

Impact of restatement

See below for reconciliation from the previously reported to the restated amounts in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2022 and 2021, and in the consolidated balance sheets as of December 31, 2022. The previously reported amounts were derived from the Company's Annual Report on Form 10-K for the year ended December 31, 2022 filed with the SEC on February 28, 2023 (Original Report). These amounts are labeled as "As Previously Reported" in the tables below. The amounts labeled "Restatement Adjustment" represent the effects of this restatement described above.

The following presents a reconciliation of the impacted financial statement line items as previously reported to the restated amounts as of December 31, 2022, and for the years ended December 31, 2022 and 2021 (in thousands, except share and per share data):

	December 31, 2022		
Consolidated Balance Sheets	**As previously Reported**	**Restatement Adjustment**	**As Restated**
Equity method investment	$ 12,817	$ 4,500	$ 17,317
Total assets	817,079	4,500	821,579
Deferred revenue	885	(790)	95
Total current liabilities	54,518	(790)	53,728
Other long-term liabilities	1,569	4,278	5,847
Total liabilities	151,209	3,488	154,697
Accumulated deficit	(1,235,980)	1,012	(1,234,968)
Total stockholders' equity	665,870	1,012	666,882
Total liabilities and stockholders' equity	817,079	4,500	821,579

Consolidated Statements of Operations and Comprehensive Loss	Year ended December 31, 2022			Year ended December 31, 2021		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 243	$ (87)	$ 156	$ 38,489	$ 75,600	$ 114,089
Operating expenses:						
Research and development	256,387	—	256,387	220,176	—	220,176
General and administrative	79,305	—	79,305	74,105	—	74,105
Total operating expenses	335,692	—	335,692	294,281	—	294,281
Loss from operations	(335,449)	(87)	(335,536)	(255,792)	75,600	(180,192)
Other income (expense), net:						
Interest and other income, net	4,566	—	4,566	1,714	—	1,714
Other expenses	(1,749)	(7,695)	(9,444)	(2,927)	(646)	(3,573)
Total other income (expense), net	2,817	(7,695)	(4,878)	(1,213)	(646)	(1,859)
Net loss	(332,632)	(7,782)	(340,414)	(257,005)	74,954	(182,051)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	(7,359)	—	(7,359)	(2,835)	—	(2,835)
Net comprehensive loss	(339,991)	(7,782)	(347,773)	(259,840)	74,954	(184,886)
Net loss per share, basic and diluted	(2.32)		(2.38)	(1.89)		(1.34)
Weighted-average number of shares used in computing net loss per share, basic and diluted	143,147,165		143,147,165	135,820,386		135,820,386

Consolidated Statements of Stockholders' Equity	Year ended December 31, 2022			Year ended December 31, 2021		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Net Loss	$ (332,632)	$ (7,782)	$ (340,414)	$ (257,005)	$ 74,954	$ (182,051)
Accumulated Deficit	(1,235,980)	1,012	(1,234,968)	(903,348)	8,794	(894,554)
Total stockholders' equity	665,870	1,012	666,882	916,406	8,794	925,200

Consolidated Statements of Cash Flow	Year ended December 31, 2022			Year ended December 31, 2021		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Net Loss	$ (332,632)	$ (7,782)	$ (340,414)	$ (257,005)	$ 74,954	$ (182,051)
Non-cash collaboration revenue - related party	—	(104)	(104)	—	(75,740)	(75,740)
Share of losses from equity method investments	5,188	7,695	12,883	3,444	646	4,090
Changes in operating assets and liabilities:						
Deferred revenue	462	(483)	(21)	(38,569)	272	(38,297)
Other long-term liabilities	(2,556)	674	(1,882)	1,042	(132)	910
Net cash used in operating activities	(220,519)	—	(220,519)	(184,812)	—	(184,812)

The remainder of the notes to the Company's consolidated financial statements have been updated and restated, as applicable, to reflect the impacts from the restatement discussed above.

Included in Note 15 of these consolidated financial statements is the impact of restatement on previously issued (i) unaudited condensed balance sheets as of March 31, 2023 and 2022, June 30, 2023 and 2022 and September 30, 2023 and 2022, (ii) unaudited condensed statements of operations and comprehensive loss for the three months ended March 31, 2023 and 2022, three and six months ended June 30, 2023 and 2022, and three and nine months ended September 30, 2023 and 2022, (iii) unaudited condensed statements of cash flows for the three months ended March 31, 2023 and 2022, six months ended June 30, 2023 and 2022 and nine months ended September 30, 2023 and 2022, in each of the Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2023, June 30, 2023 and September 30, 2023.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. Significant estimates and assumptions made in the accompanying consolidated financial statements include but are not

limited to the fair value of common stock, the fair value of stock options, the fair value of investments, income tax uncertainties, and certain accruals. The Company evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts those estimates and assumptions when facts and circumstances change. Actual results could differ from those estimates.

Concentration of Credit and other Risks and Uncertainties

Financial instruments, which potentially subject the Company to significant concentrations of credit risk, consist primarily of cash and cash equivalents and investments. The primary objectives for the Company's investment portfolio are the preservation of capital and the maintenance of liquidity. The Company does not enter into any investment transaction for trading or speculative purposes.

The Company's investment policy limits investments to certain types of instruments such as certificates of deposit, commercial paper, money market instruments, obligations issued by the U.S. government and U.S. government agencies as well as corporate debt securities, and places restrictions on maturities and concentration by type and issuer. The Company maintains cash balances in excess of amounts insured by the FDIC and concentrated within a limited number of financial institutions. The accounts are monitored by management and management believes that the financial institutions are financially sound, and, accordingly, minimal credit risk exists with respect to these financial institutions. As of December 31, 2023 and 2022, the Company has not experienced any significant credit losses in such accounts or investments.

The Company is subject to a number of risks common for early-stage biopharmaceutical companies including, but not limited to, the ability to achieve any clinical or commercial success of its product candidates, ability to obtain regulatory approval of its product candidates, the need for substantial additional financing to achieve its goals, uncertainty of broad adoption of its approved products, if any, by physicians and patients, significant competition, dependency on the Company's contract manufacturing organization, and ability to manufacture.

Segments

Operating segments are defined as components of an entity for which separate financial information is available and that is regularly reviewed by the Chief Operating Decision Maker (CODM) in deciding how to allocate resources to an individual segment and in assessing performance. The Company's CODM is its Chief Executive Officer. The Company has determined it operates in a single operating segment and has one reportable segment.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments purchased with original maturities of three months or less from the purchase date to be cash equivalents. Cash equivalents consist primarily of amounts invested in bank money market accounts and money market mutual funds.

The Company has issued letters of credit under separate lease and other agreements which have been collateralized by restricted cash. This cash is classified as long-term restricted cash on the accompanying consolidated balance sheets based on the terms of the underlying agreements.

Investments

Investments are available-for-sale and are carried at estimated fair value. The Company's valuations of marketable securities are generally derived from independent pricing services based upon quoted prices in active markets for similar securities, with prices adjusted for yield and number of days to maturity, or based on industry models using data inputs, such as interest rates and prices that can be directly observed or corroborated in active markets. Management determines the appropriate classification of its investments in debt securities at the time of purchase and at the end of each reporting period. Investments with original maturities of less than three months at the date of purchase are classified as cash and cash equivalents. Investments with original maturities beyond three months at the date of purchase and which mature at, or less than twelve months from the consolidated balance sheet date are classified as current.

Unrealized gains and losses are excluded from earnings and are reported as a component of other comprehensive income. The Company periodically evaluates whether declines in fair values of its available-for-sale securities below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss as well as the Company's ability and intent to hold the available-for-sale security until a forecasted recovery occurs. Additionally, the Company assesses whether it has plans to sell the security or it is more likely than

not it will be required to sell any available-for-sale securities before recovery of its amortized cost basis. Realized gains and losses and declines in fair value judged to be other than temporary, if any, on available-for-sale securities are included in interest and other income, net. The cost of investments sold is based on the specific-identification method. Interest income on investments is included in interest and other income, net.

Fair Value Measurement

Assets and liabilities recorded at fair value on a recurring basis in the consolidated balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1—Observable inputs such as unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2—Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the asset or liability. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

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.

Property and Equipment, Net

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is computed on a straight-line basis over the estimated useful lives of the related assets, generally three to seven years. Maintenance and repairs are charged to operations as incurred. Upon sale or retirement of assets, the cost and related accumulated depreciation are removed from the consolidated balance sheet and the resulting gain or loss is reflected in other expense.

The Company has determined the estimated life of assets to be as follows:

Laboratory equipment	5 years
Computer equipment and purchased software	3 - 5 years
Fixtures and furniture	7 years
Leasehold improvements	Shorter of lease term or useful life

The Company adopted Accounting Standards Update ("ASU") No. 2018-15, *Intangibles – Goodwill and other – Internal-Use Software (Subtopic 350-40)* on January 1, 2020 on a prospective basis. The Company capitalizes implementation costs associated with internal use cloud computing arrangements in alignment with ASC 350-40 internal-use software. Costs incurred in preliminary project stage and post implementation stage are expensed as incurred. Costs incurred during the application development stage of implementation are capitalized in other long-term assets on the consolidated balance sheet. Capitalized implementation costs from cloud computing arrangements are amortized over the term of the cloud-based service arrangement.

Leases

The Company early adopted ASU No. 2016-2, *Leases* on January 1, 2018. For its long-term operating leases, the Company recognizes a right-of-use asset and a lease liability on its consolidated balance sheets. The lease liability is determined as the present value of future lease payments using an estimated rate of interest that the Company would pay to borrow equivalent funds on a collateralized basis at the lease commencement date. The right-of-use asset is based on the liability adjusted for any prepaid or deferred rent. The lease term at the commencement date is determined by considering whether renewal options and termination options are reasonably assured of exercise.

Rent expense for the operating lease is recognized on a straight-line basis over the lease term and is included in operating expenses on the consolidated statements of operations and comprehensive loss. Variable lease payments include lease operating expenses.

The Company elected to exclude from its consolidated balance sheets recognition of leases having a term of 12 months or less (short-term leases) and elected to not separate lease components and non-lease components for its long-term real-estate leases.

Equity Method Investments

The Company uses the equity method of accounting for equity investments in companies if the investment provides the ability to exercise significant influence, but not control, over operating and financial policies of the investee. The Company's proportionate share of the net income or loss of these companies is included in other expenses in the consolidated statement of operations. Judgment regarding the level of influence over each equity method investment includes considering key factors such as our ownership interest, representation on the board of directors, participation in policy-making decisions and material purchase and sale transactions.

The Company evaluates equity method investments for impairment whenever events or changes in circumstances indicate that the carrying amount of the investment might not be recoverable. Factors considered when reviewing an equity method investment for impairment include the length of time (duration) and the extent (severity) to which the fair value of the equity method investment has been less than cost, the investee's financial condition and near-term prospects and the intent and ability to hold the investment for a period of time sufficient to allow for anticipated recovery. An impairment that is other-than-temporary is recognized in the period identified.

Variable Interest Entities

For entities in which the Company has variable interests, the Company focuses on identifying if one of the entities is the primary beneficiary through having the power to direct the activities that most significantly impact the variable interest entity's economic performance and having the obligation to absorb losses or the right to receive benefits from the variable interest entity. If the Company is the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity will be included in the Company's consolidated financial statements. The Company did not consolidate any variable interest entities in any of the periods presented because the Company determined that it was not the primary beneficiary.

Accrued Research and Development Costs

The Company records accrued liabilities for estimated costs of research and development activities conducted by collaboration partners and third-party service providers, which include the conduct of preclinical studies and clinical trials, and contract manufacturing activities. The Company records the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced and includes these costs in accrued and other current liabilities on the consolidated balance sheets and within research and development expenses on the consolidated statements of operations and comprehensive loss.

The Company accrues for these costs based on factors such as estimates of the work completed and in accordance with agreements established with its collaboration partners and third-party service providers. The Company makes significant judgments and estimates in determining the accrued liabilities balance at the end of each reporting period. As actual costs become known, the Company adjusts its accrued liabilities. The Company has not experienced any material differences between accrued costs and actual costs incurred since its inception.

Income Taxes

Income taxes are accounted for under the asset and liability method. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Management makes an assessment of the likelihood that the resulting deferred tax assets will be realized. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. Due to the Company's historical operating performance and net losses, the net deferred tax assets have been fully offset by a valuation allowance.

The Company recognizes uncertain income tax positions at the largest amount that is more likely than not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. Changes in recognition or measurement are reflected in the period in which judgment occurs. The Company's policy is to recognize interest and penalties related to the underpayment of income taxes as a component of the provision for income taxes.

Stock-Based Compensation

The Company measures its stock-based awards granted to employees, consultants and directors based on the estimated fair values of the awards and recognizes the compensation over the requisite service period. The Company uses the Black-Scholes option-pricing model, the lattice option pricing model or Monte Carlo simulation to estimate the fair value of its stock-based awards. Stock-based compensation is recognized using the straight-line method. As the stock compensation expense is based on awards ultimately expected to vest, it is reduced by forfeitures. The Company accounts for forfeitures as they occur.

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period, without consideration for potential dilutive shares of common stock. Since the Company was in a loss position for all periods presented, basic net loss per share is the same as diluted net loss per share since the effects of potentially dilutive securities are antidilutive. Shares of common stock subject to repurchase are excluded from the weighted-average shares.

Comprehensive Loss

Comprehensive loss includes net loss and certain changes in stockholders' equity that are excluded from net loss. For the years ended December 31, 2023, 2022 and 2021 this was comprised of unrealized gains and losses, net of tax, on the Company's investments.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount of an asset group to the future net undiscounted cash flows that the assets are expected to generate. The long-lived assets recoverability test is performed at the asset group level, i.e., the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. If this test indicates that the carrying amount of the asset group is not recoverable, an impairment loss is measured as the amount by which the carrying amount of an asset group exceeds its fair value. Any impairment loss is allocated to the long-lived assets of the group on a pro rata basis using the relative carrying amounts of those assets, except that the carrying amount of an individual asset shall not be reduced below its fair value. The Company recorded long-lived assets impairment loss of $13.2 million for the year ended December 31, 2023 (see Note 5). There were no long-lived assets impairment losses recorded for the years ended December 31, 2022 and December 31, 2021.

Revenue Recognition

The Company's revenue has been generated through collaboration research and license agreements. The terms of these agreements may contain multiple deliverables which may include (i) grant of licenses, (ii) transfer of know-how, (iii) research and development activities, (iii) clinical manufacturing, and (iv) product supply. The payment terms of these agreements may include nonrefundable upfront fees, payments for research and development activities, payments based upon the achievement of certain milestones, royalty payments based on product sales derived from the collaboration, and payments for supplying product.

The Company analyzes its collaboration arrangements to assess whether they are within the scope of ASC 808, Collaborative Arrangements (ASC 808) to determine whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, the Company first determines which elements of the collaboration are deemed to be within the scope of ASC 808 and those that are more reflective of a vendor-customer relationship and, therefore, within the scope of Topic 606, Revenue

from Contracts with Customers (ASC 606). For elements of collaboration arrangements that are accounted for pursuant to ASC 808, an appropriate recognition method is determined and applied consistently, generally by analogy to Topic 606.

For elements of those arrangements that the Company determines should be accounted for under ASC 606, the Company assesses which activities in the collaboration agreements are performance obligations that should be accounted for separately and determines the transaction price of the arrangement, which includes the assessment of the probability of achievement of future milestones and other potential consideration. A performance obligation represents a promise in a contract to transfer a distinct good or service to a customer, which represents a unit of accounting in accordance with ASC 606. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. The Company considers a performance obligation satisfied once the Company has transferred control of a good or service to the customer, meaning the customer has the ability to use and obtain the benefit of the good or service. A portion of the consideration should be allocated to each distinct performance obligation. The total consideration which the Company expects to collect in exchange for the Company's products is an estimate and may be fixed or variable. The Company constrains the estimated variable consideration when it assesses it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. The transaction price is re-evaluated, including the estimated variable consideration included in the transaction price and all constrained amounts, in each reporting period and as uncertain events are resolved or other changes in circumstances occur. The allocation of the transaction price is performed based on standalone selling prices, which are based on estimated amounts that the Company would charge for a performance obligation if it were sold separately. Revenue is recognized when, or as, performance obligations in the contracts are satisfied, in the amount reflecting the expected consideration to be received from the goods or services transferred to the customers. Funds received in advance are recorded as deferred revenue and are recognized as the related performance obligation is satisfied.

Research and Development Expenses

Research and development costs are expensed as incurred and consist of salaries and benefits, including associated stock-based compensation, and laboratory supplies and facility costs, as well as fees paid to other entities that conduct certain research and development activities on the Company's behalf. Research and development expenses also include costs incurred for internal and sponsored collaborative research and development activities. Costs associated with co-development activities performed under the various license and collaboration agreements are included in research and development expenses.

Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are capitalized and then expensed as the related goods are delivered or the services are performed.

Note 2. Recent Accounting Guidance

Recently Adopted Accounting Pronouncements

There have been no new accounting pronouncements issued or effective that are expected to have a material impact on the Company's consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In September 2023, the FASB issued Accounting Standard Update No. 2023-09, *Income taxes (Topic 740), Improvement to income tax disclosures,* which requires to disclose some additional information in the consolidated financial statements. This standard is effective for fiscal years beginning after December 15, 2024, with early adoption permitted. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements.

Note 3. Fair Value Measurements

The Company follows authoritative accounting guidance, which among other things, defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability.

The Company measures and reports its cash equivalents, restricted cash, and investments at fair value.

Money market funds are measured at fair value on a recurring basis using quoted prices and are classified as Level 1. Investments are measured at fair value based on inputs other than quoted prices that are derived from observable market data and are classified as Level 2 inputs, except for investments in U.S. treasury securities which are classified as Level 1.

There were no Level 3 assets or liabilities at December 31, 2023 or 2022.

Financial assets subject to fair value measurements on a recurring basis and the level of inputs used in such measurements by major security type as of December 31, 2023 are presented in the following table:

	December 31, 2023			
	Level 1	Level 2	Level 3	Fair Value
	(in thousands)			
Financial Assets:				
Money market funds [1]	$ 78,536	$ —	$ —	$ 78,536
Corporate bonds	—	97,166	—	97,166
U.S. treasury securities	229,516	—	—	229,516
U.S. agency securities	—	38,860	—	38,860
Total financial assets	$ 308,052	$ 136,026	$ —	$ 444,078

[1] Included within cash and cash equivalents on the Company's consolidated balance sheet

Financial assets subject to fair value measurements on a recurring basis and the level of inputs used in such measurements by major security type as of December 31, 2022 are presented in the following table:

	December 31, 2022			
	Level 1	Level 2	Level 3	Fair Value
	(in thousands)			
Financial Assets:				
Money market funds [1]	$ 10,679	$ —	$ —	$ 10,679
Commercial paper	—	4,954	—	4,954
Corporate bonds	—	153,256	—	153,256
U.S. treasury securities	318,022	—	—	318,022
U.S. agency securities	—	39,416	—	39,416
Total financial assets	$ 328,701	$ 197,626	$ —	$ 526,327

[1] Included within cash and cash equivalents on the Company's consolidated balance sheet

The carrying amounts of accounts payable and accrued liabilities approximate their fair values due to their short-term maturities. The Company's Level 2 securities are valued using third-party pricing sources. The pricing services utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly.

There were no transfers of assets between the fair value measurement levels during the years ended December 31, 2023 or 2022.

Note 4. Investments

The fair value and amortized cost of cash equivalents and available-for-sale securities by major security type as of December 31, 2023 are presented in the following table:

	December 31, 2023			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Money market funds	$ 78,536	$ —	$ —	$ 78,536
Corporate bonds	97,265	113	(212)	97,166
U.S. treasury securities	229,563	132	(179)	229,516
U.S. agency securities	39,225	—	(365)	38,860
Total cash equivalents and investments	$ 444,589	$ 245	$ (756)	$ 444,078
Classified as:				
Cash equivalents				$ 78,536
Short-term investments				365,542
Long-term investments				—
Total cash equivalents, and investments				$ 444,078

The fair value and amortized cost of cash equivalents and available-for-sale securities by major security type as of December 31, 2022 are presented in the following table:

	December 31, 2022			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Money market funds	$ 10,679	$ —	$ —	$ 10,679
Commercial paper	4,956	—	(2)	4,954
Corporate bonds	156,019	25	(2,788)	153,256
U.S. treasury securities	323,077	5	(5,060)	318,022
U.S. agency securities	41,078	—	(1,662)	39,416
Total cash equivalents and investments	$ 535,809	$ 30	$ (9,512)	$ 526,327
Classified as:				
Cash equivalents				$ 11,760
Short-term investments				455,416
Long-term investments				59,151
Total cash equivalents, and investments				$ 526,327

The Company believes that it is more likely than not that investments in an unrealized loss position will be held until maturity and all interest and principal will be received. The Company does not intend to sell these investments and it is more likely than not that the Company will not be required to sell the investment before recovery of its amortized cost basis.

The fair values of available-for-sale debt investments by contractual maturity as of December 31, 2023 and 2022 were as follows:

	December 31,	
	2023	2022
	(in thousands)	
Due in 1 year or less	$ 365,542	$ 456,497
Due in 1 - 2 years	—	59,151
Due in 3 years	—	—
Instruments not due at a single maturity date	78,536	10,679
Total cash equivalents and investments	$ 444,078	$ 526,327

As of December 31, 2023 and 2022, the remaining contractual maturities of available-for-sale securities were one year and less. Realized losses on available-for-sale securities for the year ended December 31, 2023 were $1.0 million. There were no significant realized losses on available-for-sale securities for the years ended December 31, 2022 and 2021. As of December 31, 2023 and 2022, unrealized losses on available-for-sale securities are not attributed to credit risk. The Company believes that it is more likely than not that investments in an unrealized loss position will be held until maturity and all interest and principal will be received. The Company believes that an allowance for credit losses is unnecessary because the unrealized losses on certain of the Company's available-for-sale securities are due to market factors. As of December 31, 2023 and 2022, securities with a fair value of $48.4 million and $329.4 million, respectively, were in a continuous net unrealized loss position for more than 12 months. To date, the Company has not recorded any impairment charges on available-for-sale securities.

As of December 31, 2023 and 2022, the Company recognized $1.7 million and $1.8 million, respectively, of accrued interest receivable from available-for-sale securities within prepaid expenses and other current assets on the consolidated balance sheets.

Note 5. Balance Sheet Components

Property and Equipment, Net

	December 31,	
	2023	2022
	(in thousands)	
Leasehold improvements	$ 108,621	$ 108,550
Laboratory equipment	33,157	32,601
Computer equipment and purchased software	4,663	4,533
Furniture and fixtures	4,121	4,012
Construction in progress	—	28
Total	150,562	149,724
Less: accumulated depreciation	(51,084)	(36,885)
Total property and equipment, net	$ 99,478	$ 112,839

Depreciation expense for the years ended December 31, 2023, 2022 and 2021 was $14.2 million, $14.3 million and $10.5 million, respectively. Disposals of property and equipment were less than $0.1 million for the years ended December 31, 2023 and 2022. Disposals of property and equipment were zero for the year ended December 31, 2021.

To date, the Company has not recorded any impairment loss on its Property and Equipment. The Company continues to monitor its long-lived assets, including Property and Equipment, for events or changes in circumstances which indicate that the carrying amount of its long-lived assets may not be recoverable.

In December 2023, the Company made a decision to sublease one of its leased buildings in South San Francisco. The Company vacated and ceased occupancy of this building in December 2023 and currently the Company is actively marketing the leased building for sublease. The Company determined that the change in how this property is being used could indicate impairment. The Company has determined it operates in a single operating segment and has one reportable segment. The Company identified two asset groups for purposes of long-lived asset impairment assessment: to be sublet property and

remaining operating segment. The Company concluded that the carrying value of the sublet property asset group was not recoverable and the estimated fair value of this asset group was below its carrying value. The lower fair value of the sublet property asset group was mainly due to the lower estimated sublease income compared to the lease payments in accordance with the initial operating lease agreement and higher discount rate. The Company applied a discounted cash flow method to estimate fair value of its right-of-use asset. It represents level 3 non-recurring fair value measurement. Based on this analysis, the Company concluded the fair value of the right-of-use asset of $13.8 million was lower than its net book value of $27.0 million. The key inputs to this valuation were expected sublease rental income of $22.7 million through March 31, 2032 and annual discount rate of 9%. The Company recognized pre-tax long-lived asset impairment charge of $13.2 million on the right-of-use asset.

Accrued Liabilities

Accrued liabilities consist of the following:

	December 31,	
	2023	2022
	(in thousands)	
Accrued compensation and related benefits	$ 12,665	$ 17,935
Accrued research and development expenses	9,315	11,790
Accrued lease liability	6,775	6,002
Unvested shares liability	532	1,898
Other	1,809	2,118
Total accrued and other current liabilities	$ 31,096	$ 39,743

Note 6. License and Collaboration Agreements

Asset Contribution Agreement with Pfizer

In April 2018, the Company entered into an Asset Contribution Agreement (the Pfizer Agreement) with Pfizer pursuant to which the Company acquired certain assets, including certain contracts and intellectual property for the development and administration of chimeric antigen receptor (CAR) T cells for the treatment of cancer. The Company is required to make milestone payments upon successful completion of regulatory and sales milestones on a target-by-target basis for the targets including CD19 and B-cell maturation antigen (BCMA), covered by the Pfizer Agreement. The aggregate potential milestone payments upon successful completion of various regulatory milestones in the United States and the European Union are $30.0 million or $60.0 million, depending on the target, with aggregate potential regulatory and development milestones of up to $840.0 million, provided that the Company is not obligated to pay a milestone for regulatory approval in the European Union for an anti-CD19 allogeneic CAR T cell product, to the extent Servier has commercial rights to such territory. The aggregate potential milestone payments upon reaching certain annual net sales thresholds in North America, Europe, Asia, Australia and Oceania (the Territory) for a certain number of targets covered by the Pfizer Agreement are $325.0 million per target. The sales milestones in the foregoing sentence are payable on a country-by-country basis until the last to expire of any Pfizer Royalty Term, as described below, for any product in such country in the Territory. In October 2019, the Territory was expanded to all countries in the world. No milestone or royalty payments were made in the years ended December 31, 2023, 2022 and 2021.

Pfizer is also eligible to receive, on a product-by-product and country-by-country basis, royalties in single-digit percentages on annual net sales for products covered by the Pfizer Agreement. The Company's royalty obligation with respect to a given product in a given country begins upon the first sale of such product in such country and ends on the later of (i) expiration of the last claim of any applicable patent or (ii) 12 years from the first sale of such product in such country.

Research Collaboration and License Agreement with Cellectis

As part of the Pfizer Agreement, Pfizer assigned to the Company a Research Collaboration and License Agreement (the Original Cellectis Agreement) with Cellectis S.A. (Cellectis). On March 8, 2019, the Company entered into a License Agreement (the Cellectis Agreement) with Cellectis. In connection with the execution of the Cellectis Agreement, on March 8, 2019, the Company and Cellectis also entered into a letter agreement (the Letter Agreement), pursuant to which the Company and Cellectis agreed to terminate the Original Cellectis Agreement. The Original Cellectis Agreement included a research

collaboration to conduct discovery and pre-clinical development activities to generate CAR T cells directed at targets selected by each party, which was completed in June 2018.

Pursuant to the Cellectis Agreement, Cellectis granted to the Company an exclusive, worldwide, royalty-bearing license, on a target-by-target basis, with sublicensing rights under certain conditions, under certain of Cellectis' intellectual property, including its TALEN and electroporation technology, to make, use, sell, import, and otherwise exploit and commercialize CAR T products directed at certain targets, including BCMA, CD70, Claudin 18.2, DLL3 and FLT3 (the Allogene Targets), for human oncologic therapeutic, diagnostic, prophylactic and prognostic purposes. In addition, certain Cellectis intellectual property rights granted by Cellectis to the Company and to Servier pursuant to the Exclusive License and Collaboration Agreement by and between Servier and Pfizer, dated October 30, 2016, which Pfizer assigned to the Company in April 2018, will survive the termination of the Original Cellectis Agreement.

Pursuant to the Cellectis Agreement, the Company granted Cellectis a non-exclusive, worldwide, royalty-free, perpetual and irrevocable license, with sublicensing rights under certain conditions, under certain of the Company's intellectual property, to make, use, sell, import and otherwise commercialize CAR T products directed at certain targets (the Cellectis Targets).

The Cellectis Agreement provides for development and sales milestone payments by the Company of up to $185.0 million per product that is directed against an Allogene Target, with aggregate potential development and sales milestone payments totaling up to $2.8 billion. Cellectis is also eligible to receive tiered royalties on annual worldwide net sales of any products that are commercialized by the Company that contain or incorporate, are made using or are claimed or covered by, Cellectis intellectual property licensed to the Company under the Cellectis Agreement (the Allogene Products), at rates in the high single-digit percentages. Such royalties may be reduced, on a licensed product-by-licensed product and country-by-country basis, for generic entry and for payments due under licenses of third-party patents. Pursuant to the Cellectis Agreement, and subject to certain exceptions, the Company is required to indemnify Cellectis against all thirdparty claims related to the development, manufacturing, commercialization or use of any Allogene Product or arising out of the Company's material breach of the representations, warranties or covenants set forth in the Cellectis Agreement, and Cellectis is required, subject to certain exceptions, to indemnify the Company against all third party claims related to the development, manufacturing, commercialization or use of CAR T products directed at Cellectis Targets or arising out of Cellectis' material breach of the representations, warranties or covenants set forth in the Cellectis Agreement.

The royalties are payable, on a licensed product-by-licensed product and country-by-country basis, until the later of (i) the expiration of the last to expire of the licensed patents covering such product; (ii) the loss of regulatory exclusivity afforded such product in such country, and (iii) the tenth anniversary of the date of the first commercial sale of such product in such country; however, in no event shall such royalties be payable, with respect to a particular licensed product, past the twentieth anniversary of the first commercial sale for such product.

Depending on the Cellectis Target, the Company has a right of first refusal or right of first negotiation to purchase or license from Cellectis rights to develop and commercialize products against such Cellectis Targets.

Under the Cellectis Agreement, the Company has certain diligence obligations to progress the development of CAR T product candidates and to commercialize one CAR T product per Allogene Target in one major market country where the Company has received regulatory approval. If the Company materially breaches any of its diligence obligations and fails to cure within 90 days, then with respect to certain targets, such target will cease to be an Allogene Target and instead will become a Cellectis Target.

Unless earlier terminated in accordance with its terms, the Cellectis Agreement will expire on a product-by-product and country-by-country basis, upon expiration of all royalty payment obligations with respect to such licensed product in such country. The Company has the right to terminate the Cellectis Agreement at will upon 60 days' prior written notice, either in its entirety or on a target-by-target basis. Either party may terminate the Cellectis Agreement, in its entirety or on a target-by-target basis, upon 90 days' prior written notice in the event of the other party's uncured material breach. The Cellectis Agreement may also be terminated by the Company upon written notice at any time in the event that Cellectis becomes bankrupt or insolvent or upon written notice within 60 days of a consummation of a change of control of Cellectis.

All costs the Company incurred in connection with this agreement were recognized as research and development expenses in the consolidated statement of operations. For the years ended December 31, 2023 and 2022, zero clinical development milestones were achieved. For the year ended December 31, 2021, $10.0 million of costs were incurred related to the achievement of clinical development milestones under this agreement.

License and Collaboration Agreement with Servier

As part of the Pfizer Agreement, Pfizer assigned to the Company an Exclusive License and Collaboration Agreement (the Servier Agreement), with Les Laboratoires Servier SAS and Institut de Recherches Internationales Servier SAS (collectively, Servier) to develop, manufacture and commercialize certain allogeneic anti-CD19 CAR T cell product candidates, including UCART19, in the United States with the option to obtain the rights over additional anti-CD19 product candidates and for allogeneic CAR T cell product candidates directed against one additional target. In October 2019, the Company agreed to waive its rights to the one additional target.

Under the Servier Agreement, the Company has an exclusive license to develop, manufacture and commercialize UCART19, ALLO-501 and ALLO-501A in the field of anti-tumor adoptive immunotherapy in the United States, with an exclusive option to obtain the same rights for additional product candidates in the United States and, if Servier does not elect to pursue development or commercialization of those product candidates in certain markets outside of the United States pursuant to its license, outside of the United States as well. The Company is not required to make any additional payments to Servier to exercise an option. If the Company opts-in to another product candidate, Servier has the right to obtain rights to such product candidate outside the United States and to share development costs for such product candidate.

Under the Servier Agreement, the Company is required to use commercially reasonable efforts to develop and obtain marketing approval in the United States in the field of anti-tumor adoptive immunotherapy for at least one product directed against CD19, and Servier is required to use commercially reasonable efforts to develop and obtain marketing approval in the European Union, and one other country in a group of specified countries outside of the European Union and the United States, in the field of anti-tumor adoptive immunotherapy for at least one allogeneic adaptive T cell product directed against a certain Company-selected target.

For product candidates that the Company is co-developing with Servier, including UCART19, ALLO-501 and ALLO-501A, the Company is responsible for 60% of the specified development costs and Servier is responsible for the remaining 40% of the specified development costs under the applicable global research and development plan. Subject to certain restrictions, each party has the right to conduct activities that are specific to its territory outside the global research and development plan at such party’s sole expense. In addition, each party is solely responsible for commercialization activities in its territory at such party’s sole expense.

The Company is required to make milestone payments to Servier upon successful completion of regulatory and sales milestones. The Servier Agreement provides for aggregate potential payments by the Company to Servier of up to $137.5 million upon successful completion of various regulatory milestones, and aggregate potential payments by the Company to Servier of up to $78.0 million upon successful completion of various sales milestones. Similarly, Servier is required to make milestone payments upon successful completion of regulatory and sales milestones for products directed at the Allogene-target covered by the Servier Agreement that achieves such milestones. The total potential payments that Servier is obligated to make to the Company under the Servier Agreement upon successful completion of regulatory and sales milestones are $42.0 million and €70.5 million ($77.8 million), respectively. The foregoing milestones are subject to certain adjustments if the Company obtains rights for certain products outside of the United States upon Servier’s election not to pursue such rights.

Each party is also eligible to receive tiered royalties on annual net sales in countries within the paying party’s respective territory of any licensed products that are commercialized by such party that are directed at the targets licensed by such party under the Servier Agreement. The royalty rates are in a range from the low tens to the high teen percentages. Such royalties may be reduced for interchangeable drug entry, expiration of patent rights and amounts paid pursuant to licenses of third-party patents. The royalty obligation for each party with respect to a given licensed product in a given country in each party’s respective territory (the Servier Royalty Term) begins upon the first commercial sale of such product in such country and ends after a defined number of years.

Unless earlier terminated in accordance with the Servier Agreement, the Servier Agreement will continue, on a licensed product-by-licensed product and country-by-country basis, until the Servier Royalty Term with respect to the sale of such licensed product in such country expires.

On September 15, 2022, Servier sent a notice of discontinuation (Discontinuation) of its involvement in the development of all licensed products directed against CD19, including UCART19, ALLO-501 and ALLO-501A (collectively, CD19 Products), pursuant to the Servier Agreement. Servier’s Discontinuation provides the Company with the right to elect a license to the CD19 Products outside of the United States (Ex-US Option) and does not otherwise affect the Company's current exclusive license for the development and commercialization of CD19 Products in the United States. However, Servier has

disputed the implications of the Discontinuation, namely whether development cost contributions continue and the timeframe during which the Company has the right to elect a license to CD19 Products outside of the United States.

In December 2022, Servier sent the Company a notice for material breach due to the Company's purported refusal to allow an audit of certain manufacturing costs under the cost share arrangement. While the Company does not believe Servier has such an audit right, the Company submitted to a review of the Company's manufacturing costs of CD19 Products to recover outstanding manufacturing costs owed by Servier to the Company. In July 2023, Servier sent the Company a second notice for material breach alleging that the Company overcharged Servier based on Servier and its accounting firm's review of costs eligible for cost-sharing under the Servier Agreement. The Company disagrees with the material breach allegations and the Company is disputing such allegations. Absent a resolution between the parties, disputed matters may be resolved in arbitration as specified in the Servier Agreement.

For the years ended December 31, 2023, 2022 and 2021, the Company recorded zero , $19.9 million, and $17.1 million, respectively, of net cost recoveries under the cost-sharing terms of the Servier Agreement as a reduction to research and development expenses. As of December 31, 2023 and 2022, amounts due from Servier of zero and $1.5 million, respectively, were recorded in other current assets in the accompanying consolidated balance sheets. For the year ended December 31, 2022, $8.0 million in costs were incurred related to the achievement of a clinical development milestone under the Servier Agreement. Zero clinical development milestones were achieved for the years ended December 31, 2023 and 2021.

Research Collaboration and License Agreement with Notch Therapeutics

On November 1, 2019, the Company entered into a Collaboration and License Agreement (the Notch Agreement) with Notch Therapeutics Inc. (Notch), pursuant to which Notch granted to Allogene an exclusive, worldwide, royalty-bearing, sublicensable license under certain of Notch's intellectual property to develop, make, use, sell, import, and otherwise commercialize therapeutic gene-edited T cell and/or natural killer (NK) cell products from induced pluripotent stem cells directed at certain CAR targets for initial application in non-Hodgkin lymphoma, acute lymphoblastic leukemia and multiple myeloma. In addition, Notch has granted Allogene an option to add certain specified targets to its exclusive license in exchange for an agreed per-target option fee.

The Notch Agreement includes a research collaboration to conduct research and pre-clinical development activities to generate engineered cells directed to Allogene's exclusive targets, which will be conducted in accordance with an agreed research plan and budget under the oversight of a joint development committee. Allogene will reimburse Notch's costs incurred in accordance with such plan and budget. The term of the research collaboration will expire upon the earlier of (i) the fifth anniversary of the date of the Notch Agreement, (ii) at Allogene's election, following the joint development committee's determination that for each exclusive target, Notch has met certain success criteria, or (iii) the joint development committee's determination that the research collaboration cannot be reasonably pursued against any exclusive target due to technical infeasibility or safety issues.

In connection with the execution of the Notch Agreement, Allogene made an upfront payment to Notch of $10.0 million in return for a license to access Notch's technology in order to conduct research pursuant to the Notch Agreement. The Company recognized a research and development expense of $10 million during the year ended December 31, 2019 as the license had no foreseeable alternative future use. In addition, Allogene made a $5.0 million investment in Notch's series seed convertible preferred stock, resulting in Allogene having a 25% ownership interest in Notch's outstanding capital stock on a fully diluted basis immediately following the investment. In connection with this investment, an Allogene representative serves on the Notch Board of Directors. In February 2021, the Company made an additional $15.9 million investment in Notch's Series A preferred stock. In October 2021, the Company made an additional $1.8 million investment in Notch's common stock. Immediately following this transaction, the Company's share in Notch was 23.0% on a voting interest basis. The Company did not have a controlling interest in Notch as of December 31, 2023, and continued to account for its investment in Notch as an equity method investment.

Under the Notch Agreement, Notch will be eligible to receive up to $7.3 million upon achieving certain agreed research milestones, up to $4.0 million per exclusive target upon achieving certain pre-clinical development milestones, and up to $283.0 million per exclusive target and cell type (i.e., T cell or NK cell) upon achieving certain clinical, regulatory and commercial milestones. Notch is also entitled to receive tiered royalties in the mid to high single digit range on Allogene's sales of licensed products, subject to certain reductions, for a term, on a country-by-country and product-by-product basis, commencing on first commercial sale of such product in such country and continuing until the latest of (i) the date upon which there is no valid claim of the licensed patents in such country of sale that covers such product, (ii) the expiration of applicable data or other regulatory exclusivity in such country of sale or (iii) a defined period from the first commercial sale of such product in such country.

The terms of the Notch Agreement will continue on a product-by-product and country-by-country basis until Allogene's payment obligations with respect to such product in such country have expired. Following such expiration, Allogene's license with respect to such product and country shall be perpetual, irrevocable, fully paid up and royalty-free. Allogene may terminate the Collaboration Agreement in whole or on a product-by-product basis upon ninety days' prior written notice to Notch. Either party may also terminate the Collaboration Agreement with written notice upon material breach by the other party, if such breach has not been cured within a defined period of receiving such notice, or in the event of the other party's insolvency.

For the years ended December 31, 2023, 2022, and 2021, the Company recorded $1.8 million, $3.8 million, and $4.3 million, respectively, in collaboration costs as research and development expenses. For the year ended December 31, 2021, $0.3 million in costs were incurred related to the achievement of a research milestone under this agreement. Zero milestones were achieved for the years ended December 31, 2023 and 2022. For the year ended December 31, 2023, the Company recorded $3.0 million in other expenses as impairment loss on its equity method investment in Notch. Zero impairment loss was recorded for the years ended December 31, 2022 and 2021.

Strategic Alliance with The University of Texas MD Anderson Cancer Center

On October 6, 2020, the Company entered into a strategic five-year collaboration agreement with The University of Texas MD Anderson Cancer Center (MD Anderson) for the preclinical and clinical investigation of allogeneic CAR T cell product candidates. The Company and MD Anderson are collaborating on the design and conduct of preclinical and clinical studies with oversight from a joint steering committee.

Under the terms of the agreement, the Company has committed up to $15.0 million of funding for the duration of the agreement. Payment of this funding is contingent on mutual agreement to study orders in order for any study to be included under the alliance. The Company made an upfront payment of $3.0 million to MD Anderson in the year ended December 31, 2020 and made an additional upfront payment of $3.0 million to MD Anderson in the year ended December 31, 2023. The Company is obligated to make further payments to MD Anderson each year upon the anniversary of the agreement effective date through the duration of the agreement term. These costs are expensed to research and development as MD Anderson renders the services under the strategic alliance.

The agreement may be terminated by either party for material breach by the other party. Individual studies may be terminated for, among other things, material breach, health and safety concerns or where the institutional review board, the review board at the clinical site with oversight of the clinical study, requests termination of any study. Where any legal or regulatory authorization is finally withdrawn or terminated, the relevant study will also terminate automatically.

For the years ended December 31, 2023, 2022, and 2021, the Company recorded $0.9 million, $1.4 million, and $1.0 million, respectively, in collaboration costs under this agreement as research and development expenses.

Joint Venture and License Agreement with Allogene Overland Biopharm (CY) Limited (As Restated)

On December 14, 2020, the Company entered into the License Agreement with Allogene Overland, a joint venture established by the Company and Overland, pursuant to the Share Purchase Agreement, for the purpose of developing, manufacturing and commercializing certain allogeneic CAR T cell therapies for patients in greater China, Taiwan, South Korea and Singapore (the JV Territory).

Pursuant to the Share Purchase Agreement, the Company acquired Seed Preferred Shares in Allogene Overland representing 49% of Allogene Overland's outstanding stock as partial consideration for the License Agreement, and Overland acquired Seed Preferred Shares representing 51% of Allogene Overland's outstanding stock for $117.0 million in upfront and certain quarterly cash payments, to support operations of Allogene Overland. As of December 31, 2023, the Company and Overland are the sole equity holders in Allogene Overland. The Company received $40 million from Allogene Overland as partial consideration for the License Agreement.

Pursuant to the License Agreement, the Company granted Allogene Overland an exclusive license to develop, manufacture and commercialize certain allogeneic CAR T cell candidates directed at four targets, BCMA, CD70, FLT3, and DLL3, in the JV Territory. As consideration, the Company would also be entitled to additional regulatory milestone payments of up to $40.0 million and, subject to certain conditions, tiered low-to-mid single-digit sales royalties. Subsequent to entering into the License Agreement, Allogene Overland assigned the License Agreement to a wholly-owned subsidiary, Allogene Overland Biopharm (HK) Limited (Allogene Overland HK). On April 1, 2022, Allogene Overland HK assigned the License Agreement to Allogene Overland Biopharm (PRC) Co., Limited.

Promises that the Company concluded were distinct performance obligations in the License Agreement included: (1) the license of intellectual property and delivery of know-how, (2) the manufacturing license, related know-how and support, (3) know-how developed in future periods, and (4) participation in the joint steering committee.

In order to determine the transaction price, the Company evaluated all the consideration to be received over the duration of the contract. Fixed consideration exists in the form of the upfront payment and Seed Preferred Shares in Allogene Overland. Regulatory milestones and royalties were considered variable consideration. The Company constrains the estimated variable consideration when it assesses it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. Milestone fees were constrained and not included in the transaction price due to the uncertainties of research and development. The Company re-evaluates the transaction price, including the estimated variable consideration included in the transaction price and all constrained amounts, in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

The Company estimated the fair value of the shares of Seed Preferred Stock at $79.0 million, using probability adjusted future cash infusions based on the upfront and certain quarterly cash payments of $117.0 million committed by Overland. The probability for the future quarterly cash payments of 65% was developed based on consideration of the Company's expectations for future cash infusions from Overland and was applied on a cumulative basis for each quarterly payment. The present value of the future quarterly cash payments was estimated using 11.9% annual discount rate. The fair value measurement is based on significant inputs not observable in the market and, therefore, represents a Level 3 measurement.

The Company determined that the initial transaction price consists of the upfront payment of $40.0 million and noncash consideration of $79.0 million received in the form of the shares of Seed Preferred Stock. The allocation of the transaction price is performed based on standalone selling prices, which are based on estimated amounts that the Company would charge for a performance obligation if it were sold separately. The initial transaction price of $119.0 million was allocated as follows: (i) $114.0 million to the license of intellectual property and know-how, which was recognized upon grant of license and delivery of know-how in the consolidated financial statements for the year ended December 31, 2021 when the know-how was delivered; (ii) $2.3 million to the manufacturing license, related know-how and support, which will be recognized as services are delivered; (iii) $2.1 million to the know-how developed in future periods, which will be recognized as services are delivered, and (iv) $0.6 million to participation in the joint steering committee, which will be recognized over time as the services are delivered. Funds received in advance are recorded as deferred revenue and will be recognized as the performance obligations are satisfied.

The Company has determined that Allogene Overland is a variable interest entity as of December 31, 2023 and 2022, respectively. The Company does not have the power to direct the activities which most significantly affect Allogene Overland's economic performance. Accordingly, for the years ended December 31, 2023 and 2022, the Company did not consolidate Allogene Overland because the Company determined that it was not the primary beneficiary. The Company's total equity investment in Allogene Overland as of December 31, 2023 and 2022 was zero and $4.5 million, respectively (see Note 8).

For the years ended December 31, 2023, 2022 and 2021, the Company recognized $0.1 million, $0.2 million and $114.1 million, respectively, of collaboration revenue, primarily related to support services and the delivery of a performance obligation consisting of a license of intellectual property and related know-how which was delivered in the first quarter of 2021. For the year ended December 31, 2022, the Company recorded $0.7 million of net cost recoveries under the terms of the license agreement as a reduction to research and development expenses. For the years ended December 31, 2023 and 2021, the Company recorded zero net cost recoveries.

Collaboration and License Agreement with Antion

On January 5, 2022, the Company entered into an exclusive collaboration and global license agreement (Antion Collaboration and License Agreement) with Antion Biosciences SA (Antion) for Antion’s miRNA technology (miCAR), to advance multiplex gene silencing as an additional tool to develop next generation allogeneic CAR T products. Pursuant to the agreement, Antion will exclusively collaborate with the Company on oncology products for a defined period. The Company will also have exclusive worldwide rights to commercialize products incorporating Antion technology developed during the collaboration.

The Antion Collaboration and License Agreement includes an exclusive research collaboration to conduct research and development of the use of Antion’s proprietary technologies to produce certain products for a defined period, which will be conducted in accordance with an agreed research plan and budget under the oversight of a joint steering committee. The Company will reimburse Antion's costs incurred in accordance with such plan and budget.

In connection with the execution of the Antion Collaboration and License Agreement, the Company made an upfront payment to Antion of $3.5 million in return for a license to access Antion's technology in order to conduct research pursuant to the agreement. The upfront payment was fully recognized as research and development expense as the license had no foreseeable alternative future use. In addition, the Company made a $3.0 million investment in Antion's preferred stock. The Company accounts for its investment in Antion's preferred stock as an equity investment measured at cost less any impairment. In connection with this investment, a Company representative was appointed to Antion's Board of Directors.

In July 2023, the Company and Antion entered into an amendment to the Antion Collaboration and License Agreement. Under the terms of this amendment, Antion's exclusivity obligation relating to the collaboration was terminated; however, Antion agreed to certain restrictions on its ability to pursue products directed against specific targets. Also, in lieu of the Company's prior obligation to make a $3.0 million investment in Antion following the completion of certain milestones, the Company agreed to make a $2.0 million investment in Antion's preferred stock and acquired warrants to purchase an additional $3.0 million of Antion's preferred stock. The Company accounts for the fair value of the new investment of $1.0 million as an equity investment and the remaining $1.0 million was recorded as research and development expense.

Under the Antion Collaboration and License Agreement, Antion will be eligible to receive up to $35.3 million for four products upon achievement of certain development and regulatory milestones. For each additional product, Antion will be eligible to receive $2.0 million upon achievement of a regulatory milestone. Antion is also entitled to receive a low single-digit royalty on the Company's sales of licensed products, subject to certain reductions.

For the years ended December 31, 2023 and 2022, the Company recorded $1.8 million and $5.0 million, respectively, in research and development expenses related to the upfront payment and collaboration costs. For the years ended December 31, 2023 and 2022, the Company recorded $0.4 million and zero, respectively, in research and development expenses related to the achievement of a milestone under the Antion Collaboration and License Agreement. For the year ended December 31, 2023 and 2022, the Company recorded $4.0 million and zero, respectively, in other expenses as impairment loss on its equity investment in Antion.

As of December 31, 2023 and 2022, research and development expenses recorded in accrued and other liabilities relating to Antion were zero and $0.5 million, respectively. As of December 31, 2023 and 2022, the Company's total equity investment in Antion was zero and $3.0 million, respectively, and is recognized in other long-term assets in the consolidated balance sheets.

Note 7. Commitments and Contingencies

Leases

In August 2018, the Company entered into an operating lease agreement (HQ Lease) for new office and laboratory space which consists of approximately 68,000 square feet located in South San Francisco, California. The lease term was 127 months beginning August 2018 through February 2029 with an option to extend the term for 7 years which was not reasonably assured of exercise. The Company has made certain tenant improvements, including the addition of laboratory space, and has received $5.0 million of tenant improvement allowances up to December 31, 2023. The rent payments began on March 1, 2019 after an abatement period. In December 2021, the Company amended its lease agreement to lease an additional 47,566 square feet of office and laboratory space in South San Francisco, California, as part of the same building as the Company's current headquarters. The lease term commenced in April 2022 and is for a period of 120 months. The rent payments for the expansion premises began in August 2022 after an abatement period. The lease term for the existing premises was also extended and the lease for both the existing and expansion premises will expire on March 31, 2032 with an option to extend the term for 8 years which is not reasonably assured of exercise.

In October 2018, the Company entered into an operating lease agreement for office and laboratory space which consists of 14,943 square feet located in South San Francisco, California. The lease term was 124 months beginning November 2018 through February 2029, with an option to extend the term for another 7 years which was not reasonably assured of exercise. The Company has made certain tenant improvements, including the upgrading of current office and laboratory space with a lease incentive allowance of $0.8 million. Rent payments began in November 2018. In December 2021, the Company amended its lease agreement to extend the term of the lease to be co-terminus with the HQ Lease. The lease term will expire March 31, 2032 with an option to extend the term for 8 years which is not reasonably assured of exercise.

In February 2019, the Company entered into a lease agreement for approximately 118,000 square feet of space to develop a cell therapy manufacturing facility in Newark, California. The lease term is 188 months and began in November 2020. Upon certain conditions, the Company has two ten-year options to extend the lease, both of which are not reasonably

assured of exercise. The Company has received $3.0 million of tenant improvement allowances for costs related to the design and construction of certain Company improvements.

The Company maintains letters of credit for the benefit of landlords which is disclosed as restricted cash in the consolidated balance sheet. Restricted cash related to letters of credit due to landlords was $6.0 million as of December 31, 2023 and 2022.

The balance sheet classification of our lease liabilities were as follows (in thousands):

	December 31, 2023	December 31, 2022
Operating lease liabilities		
Current portion included in accrued and other current liabilities	$ 6,775	$ 6,002
Long-term portion of lease liabilities	88,346	95,122
Total operating lease liabilities	$ 95,121	$ 101,124

The components of lease costs for operating leases, which were recognized in operating expenses, were as follows (in thousands):

	Year Ended December 31,		
	2023	2022	2021
Operating lease cost	$ 12,711	$ 11,664	$ 7,513
Variable lease cost	3,102	2,139	1,629
Total lease costs	$ 15,813	$ 13,803	$ 9,142

Cash paid for amounts included in the measurement of lease liabilities for the year ended December 31, 2023 was $12.0 million and was included in net cash used in operating activities in the Company's consolidated statements of cash flows.

The undiscounted future non-cancellable lease payments under the Company's operating leases as of December 31, 2023 is as follows:

Year ending December 31:	(in thousands)
2024	$ 12,447
2025	12,627
2026	12,819
2027	13,257
2028 and thereafter	77,234
Total undiscounted lease payments	128,384
Less: Present value adjustment	(33,263)
Total	$ 95,121

Operating lease liabilities are based on the net present value of the remaining lease payments over the remaining lease term. In determining the present value of lease payments, the Company uses its estimated incremental borrowing rate. The weighted average discount rate used to determine the operating lease liability was 6.22%. As of December 31, 2023, the weighted average remaining lease term for our operating leases is 9.03 years.

The Company did not incur any significant rent expense for short-term leases for the years ended December 31, 2023, 2022 and 2021, respectively.

Certain lease agreements require the Company to return designated areas of leased space to its original condition upon termination of the lease agreement. At the inception of such leases, the Company records an asset retirement obligation and a corresponding capital asset in an amount equal to the estimated fair value of the obligation. To determine the fair value of the obligation, the Company estimates the cost for a third-party to perform the restoration work. In subsequent periods, for each asset retirement obligation, the Company records interest expense to accrete the asset retirement obligation liability to full value and depreciate each capitalized asset retirement obligation asset, both over the term of the associated lease agreement. Asset retirement obligations were $0.6 million as of December 31, 2023 and 2022.

Other Commitments

Solar Power Purchase and Energy Services Agreement

In July 2020, the Company entered into a Solar Power Purchase and Energy Services Agreement for the installation and operation of a solar photovoltaic generating system and battery energy storage system at the Company's cell therapy manufacturing facility in Newark, California. The agreement has a term of 20 years and commenced in September 2022. The Company is obligated to pay for electricity generated from the system at an agreed rate for the duration of the agreement term. Termination of the agreement by the Company will result in a termination payment due of approximately $4.3 million. In connection with the agreement, the Company maintains a letter of credit for the benefit of the service provider in the amount of $4.3 million which is recorded as restricted cash in the consolidated balance sheets as of December 31, 2023 and 2022.

License Agreements for Intellectual Property

The Company has entered into certain license agreements for intellectual property which is used as part of its development and manufacturing processes. Each of these respective agreements are generally cancellable by the Company. These agreements require payment of annual license fees and may include conditional milestone payments for achievement of specific research, clinical and commercial events, and royalty payments. The timing and likelihood of any significant conditional milestone payments or royalty payments becoming due was not probable as of December 31, 2023.

Purchase Commitments

In the normal course of business, the Company enters into various purchase commitments with third-party contract manufacturers for the manufacture and processing of our product candidates and related raw materials, and the Company has entered into other contracts in the normal course of business with contract research organizations for clinical trials and other vendors for other services and products for operating purposes. These agreements generally provide for termination or cancellation, other than for costs already incurred. As of December 31, 2023, the Company had non-cancellable purchase commitments of $2.1 million.

Contingencies

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company’s exposure under these agreements is unknown, because it involves claims that may be made against the Company in the future, but have not yet been made. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

Indemnification

In accordance with the Company’s amended and restated certificate of incorporation and amended and restated bylaws, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving in such capacity. There have been no claims to date, and the Company has a directors and officers liability insurance policy that may enable it to recover a portion of any amounts paid for future claims.

Note 8. Equity Method Investments (As Restated)

Notch Therapeutics

In conjunction with the execution of the Notch Agreement (see Note 6), the Company also entered into a Share Purchase Agreement with the Company acquiring shares of Notch’s Series Seed convertible preferred stock for a total investment cost of $5.1 million which includes transaction costs of $0.1 million, resulting in a 25% ownership interest in Notch. In February 2021, the Company made a $15.9 million investment in Notch's Series A preferred stock. Immediately following this transaction, the Company's share in Notch was 20.7% on a voting interest basis. In October 2021, the Company made an additional $1.8 million investment in Notch's common stock. Immediately following this transaction, the Company's share in Notch was 23.0% on a voting interest basis.

The Company’s total equity investment in Notch as of December 31, 2023 and 2022 was $3.6 million and $12.8 million, respectively, and the Company accounted for the investment using the equity method of accounting. During the years ended December 31, 2023, 2022 and 2021, the Company recognized its share of Notch's net loss of $6.2 million, $7.2 million

and $2.7 million, respectively, under the other expenses caption within the consolidated statement of operations. For the year ended December 31, 2023, the Company recorded $3.0 million in other expenses as impairment loss on its equity method investment in Notch. Zero impairment loss was recorded for the years ended December 31, 2022 and 2021.

Allogene Overland Biopharm (CY) Limited

In conjunction with the execution of the License Agreement with Allogene Overland (see Note 6), the Company also entered into the Share Purchase Agreement and a Shareholders' Agreement with the joint venture company acquiring shares of Allogene Overland's Seed Preferred Stock representing a 49% ownership interest in exchange for entering into a License Agreement.

The Company's total equity investment in Allogene Overland as of December 31, 2023 and 2022 was zero and $4.5 million, respectively, and the Company accounted for the investment using the equity method of accounting. During the years ended December 31, 2023, 2022 and 2021, the Company recognized its share of Allogene Overland's net loss of $4.5 million, $5.7 million, and $1.3 million, respectively, under the other expenses caption within the consolidated statement of operations.

Note 9. Stockholders' Equity

Preferred Stock

Pursuant to the Amended and Restated Certificate of Incorporation filed on October 15, 2018, as amended, the Company is authorized to issue a total of 10,000,000 shares of preferred stock, of which no shares were issued and outstanding at December 31, 2023 and 2022.

Common Stock

Pursuant to the Certificate of Amendment of Amended and Restated Certificate of Incorporation filed on June 17, 2022, the Company is authorized to issue a total of 400,000,000 shares of common stock, of which 168,642,238 and 144,438,304 shares were issued and outstanding at December 31, 2023 and 2022, respectively.

Common stockholders are entitled to dividends if and when declared by the Company's Board of Directors subject to the prior rights of the preferred stockholders. As of December 31, 2023 and 2022, no dividends on common stock had been declared by the Company's Board of Directors.

Note 10. Stock-Based Compensation

2018 Equity Incentive Plan

In June 2018, the Company adopted its 2018 Equity Incentive Plan (Prior 2018 Plan). The Prior 2018 Plan provided for the Company to sell or issue common stock or restricted common stock, or to grant incentive stock options or nonqualified stock options for the purchase of common stock, to employees, members of the Company's Board of Directors and consultants of the Company under terms and provisions established by the Company's Board of Directors. In September 2018, the Board of Directors adopted a new amended and restated 2018 Equity Incentive Plan as a successor to and continuation of the Prior 2018 Plan, which became effective in October 2018 (the 2018 Plan), which authorized additional shares for issuance and provided for an automatic annual increase to the number of shares issuable under the 2018 Plan by an amount equal to 5% of the total number of shares of common stock outstanding on December 31st of the preceding calendar year. The term of any stock option granted under the 2018 Plan cannot exceed 10 years. The Company generally grants stock-based awards with service conditions only. Options granted typically vest over a four-year period but may be granted with different vesting terms. Restricted Stock Units granted typically vest annually over a four-year period but may be granted with different vesting terms. Options shall not have an exercise price less than 100% of the fair market value of the Company's common stock on the grant date. If the individual possesses more than 10% of the combined voting power of all classes of stock of the Company, the exercise price shall not be less than 110% of the fair market value of a common share of stock on the date of grant. This requirement is applicable to incentive stock options only.

As of December 31, 2023 and 2022, there were 6,468,650 and 12,932,861 shares reserved by the Company under the 2018 Plan for the future issuance of equity awards.

Stock Option Exchange program

On June 21, 2022, the Company commenced an offer to exchange certain eligible options held by eligible employees of the Company for new options (the Exchange Offer). The Exchange Offer expired on July 19, 2022. Pursuant to the Exchange Offer, 199 eligible holders elected to exchange, and the Company accepted for cancellation, eligible options to purchase an aggregate of 3,666,600 shares of the Company's common stock, representing approximately 93.5% of the total shares of common stock underlying the eligible options. On July 19, 2022, immediately following the expiration of the Exchange Offer, the Company granted new options to purchase 3,666,600 shares of common stock, pursuant to the terms of the Exchange Offer and the 2018 Plan. The exercise price of the new options granted pursuant to the Exchange Offer was $13.31 per share, which was the closing price of the common stock on the Nasdaq Global Select Market on the grant date of the new options. The new options are subject to a new three-year vesting schedule, vesting in equal annual installments over the vesting term. Each new option has a maximum term of seven years.

The exchange of stock options was treated as a modification for accounting purposes. The incremental expense of $5.2 million for the modified options was calculated using a lattice option pricing model. The incremental expense and the unamortized expense remaining on the exchanged options as of the modification date are being recognized over the new three-year service period.

Stock Option Activity

The following summarizes option activity under the 2018 Plan:

	Outstanding Options			
	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contract Term	Aggregate Intrinsic Value
			(in years)	(in thousands)
Balance, December 31, 2022	17,569,575	$ 12.90	7.73	$ 6,658
Options granted	10,315,270	4.94		
Options exercised	(850,396)	2.45		$ 2,334
Options forfeited	(5,221,503)	11.31		
Balance, December 31, 2023	21,812,946	$ 9.93	7.53	$ 662
Exercisable, December 31, 2023	18,687,724	$ 9.98	7.56	$ 639
Vested and expected to vest, December 31, 2023	21,812,946	$ 9.93	7.53	$ 662

The aggregate intrinsic values of options exercised, outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the closing price of the Company's common stock on the Nasdaq Global Select Market on December 31, 2023. The aggregate intrinsic value of options exercised during the years ended December 31, 2023, 2022 and 2021 was $2.3 million, $1.9 million and $21.9 million, respectively. During the years ended December 31, 2023, 2022 and 2021, the estimated weighted-average grant-date fair value of employee options granted was $3.33 per share, $9.97 per share and $18.79 per share, respectively. As of December 31, 2023 and 2022, there was $58.1 million and $83.2 million, respectively, of unrecognized stock-based compensation related to unvested stock options, which is expected to be recognized over a weighted-average period of 2.42 years and 2.70 years, respectively.

The fair value of employee, consultant and director stock option awards was estimated at the date of grant using a Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,	
	2023	2022
Fair value of common stock	$2.72 - $7.23	$7.08 - $17.28
Expected term in years	5.27 - 6.08	5.25 - 6.08
Expected volatility	73.18% - 74.10%	70.82% - 73.39%
Expected risk-free interest rate	3.45% - 4.61%	1.61% - 4.12%
Expected dividend	0%	0%

The fair value of the new options granted under the Option Exchange program was estimated at the date of grant using a lattice option pricing model with the following assumptions: expected volatility of 73.74%, expected risk-free rate of 3.06%, expected dividends of 0% and expected exercise barrier of 2.57.

The Black-Scholes option-pricing model and the lattice option pricing model require the use of subjective assumptions which determine the fair value of stock-based awards. These assumptions include:

Fair value of common stock—For grants before October 2018 when the Company was private and there was no public market for the Company's common stock, the fair value of the Company's common stock underlying share-based awards was estimated on each grant date by the Company's Board of Directors. In order to determine the fair value of the Company's common stock underlying option grants, the Company's Board of Directors considered, among other things, valuations of the Company's common stock prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. For all grants subsequent to the Company's IPO in October 2018, the fair value of common stock was determined by taking the closing price per share of common stock per Nasdaq.

Expected term— The expected term represents the period that stock-based awards are expected to be outstanding. The expected term for option grants is determined using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the stock-based awards.

Expected volatility— The Company uses an average historical stock price volatility of comparable public companies within the biotechnology and pharmaceutical industry that were deemed to be representative of future stock price trends as the Company does not have sufficient trading history for its common stock. The Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available.

Risk-free interest rate—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected dividend—The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Expected exercise barrier - The modified options are assumed to be exercised upon vesting and when the ratio of stock market price to exercise price reaches 2.57, or expiration, whichever is earlier.

For the years ended December 31, 2023, 2022 and 2021, total stock-based compensation expense related to stock options was $34.4 million, $42.2 million and $38.2 million, respectively.

Restricted Stock Unit Activity

The following summarizes restricted stock unit activity under the 2018 Plan:

	Outstanding Restricted Stock Units			
	Restricted Stock Units	Weighted- Average Grant Date Fair Value per Share	Weighted Average Remaining Vesting Life	Aggregate Intrinsic Value
			(in years)	(in thousands)
Unvested December 31, 2022	5,493,406	$ 16.86	1.54	$ 34,554
Granted	12,119,645	4.55	1.79	
Vested	(1,905,294)	17.47		
Forfeited	(3,527,286)	9.39		
Unvested December 31, 2023	12,180,471	$ 6.68	2.00	$ 39,099
Vested and expected to vest, December 31, 2023	12,180,471	$ 6.68	2.00	$ 39,099

For the year ended December 31, 2023, the Company granted 3,264,750 performance-based restricted stock units and 2,189,125 restricted stock units with a market condition to certain executive officers and other employees pursuant to the 2018

Plan. These awards are subject to the holders' continuous service to the Company through each applicable vesting event. Through December 31, 2023, the Company believes that the achievement of the requisite performance conditions for these awards are not probable. As a result, no compensation expense has been recognized related to the performance-based restricted stock units in the year ended December 31, 2023. The Company recognized $2.2 million in stock-based compensation expense related to the restricted units with a market condition for the year ended December 31, 2023.

For the years ended December 31, 2023, 2022 and 2021, total stock-based compensation expense related to restricted stock units, performance based restricted stock units and restricted stock units with a market condition was $28.5 million, $34.3 million and $26.6 million, respectively. For the years ended December 31, 2023, 2022 and 2021, total fair value of vested restricted stock units, performance based restricted stock units and restricted stock units with a market condition as of their grant dates was $33.3 million, $32.8 million and $18.5 million, respectively. As of December 31, 2023 and 2022, there was $50.7 million and $70.5 million, respectively, of unrecognized stock-based compensation which is expected to be recognized over a weighted average period of 2.36 years and 2.55 years, respectively.

Employee Stock Purchase Plan

In October 2018, the stockholders approved the 2018 Employee Stock Purchase Plan (ESPP), which initially reserved 1,160,000 shares of the Company's common stock for employee purchases under terms and provisions established by the Board of Directors. Effective January 1, 2023 and 2022, the number of shares authorized under the ESPP for employee purchases increased by 1,444,383 and 1,426,230 shares respectively. The ESPP is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code. Under the current offering adopted pursuant to the ESPP, each offering period is approximately 24 months, which is generally divided into four purchase periods of approximately six months.

Employees are eligible to participate if they are employed by the Company. Under the ESPP, employees may purchase common stock through payroll deductions at a price equal to 85% of the lower of the fair market value of common stock on the first trading day of each offering period or on the purchase date. The ESPP provides for consecutive, overlapping 24-month offering periods. The offering periods are scheduled to start on the first trading day on or after March 16 or September 16 of each year, except for the first offering period which commenced on October 11, 2018, the first trading day after the effective date of the Company’s registration statement. Contributions under the ESPP are limited to a maximum of 15% of an employee’s eligible compensation.

The fair values of the rights granted under the ESPP were calculated using the following assumptions:

	Year ended December 31,	
	2023	**2022**
Expected term (in years)	0.50 – 2.00	0.50 – 2.00
Volatility	67.32% - 85.05%	74.20% - 85.63%
Risk-free interest rate	4.05%-5.35%	0.86% - 3.88%
Dividend yield	—	—

For the years ended December 31, 2023, 2022 and 2021, total stock-based compensation expense related to ESPP was $3.1 million, $3.6 million and $2.3 million, respectively.

Founders’ Stock

In 2018, the Company’s founders agreed to modify their common shares outstanding to include vesting provisions that require continued service to the Company in order to vest in those shares. Stock-based compensation expense is recognized for shares of founders’ stock as vesting conditions are met. In relation to the modification, 24,230,750 shares of founders’ stock remained unvested at the modification date in April 2018. For the years ended December 31, 2022, and 2021, $3.4 million and $13.7 million of stock-based compensation expense was recognized related to the vesting of 1,514,424, and 6,057,695 shares, respectively, of founders' stock. At December 31, 2022, there was no unrecognized stock-based compensation expense. The weighted-average fair value at grant date for founders’ stock was $2.27 per share.

Stock-based compensation expense

For the years ended December 31, 2023, 2022 and 2021, the Company recorded $66.0 million, $83.6 million and $80.8 million, respectively, of stock-based compensation expense related to stock options, restricted stock units, employee stock purchase plans and vesting of the founders' common stock as research and development and general and administrative expense in its consolidated statements of operations and comprehensive loss.

Early Exercised Options

The Company allows certain of its employees and its directors to exercise options granted under the Prior 2018 Plan and the 2018 Plan prior to vesting. The shares related to early exercised stock options are subject to the Company's lapsing repurchase right upon termination of employment or service on the Company's Board of Directors at the lesser of the original purchase price or fair market value at the time of repurchase. In order to vest, the holders are required to provide continued service to the Company. The proceeds are initially recorded in accrued and other liabilities and other long-term liabilities for the noncurrent portion. The proceeds are reclassified to paid-in capital as the repurchase right lapses. During the years ended December 31, 2023 and 2022, no options were early exercised. As of December 31, 2023 and 2022, there was $0.5 million and $1.9 million, respectively, recorded in accrued and other liabilities and zero and $0.6 million, respectively, recorded in other long-term liabilities related to shares held by employees and directors that were subject to repurchase. The underlying shares are shown as outstanding in the consolidated financial statements since the exercise date but the shares which are subject to future vesting conditions are not included in the calculation of earnings per share.

Note 11. Related Party Transactions

Pfizer Inc.

PF Equity Holdings 2 B.V. held 22,032,040 shares of Common Stock based on the Schedule 13D/A filed on September 17, 2021 with the SEC. According to the Schedule 13D/A filing, PF Equity Holdings 2 B.V. is a wholly-owned subsidiary of Pfizer formed for the purpose of holding certain assets owned or controlled by Pfizer or its direct or indirect subsidiaries. Based on a Form 4 filed on April 4, 2022 by PF Equity Holdings 2 B.V., Pfizer held the 22,032,040 shares as of March 31, 2022.

Collaboration Revenue and Equity Method Investment (As Restated)

In December 2020, the Company entered into the License Agreement with Allogene Overland, a corporate joint venture entity and related party (see Note 6). The License Agreement was subsequently assigned to a wholly owned subsidiary of Allogene Overland, Allogene Overland HK. On April 1, 2022, Allogene Overland HK assigned the License Agreement to Allogene Overland Biopharm (PRC) Co., Limited. During the years ended December 31, 2023, 2022 and 2021, the Company recognized $0.1 million, $0.2 million and $114.1 million, respectively, of collaboration revenue under this arrangement.

For the year ended December 31, 2023, 2022 and 2021, the Company recorded zero, $0.7 million and $0.2 million, respectively, of net cost recoveries under the terms of the license agreement as a reduction to research and development expenses. For the years ended December 31, 2023, 2022 and 2021, the Company recorded $4.5 million, $5.7 million and $1.3 million, respectively, of its share of Allogene Overland's net loss as other expenses (see Note 8).

Consulting Agreements

In June 2018, the Company entered into a services agreement with Two River Consulting LLC (Two River) a firm affiliated with the Company's President and Chief Executive Officer, the Company's Executive Chair of the board of directors, and a director of the Company to provide various managerial, clinical development, administrative, accounting and financial services to the Company. The costs incurred for services provided under this agreement were $0.3 million, $0.7 million and $0.6 million for the years ended December 31, 2023, 2022 and 2021, respectively. In December 2023, the service agreement between the Company and Two River was terminated.

In August 2018, the Company entered into a consulting agreement with Bellco Capital LLC (Bellco). Pursuant to the consulting agreement, Bellco provides certain services for the Company, which are performed by Dr. Belldegrun, the Company's executive chair, and include without limitation, providing advice and analysis with respect to the Company's business, business strategy and potential opportunities in the field of allogeneic CAR T cell therapy and any other aspect of the CAR T cell therapy business as the Company may agree. In consideration for these services, the Company paid Bellco $38,583 per month in arrears commencing January 2021, and $40,217 per month in arrears commencing January 2022. The Company may also, at its discretion, pay Bellco an annual performance award in an amount up to 60% of the aggregate compensation payable to Bellco in a calendar year. The Company also reimburses Bellco for out of pocket expenses incurred in performing

the services. The costs incurred for services provided, bonus and out-of-pocket expenses incurred under this consulting agreement were $0.9 million, $0.8 million and $0.7 million for the years ended December 31, 2023, 2022 and 2021, respectively.

As of December 31, 2023 and 2022, amounts due to Bellco of $0.2 million and $0.3 million, respectively, were recorded in accrued and other current liabilities in the accompanying consolidated balance sheets.

Sublease Agreements

In December 2018, the Company entered into a sublease with Bellco for 1,293 square feet of office space in Los Angeles, California for a three year term. On April 1, 2020, Bellco Capital Advisors Inc. assumed all rights, title, interests and obligations under the sublease from Bellco Capital LLC. In November 2021, the sublease was extended to June 30, 2025. The sublease was amended, effective in July 2022, to move to a nearby location, with office space of 737 square feet. The Company's executive chair, Arie Belldegrun, M.D., FACS, is a trustee of the Belldegrun Family Trust, which controls Bellco Capital Advisors Inc. The total right of use asset and associated liability recorded related to this related party lease was $0.1 million and $0.2 million at December 31, 2023 and 2022, respectively.

In February 2023, the Company subleased an additional 2,030 square feet of office space in Los Angeles, California, from Bellco. The sublease term is 115 months, subject to certain early termination rights. The sublease is expected to commence January 1, 2024. The Company paid approximately $0.2 million towards the monthly base rent due for the first month of the sublease term and its share of the security deposit. The total estimated amount of base rent is $2.9 million, subject to rent abatement. The Company also expects to contribute to certain tenant improvements to the space totaling to its share of the total tenant contribution.

Note 12. 401(k) Plan

In April 2018, the Company began to sponsor a 401(k) retirement savings plan for the benefit of its employees. All employees are eligible to participate, provided they meet the requirements of the plan. The Company made contributions to the plan for eligible participants, and recorded contribution expenses of $2.5 million, $2.3 million and $1.8 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Note 13. Income Taxes

The Company has incurred net operating losses for all the periods presented. The Company has not reflected any benefit of such net operating loss carryforwards in the accompanying consolidated financial statements.

The Company has established a full valuation allowance against its deferred tax assets due to the uncertainty surrounding the realization of such assets.

Reconciliation of the benefit for income taxes calculated at the statutory rate to our benefit for income taxes is as follows:

	Year Ended December 31,		
	2023	2022 (As Restated)	2021 (As Restated)
		(in thousands)	
Tax benefit at federal statutory rate	$ (68,725)	$ (71,487)	$ (38,231)
State taxes, net of federal benefit	(21,610)	(40,642)	8,731
Stock-based compensation	11,132	8,619	4,534
Research tax credits	(3,873)	(4,274)	(2,942)
Change in valuation allowance	82,526	106,111	27,889
Other	550	1,673	19
Benefit for incomes taxes	$ —	$ —	$ —

Deferred income taxes reflect the net tax effects of (a) temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, and (b) operating losses and tax credit carryforwards.

Significant components of our deferred tax assets and liabilities are as follows:

	Year Ended December 31,		
	2023	2022 (As Restated)	2021 (As Restated)
	(in thousands)		
Deferred tax assets:			
Net operating loss carryforwards	$ 211,124	$ 174,222	$ 144,133
Tax credit carryforwards	32,826	24,517	15,595
Intangibles	14,524	16,966	14,092
Accrued expenses	3,039	4,227	3,091
Lease liabilities	26,358	28,298	15,724
Stock based compensation	25,350	25,731	14,693
Investments	28,735	26,291	15,849
Capitalized R&D	73,492	41,273	—
Other	2,189	1,741	1,076
Total deferred tax assets	417,637	343,266	224,253
Deferred tax liabilities:			
Fixed assets	—	—	(250)
Right of use leased assets	(17,652)	(23,392)	(12,478)
Other	(301)	(244)	(68)
Total deferred tax liabilities	(17,953)	(23,636)	(12,796)
Net deferred tax assets	399,684	319,630	211,457
Valuation allowance	(399,684)	(319,630)	(211,457)
Net deferred tax assets	$ —	$ —	$ —

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Due to the lack of earnings history, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by approximately $80.1 million, $108.2 million and $28.5 million during the years ended December 31, 2023, 2022 and 2021, respectively.

The following table sets forth the Company's federal and state NOL carryforwards and federal research and development tax credits as of December 31, 2023:

	Amount	Expiration
	(in thousands)	
Net operating losses, federal	$ 707,797	Indefinite
Net operating losses, federal	$ 2	2037
Net operating losses, state	$ 895,132	2037-2043
Tax credits, federal	$ 26,383	2038-2043
Tax credits, state	$ 20,856	Indefinite
California Competes Tax credits, state	$ 9,000	2026 -2028

Current federal and California tax laws include substantial restrictions on the utilization of NOLs and tax credit carryforwards in the event of an ownership change of a corporation. Accordingly, the Company's ability to utilize NOLs and tax credit carryforwards may be limited as a result of such ownership changes. Such a limitation could result in the expiration of carryforwards before they are utilized.

In December 2019, the FASB issued Accounting Standards Update No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes (ASU 2019-12), which simplifies the accounting for income taxes, eliminates certain exceptions within ASC 740, Income Taxes, and clarifies certain aspects of the current guidance to promote consistency among reporting entities. This guidance was effective for the Company in the first quarter of 2021 on a prospective basis, and early adoption was permitted. The Company early adopted this standard as of January 1, 2020 on a prospective basis in

accordance with ASC 250, Accounting Changes and Error Corrections. The adoption resulted in the Company no longer needing to determine the tax effect from unrealized gains on available for sale securities, which previously had been disclosed in the consolidated statement of operations as a benefit from income taxes. The impact of the adoption is that the benefit from income taxes in the consolidated statement of operations and comprehensive loss is zero. For the years ended December 31, 2023, 2022 and 2021, the Company recorded a tax benefit of zero.

We apply the provisions of ASC Topic 740 to account for uncertain income tax positions. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	December 31,		
	2023	2022	2021
		(in thousands)	
Balance at beginning of the year:	$ 14,570	$ 9,798	$ 6,161
Additions based on tax positions related to current year	4,325	4,772	3,637
Additions to tax position of prior year	—	—	—
Reductions to tax position of prior years	—	—	—
Lapse of the applicable statute of limitations	—	—	—
Balance at end of the year	$ 18,895	$ 14,570	$ 9,798

It is the Company's policy to include penalties and interest expense related to income taxes as a component of interest and other income, net, as necessary. As of December 31, 2023, 2022 and 2021, there were no accrued interest and penalties related to uncertain tax positions. The reversal of the uncertain tax benefits would not affect the effective tax rate to the extent that the Company continues to maintain a full valuation allowance against its deferred tax assets. Unrecognized tax benefits may change during the next 12 months for items that arise in the ordinary course of business. We are subject to examination by U.S. federal or state tax authorities for all years since inception.

Note 14. Net Loss and 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 data):

	Year Ended December 31,		
	2023	2022	2021
		(As Restated)	(As Restated)
Numerator:			
Net loss	$ (327,265)	$ (340,414)	$ (182,051)
Denominator:			
Weighted average common shares outstanding	156,931,778	143,147,165	135,820,386
Net loss per share, basic and diluted	$ (2.09)	$ (2.38)	$ (1.34)

Since the Company was in a loss position for all periods presented, basic net loss per share is the same as diluted net loss per share as the inclusion of all potential dilutive securities 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:

	Year Ended December 31,		
	2023	2022	2021
Stock options to purchase common stock	21,812,946	17,569,575	10,239,167
Restricted stock units subject to vesting	12,180,471	5,493,406	4,261,108
Expected shares purchased under Employee Stock Purchase Plan	2,168,264	1,092,314	474,966
Founder shares subject to future vesting	—	—	1,514,424
Early exercised stock options subject to future vesting	29,180	138,841	720,321
Total	36,190,861	24,294,136	17,209,986

Note 15. Selected Quarterly Financial Data (Unaudited)

The following tables present selected quarterly financial data for 2023 and 2022 (in thousands, except share and per share data):

	March 31, 2023			March 31, 2022		
Condensed Consolidated Balance Sheets	**As Previously Reported**	**Restatement Adjustment**	**As Restated**	**As Previously Reported**	**Restatement Adjustment**	**As Restated**
Assets						
Current assets:						
Cash and cash equivalents	$ 109,931	$ —	$ 109,931	$ 84,514	$ —	$ 84,514
Short-term investments	361,293	—	361,293	364,536	—	364,536
Prepaid expenses and other current assets	10,241	—	10,241	20,694	—	20,694
Total current assets	481,465	—	481,465	469,744	—	469,744
Long-term investments	42,788	—	42,788	284,093	—	284,093
Operating lease right-of-use asset	81,964	—	81,964	57,057	—	57,057
Property and equipment, net	109,849	—	109,849	120,200	—	120,200
Restricted cash	10,292	—	10,292	10,292	—	10,292
Other long-term assets	9,389	—	9,389	9,042	—	9,042
Equity method investments	11,124	3,257	14,381	14,204	13,459	27,663
Total assets	746,871	3,257	750,128	964,632	13,459	978,091
Liabilities and stockholders' equity						
Current liabilities:						
Accounts payable	14,688	—	14,688	8,708	—	8,708
Accrued and other current liabilities	44,624	—	44,624	27,763	—	27,763
Deferred revenue	273	(187)	86	406	(259)	147
Total current liabilities	59,585	(187)	59,398	36,877	(259)	36,618
Lease liability, noncurrent	93,514	—	93,514	69,035	—	69,035
Other long-term liabilities	1,510	3,695	5,205	3,490	3,681	7,171
Total liabilities	154,609	3,509	158,118	109,402	3,421	112,823
Stockholders' equity:						
Preferred stock, $0.001 par value: 10,000,000 authorized as of March 31, 2023 and March 31, 2022; no shares were issued and outstanding as of March 31, 2023 and March 31, 2022	—	—	—	—	—	—
Common stock, $0.001 par value: 400,000,000 and 200,000,000 shares authorized as of March 31, 2023 and March 31, 2022, respectively; 145,740,333 and 143,569,902 shares issued and outstanding as of March 31, 2023 and March 31, 2022, respectively	146	—	146	143	—	143
Additional paid-in capital	1,932,734	—	1,932,734	1,847,534	—	1,847,534
Accumulated deficit	(1,334,684)	(252)	(1,334,936)	(983,198)	10,037	(973,161)
Accumulated other comprehensive loss	(5,934)	—	(5,934)	(9,249)	—	(9,249)
Total stockholders' equity (deficit)	592,262	(252)	592,010	855,230	10,037	865,267
Total liabilities and stockholders' equity	746,871	3,257	750,128	964,632	13,459	978,091

Condensed Consolidated Statements of Operations and Comprehensive Loss	Three Months ended March 31, 2023			Three Months ended March 31, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 52	$ (22)	$ 30	$ 61	$ (22)	$ 39
Operating expenses:						
Research and development	80,238	—	80,238	60,156	—	60,156
General and administrative	18,884	—	18,884	19,897	—	19,897
Total operating expenses	99,122	—	99,122	80,053	—	80,053
Loss from operations	(99,070)	(22)	(99,092)	(79,992)	(22)	(80,014)
Other income (expense), net:						
Interest and other income, net	2,059	—	2,059	492	—	492
Other expenses	(1,693)	(1,242)	(2,935)	(350)	1,265	915
Total other income (expense), net	366	(1,242)	(876)	142	1,265	1,407
Net loss	(98,704)	(1,264)	(99,968)	(79,850)	1,243	(78,607)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	3,992	—	3,992	(6,682)	—	(6,682)
Net comprehensive loss	(94,712)	(1,264)	(95,976)	(86,532)	1,243	(85,289)
Net loss per share, basic and diluted	(0.68)		(0.69)	(0.56)		(0.56)
Weighted-average number of shares used in computing net loss per share, basic and diluted	144,563,829		144,563,829	141,356,306		141,356,306

Condensed Consolidated Statements of Cash Flow	Three Months ended March 31, 2023			Three Months ended March 31, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Net Loss	$ (98,704)	$ (1,264)	$ (99,968)	$ (79,850)	$ 1,243	$ (78,607)
Non-cash collaboration revenue - related party	—	(20)	(20)	—	(26)	(26)
Share of losses from equity method investments	1,693	1,242	2,935	3,800	(1,265)	2,535
Changes in operating assets and liabilities:						
Deferred revenue	(612)	609	(3)	(17)	14	(3)
Other long-term liabilities	(59)	(567)	(626)	(635)	34	(601)
Net cash used in operating activities	(66,639)	—	(66,639)	(68,237)	—	(68,237)

Condensed Consolidated Balance Sheets	June 30, 2023			June 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Assets						
Current assets:						
Cash and cash equivalents	$ 154,758	$ —	$ 154,758	$ 96,041	$ —	$ 96,041
Short-term investments	337,204	—	337,204	394,451	—	394,451
Prepaid expenses and other current assets	10,139	—	10,139	22,536	—	22,536
Total current assets	502,101	—	502,101	513,028	—	513,028
Long-term investments	52,586	—	52,586	195,637	—	195,637
Operating lease right-of-use asset	80,314	—	80,314	86,837	—	86,837
Property and equipment, net	106,386	—	106,386	117,216	—	117,216
Restricted cash	10,292	—	10,292	10,292	—	10,292
Other long-term assets	9,382	—	9,382	8,938	—	8,938
Equity method investments	9,910	2,036	11,946	15,696	7,977	23,673
Total assets	770,971	2,036	773,007	947,644	7,977	955,621
Liabilities and stockholders' equity						
Current liabilities:						
Accounts payable	10,229	—	10,229	9,713	—	9,713
Accrued and other current liabilities	44,263	—	44,263	34,360	—	34,360
Deferred revenue	229	(143)	86	836	(732)	104
Total current liabilities	54,721	(143)	54,578	44,909	(732)	44,177
Lease liability, noncurrent	91,821	—	91,821	98,232	—	98,232
Other long-term liabilities	1,523	3,674	5,197	2,554	4,175	6,729
Total liabilities	148,065	3,531	151,596	145,695	3,443	149,138
Stockholders' equity:						
Preferred stock, $0.001 par value: 10,000,000 authorized as of June 30, 2023 and June 30, 2022; no shares were issued and outstanding as of June 30, 2023 and June 30, 2022	—	—	—	—	—	—
Common stock, $0.001 par value: 400,000,000 shares authorized as of June 30, 2023 and June 30, 2022; 167,133,664 and 143,723,171 shares issued and outstanding as of June 30, 2023 and June 30, 2022, respectively	167	—	167	144	—	144
Additional paid-in capital	2,039,263	—	2,039,263	1,871,262	—	1,871,262
Accumulated deficit	(1,412,673)	(1,495)	(1,414,168)	(1,057,985)	4,534	(1,053,451)
Accumulated other comprehensive loss	(3,851)	—	(3,851)	(11,472)	—	(11,472)
Total stockholders' equity (deficit)	622,906	(1,495)	621,411	801,949	4,534	806,483
Total liabilities and stockholders' equity	770,971	2,036	773,007	947,644	7,977	955,621

Condensed Consolidated Statements of Operations and Comprehensive Loss	Three Months ended June 30, 2023			Three Months ended June 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 44	$ (22)	$ 22	$ 86	$ (22)	$ 64
Operating expenses:						
Research and development	62,038	—	62,038	57,171	—	57,171
General and administrative	18,524	—	18,524	19,509	—	19,509
Total operating expenses	80,562	—	80,562	76,680	—	76,680
Loss from operations	(80,518)	(22)	(80,540)	(76,594)	(22)	(76,616)
Other income (expense), net:						
Interest and other income, net	3,778	—	3,778	315	—	315
Other expenses	(1,249)	(1,221)	(2,470)	1,492	(5,481)	(3,989)
Total other income (expense), net	2,529	(1,221)	1,308	1,807	(5,481)	(3,674)
Net loss	(77,989)	(1,243)	(79,232)	(74,787)	(5,503)	(80,290)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	2,083	—	2,083	(2,223)	—	(2,223)
Net comprehensive loss	(75,906)	(1,243)	(77,149)	(77,010)	(5,503)	(82,513)
Net loss per share, basic and diluted	(0.53)		(0.54)	(0.52)		(0.56)
Weighted-average number of shares used in computing net loss per share, basic and diluted	146,795,826		146,795,826	143,385,045		143,385,045

Condensed Consolidated Statements of Operations and Comprehensive Loss	Six Months ended June 30, 2023			Six Months ended June 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 96	$ (44)	$ 52	$ 147	$ (44)	$ 103
Operating expenses:						
Research and development	142,276	—	142,276	117,327	—	117,327
General and administrative	37,408	—	37,408	39,406	—	39,406
Total operating expenses	179,684	—	179,684	156,733	—	156,733
Loss from operations	(179,588)	(44)	(179,632)	(156,586)	(44)	(156,630)
Other income (expense), net:						
Interest and other income, net	5,837	—	5,837	807	—	807
Other expenses	(2,942)	(2,463)	(5,405)	1,142	(4,216)	(3,074)
Total other income (expense), net	2,895	(2,463)	432	1,949	(4,216)	(2,267)
Net loss	(176,693)	(2,507)	(179,200)	(154,637)	(4,260)	(158,897)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	6,075	—	6,075	(8,905)	—	(8,905)
Net comprehensive loss	(170,618)	(2,507)	(173,125)	(163,542)	(4,260)	(167,802)
Net loss per share, basic and diluted	(1.21)		(1.23)	(1.09)		(1.12)
Weighted-average number of shares used in computing net loss per share, basic and diluted	145,685,993		145,685,993	142,376,280		142,376,280

Condensed Consolidated Statements of Cash Flow	Six Months ended June 30, 2023			Six Months ended June 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Net Loss	$ (176,693)	$ (2,507)	$ (179,200)	$ (154,637)	$ (4,260)	$ (158,897)
Non-cash collaboration revenue - related party	—	(34)	(34)	—	(69)	(69)
Share of losses from equity method investments	2,907	2,463	5,370	2,309	4,216	6,525
Changes in operating assets and liabilities:						
Deferred revenue	(656)	653	(3)	413	(430)	(17)
Other long-term liabilities	(46)	(575)	(621)	(1,571)	543	(1,028)
Net cash used in operating activities	(128,496)	—	(128,496)	(110,768)	—	(110,768)

Condensed Consolidated Balance Sheets	September 30, 2023			September 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Assets						
Current assets:						
Cash and cash equivalents	$ 69,246	$ —	$ 69,246	$ 74,357	$ —	$ 74,357
Short-term investments	396,259	—	396,259	477,872	—	477,872
Prepaid expenses and other current assets	7,949	—	7,949	16,832	—	16,832
Total current assets	473,454	—	473,454	569,061	—	569,061
Long-term investments	32,170	—	32,170	85,108	—	85,108
Operating lease right-of-use asset	78,643	—	78,643	85,245	—	85,245
Property and equipment, net	102,826	—	102,826	114,442	—	114,442
Restricted cash	10,292	—	10,292	10,292	—	10,292
Other long-term assets	9,576	—	9,576	9,378	—	9,378
Equity method investments	5,365	1,085	6,450	14,046	6,905	20,951
Total assets	712,326	1,085	713,411	887,572	6,905	894,477
Liabilities and stockholders' equity						
Current liabilities:						
Accounts payable	6,205	—	6,205	11,045	—	11,045
Accrued and other current liabilities	31,195	—	31,195	36,938	—	36,938
Deferred revenue	236	(150)	86	889	(790)	99
Total current liabilities	37,636	(150)	37,486	48,872	(790)	48,082
Lease liability, noncurrent	90,102	—	90,102	96,706	—	96,706
Other long-term liabilities	1,486	3,702	5,188	2,033	4,255	6,288
Total liabilities	129,224	3,552	132,776	147,611	3,465	151,076
Stockholders' equity:						
Preferred stock, $0.001 par value: 10,000,000 authorized as of September 30, 2023 and September 30, 2022; no shares were issued and outstanding as of September 30, 2023 and September 30, 2022	—	—	—	—	—	—
Common stock, $0.001 par value: 400,000,000 shares authorized as of September 30, 2023 and September 30, 2022; 168,175,221 and 144,031,588 shares issued and outstanding as of September 30, 2023 and September 30, 2022, respectively	168	—	168	144	—	144
Additional paid-in capital	2,059,333	—	2,059,333	1,893,908	—	1,893,908
Accumulated deficit	(1,473,988)	(2,467)	(1,476,455)	(1,141,133)	3,440	(1,137,693)
Accumulated other comprehensive loss	(2,411)	—	(2,411)	(12,958)	—	(12,958)
Total stockholders' equity (deficit)	583,102	(2,467)	580,635	739,961	3,440	743,401
Total liabilities and stockholders' equity	712,326	1,085	713,411	887,572	6,905	894,477

Condensed Consolidated Statements of Operations and Comprehensive Loss	Three Months ended September 30, 2023			Three Months ended September 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 43	$ (21)	$ 22	$ 49	$ (22)	$ 27
Operating expenses:						
Research and development	45,977	—	45,977	63,641	—	63,641
General and administrative	17,041	—	17,041	18,897	—	18,897
Total operating expenses	63,018	—	63,018	82,538	—	82,538
Loss from operations	(62,975)	(21)	(62,996)	(82,489)	(22)	(82,511)
Other income (expense), net:						
Interest and other income, net	6,205	—	6,205	1,002	—	1,002
Other expenses	(4,545)	(951)	(5,496)	(1,661)	(1,072)	(2,733)
Total other income (expense), net	1,660	(951)	709	(659)	(1,072)	(1,731)
Net loss	(61,315)	(972)	(62,287)	(83,148)	(1,094)	(84,242)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	1,440	—	1,440	(1,486)	—	(1,486)
Net comprehensive loss	(59,875)	(972)	(60,847)	(84,634)	(1,094)	(85,728)
Net loss per share, basic and diluted	(0.37)		(0.37)	(0.58)		(0.59)
Weighted-average number of shares used in computing net loss per share, basic and diluted	167,649,010		167,649,010	143,661,721		143,661,721

Condensed Consolidated Statements of Operations and Comprehensive Loss	Nine Months ended September 30, 2023			Nine Months ended September 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Collaboration revenue - related party	$ 139	$ (65)	$ 74	$ 196	$ (66)	$ 130
Operating expenses:						
Research and development	188,253	—	188,253	180,968	—	180,968
General and administrative	54,449	—	54,449	58,303	—	58,303
Total operating expenses	242,702	—	242,702	239,271	—	239,271
Loss from operations	(242,563)	(65)	(242,628)	(239,075)	(66)	(239,141)
Other income (expense), net:						
Interest and other income, net	12,042	—	12,042	1,809	—	1,809
Other expenses	(7,487)	(3,414)	(10,901)	(519)	(5,288)	(5,807)
Total other income (expense), net	4,555	(3,414)	1,141	1,290	(5,288)	(3,998)
Net loss	(238,008)	(3,479)	(241,487)	(237,785)	(5,354)	(243,139)
Other comprehensive income:						
Net unrealized (loss) gain on available-for-sale investments, net of tax	7,515	—	7,515	(10,391)	—	(10,391)
Net comprehensive loss	(230,493)	(3,479)	(233,972)	(248,176)	(5,354)	(253,530)
Net loss per share, basic and diluted	(1.55)		(1.58)	(1.67)		(1.70)
Weighted-average number of shares used in computing net loss per share, basic and diluted	153,087,449		153,087,449	142,809,469		142,809,469

Condensed Consolidated Statements of Cash Flow	Nine Months ended September 30, 2023			Nine Months ended September 30, 2022		
	As Previously Reported	Restatement Adjustment	As Restated	As Previously Reported	Restatement Adjustment	As Restated
Net Loss	$ (238,008)	$ (3,479)	$ (241,487)	$ (237,785)	$ (5,354)	$ (243,139)
Non-cash collaboration revenue - related party	—	(49)	(49)	—	(87)	(87)
Share of losses from equity method investments	7,452	3,414	10,866	3,959	5,288	9,247
Changes in operating assets and liabilities:						
Deferred revenue	(649)	646	(3)	466	(485)	(19)
Other long-term liabilities	(83)	(532)	(615)	(2,092)	638	(1,454)
Net cash used in operating activities	(184,026)	—	(184,026)	(158,423)	—	(158,423)

Note 16. Subsequent Events

On January 3, 2024, the Company entered into a Strategic Collaboration Agreement (the Foresight Agreement) with Foresight Diagnostics, Inc. (Foresight Diagnostics). Pursuant to the Foresight Agreement, the parties have agreed to collaborate on a non-exclusive basis in the development of Foresight Diagnostics' minimal residual disease (MRD) assay as an in vitro diagnostic to identify the MRD+ patient population to be enrolled in the Company's planned ALPHA3 trial of cemacabtagene ansegedleucel (known as ALLO-501A), or cema-cel, for treatment of large B cell lymphoma. Under the Foresight Agreement, the Company has agreed to use its commercially reasonable efforts to obtain regulatory approval of cema-cel, and Foresight Diagnostics has agreed to use its commercially reasonable efforts to obtain regulatory approval of an MRD assay for use as an in vitro diagnostic with cema-cel. The Company has agreed to fund approximately $26.0 million in MRD assay development costs, milestone payments for regulatory submissions and assay utilization to process clinical samples.

On January 25, 2024, the Company entered into an Amended and Restated Collaboration and License Agreement (the Amended Notch Agreement) with Notch. The Amended Notch Agreement amends and restates the Notch Agreement, dated as of November 1, 2019. Under the Amended Notch Agreement, the Company has relinquished its exclusive rights to all original CAR targets (the Released Targets) except for one CAR target, and has agreed to limit its option right to only one additional CAR target. If the option is exercised, the Company will have a minimum funding commitment for the overall development program. If Notch subsequently out-licenses any of the Released Targets, the Company will be entitled to receive a percentage of upfront and/or milestone payments associated therewith up to a set cap, and will be entitled to a low, single-digit royalty on net sales of products containing a Released Target. In addition, with respect to the Company’s previous equity investments in Notch, the Amended Notch Agreement grants the Company certain anti-dilution protections up to certain limits for certain pre-IPO equity financings.

On January 4, 2024, the Company’s Board of Directors approved a reduction in the Company’s workforce of approximately 22% of the Company’s employees in connection with the Company’s pipeline prioritization and clinical development strategy. The reduction in workforce was substantially completed by the end of January 2024. The Company estimates that it will incur charges of approximately $2.9 million for severance payments and employee benefits, primarily in the first quarter of 2024.

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

None.

Item 9A. Controls and Procedures.

Conclusions Regarding the Effectiveness of Disclosure Controls and Procedures

As of December 31, 2023, management, with the participation of our Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures.

Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on this evaluation, and as a result of the material weakness described below, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2023, our disclosure controls and procedures were not effective at a reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. 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.

Management has assessed the effectiveness of our internal control over financial reporting based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013 framework). Based on our evaluation, and as a result of the material weakness described below, management has concluded that our internal control over financial reporting was not effective as of December 31, 2023.

Inherent Limitations of Internal Controls

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 risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Material Weaknesses

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual and interim financial statements will not be detected or prevented on a timely basis.

As described in Note 1 of the Consolidated Financial Statements under the paragraph Restatement of Financial Statements, the Company re-evaluated its prior accounting for shares received in the License Agreement and Share Purchase Agreement entered into on December 14, 2020, with Allogene Overland. Upon reassessment, the Company has determined that the 49% of Allogene Overland's Seed Preferred Shares received as a partial consideration for the License Agreement should be initially measured at fair value. The Company identified a material weakness in the operation of internal controls over financial reporting with respect to the technical accounting analysis of significant non-routine transactions.

Remediation Measures

We have identified and begun to implement steps, as further described below, designed to remediate the foregoing material weakness. We will not consider the material weakness remediated until our controls are operational for a sufficient period of time and tested, enabling management to conclude that the controls are operating effectively.

To remediate this material weakness, we are in the process of improving the operation of our controls related to the technical accounting analysis of significant non-routine transactions which includes engaging third-party subject matter experts with significant relevant experience.

While the foregoing measures are intended to effectively remediate the material weakness described in this Item 9A, it is possible that additional remediation steps will be necessary. As such, as we continue to evaluate and implement our plan to remediate the material weakness, our management may decide to take additional measures to address the material weakness or modify the remediation steps described above. Until this material weakness is remediated, we plan to continue to perform additional analyses and other procedures to help ensure that our consolidated financial statements are prepared in accordance with GAAP.

Changes in Internal Control over Financial Reporting

We regularly review our system of internal control over financial reporting and make changes to our processes and systems to improve controls and increase efficiency, while ensuring that we maintain an effective internal control environment. Changes may include such activities as implementing new, more efficient systems, consolidating activities, and migrating processes. There were no changes in our internal control over financial reporting that occurred during the most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

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

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item and not set forth below will be set forth in the sections headed "Election of Directors" and "Information Regarding the Board of Directors and Corporate Governance" in our definitive proxy statement for our 2024 Annual Meeting of Stockholders to be filed with the SEC on or before April 29, 2024 (our Proxy Statement) and is incorporated in this Annual Report by reference.

Our Board of Directors consists of the following members:

Elizabeth Barrett, 61, has served as member of our Board since July 2021. Ms. Barrett is a director and President and Chief Executive Officer of UroGen Pharma Ltd. ("UroGen"), a biotechnology company dedicated to developing and commercializing innovative solutions that treat urothelial and specialty cancers. At UroGen, Ms. Barrett spearheaded the 2020 approval of Jelmyto® for the treatment of low-grade upper tract urothelial carcinoma. Before joining UroGen, Ms. Barrett served as the Chief Executive Officer of Novartis Oncology, where she managed the development and launch of the autologous CAR T therapy Kymriah®, and as a member of the Executive Committee of Novartis Oncology from February 2018 to December 2018. Prior to that, Ms. Barrett served at Pfizer Inc. ("Pfizer") in various capacities, most recently as the Global President of Oncology, and before that as Pfizer's Regional President of US Oncology Business Unit since March 2009. Prior to Pfizer, she was Vice President and General Manager of the Oncology.

Arie Belldegrun, M.D., 74, is a co-founder of Allogene and has served as Executive Chair of our Board since November 2017. From March 2014 until October 2017, Dr. Belldegrun served as the President and Chief Executive Officer of Kite Pharma, Inc. ("Kite") and as a director from June 2009 until October 2017. Dr. Belldegrun has served as Chair of UroGen since December 2012, Chair of Kronos Bio, Inc., since June 2017, and director of Ginkgo Bioworks, Inc., since September 2021. Dr. Belldegrun has also served on the boards of several private companies: Breakthrough Properties LLC and Breakthrough Services LLC since April 2019, ByHeart, Inc., since October 2019, and IconOVir Bio, Inc., since June 2020. Dr. Belldegrun has also served as Chairman of Bellco Capital LLC since 2004, as Chair and Partner of Two River Group since June 2009, and as Senior Managing Director of Vida Ventures, LLC since November 2017. He is certified by the American Board of Urology and is a Fellow of the American Association of Genitourinary Surgeons. Dr. Belldegrun is Research Professor, holds the Roy and Carol Doumani Chair in Urologic Oncology, and is Director of the Institute of Urologic Oncology at the David Geffen School of Medicine at the University of California, Los Angeles ("UCLA"). Prior to joining UCLA in October of 1988, he was a research fellow at NCI/NIH in surgical oncology and immunotherapy from July 1985 to August 1988 under Dr. Steven Rosenberg. Dr. Belldegrun received his M.D. from the Hebrew University Hadassah Medical School in Jerusalem before completing his post graduate studies in Immunology at the Weizmann Institute of Science and his residency in Urologic Surgery at Harvard Medical School.

David Bonderman, 81, has served as a member of our Board since April 2018. He is a Founding Partner and Chairman of TPG, a global alternative asset firm, established in 1992. Mr. Bonderman currently serves on the board of directors of TPG, Inc., a public company. He has previously served on the boards of many public companies, some of which include: RyanAir Holdings, plc and Continental Airlines, for both of which he was Chairman, Ducati Motor Holding, S.p.A, China International Capital Corporation Limited, Co-Star Group, Inc., General Motors Company, Kite Pharma, Inc., Oxford Health Plans, Inc., Paradyne Networks, Inc., Seagate Technology Holdings plc, TPG Pace Tech Opportunities Corp., TPG Pace Solutions Corp., TPG Pace Energy Holdings Corp., TPG Pace Holdings, Inc., TPG Pace Beneficial Finance Corp., and Univision Holdings, Inc. Throughout Mr. Bonderman's career, he has served as a director on numerous other public, private, advisory, academic and charitable boards. Mr. Bonderman received a Bachelor of Arts degree from the University of Washington, cum laude, and a J.D. from Harvard Law School, magna cum laude, where he was a member of the Harvard Law Review and Sheldon Fellow.

David Chang, M.D., Ph.D., 64, is a co-founder of Allogene and has served as our President and Chief Executive Officer and as a member of our Board since June 2018. Dr. Chang has served on the boards of two private companies: Chair of the Board of Directors of IconOVir Bio, Inc., since June 2020, and director of 1200 Pharma LLC since June 2021. Dr. Chang served on the Board of Directors of Notch Therapeutics, Inc. ("Notch"), a private research-stage biotechnology company, from November 2019 to March 2022. Prior to joining us, Dr. Chang served as the Chief Medical Officer and Executive Vice President, Research and Development of Kite from June 2014 until March 2018. Dr. Chang previously held senior positions at Amgen Inc. ("Amgen"), a biopharmaceutical company, including Vice President, Global Development from July 2006 to May 2014, Senior Director, Oncology-Therapeutics from July 2005 to June 2006 and Director, Medical Sciences from December 2002 to June 2005. Prior to that, he was an Associate Professor at the UCLA School of Medicine. He has also served as a Venture Partner of Vida Ventures, LLC since November 2017, and Two River, LLC since October 2017. In addition, he serves as a member of the American Association for Cancer Research Oncology Development Fund Investment Advisory Committee,

CalTech Cheng Medical Engineering Advisory Council and of the MIT Corporation Biology Visiting Committee. Dr. Chang obtained a B.S. in Biology from the Massachusetts Institute of Technology and an M.D. and Ph.D. from Stanford University.

John DeYoung, 61, has served as a member of our Board since April 2018. Mr. DeYoung is Vice President of Worldwide Business Development for Pfizer's Oncology Business Unit. He is a member of Pfizer's Oncology Leadership Team and its Worldwide Business Development Leadership Team. Mr. DeYoung joined Pfizer in 1991 and has held leadership positions in Finance, Marketing, Commercial Development and Business Development. Mr. DeYoung received his bachelor's degree in business from Michigan State University in 1985 and his MBA from the University of Chicago in 1990.

Franz Humer, Ph.D., 77, has served as a member of our Board since April 2018. Dr. Humer currently serves on the board of directors of LetterOne Holdings S.A. and as Chair of the board of directors of Kallyope, Inc. In addition, Dr. Humer serves on the board of directors of the International Centre for Missing and Exploited Children and is Chair of the Humer Foundation. Dr. Humer previously served as Chair of the board of directors of Neogene Therapeutics, Inc., a private research-stage biotechnology company, from October 2020 until January 2023 and as a member of the board of directors of Kite from September 2015 until October 2017. He also served as an independent director of Citigroup Inc. from 2012 until 2018, Chugai Pharmaceuticals Ltd. (Japan) from 2002 until 2014, and Arix Bioscience plc from April 2016 to December 2019. He served as Chair of Diageo plc from 2005 to 2017. He served as a member of the board of directors of WISeKey SA, a publicly traded global cybersecurity company, from May 2016 to December 2017. In addition, Dr. Humer served as Head of Pharmaceuticals and then as Chief Operating Officer of F. Hoffmann-La Roche Ltd. from 1996 to 1998, prior to serving as Chief Executive Officer of Roche Group from 1998 to 2001 and later as Chair and Chief Executive Officer from 2001 to 2008. His tenure as Chair of Roche Holding Ltd. extended from 2008 to 2014. Before joining Roche Group, he served on the board of Glaxo Holdings plc and was responsible for research, business development, manufacturing, commercial strategy, and all non-US operations for 13 years. In 1973, Dr. Humer joined Schering Plough Corporation where he held various General Management positions in Latin America and Europe. Dr. Humer attended the University of Innsbruck, where he obtained a Ph.D. in Law, and INSEAD in Fontainebleau, where he obtained an MBA.

Joshua Kazam, 47, has served as a member of our Board since November 2017. Mr. Kazam served as our President from November 2017 until June 2018. He was a founder of Kite and served as a member of Kite's board of directors from Kite's inception in June 2009 until October 2017. In June 2009, Mr. Kazam co-founded Two River, LLC, a life-science consulting and investment firm. Mr. Kazam has served on the board of Kronos Bio, Inc. since June 2017 and Capricor Therapeutics, Inc. from May 2005 until May 2019. He has also served on the boards of the following private companies: Vision Path, Inc. (d/b/a Hubble Contacts) since May 2016, ByHeart, Inc. since November 2016, Breakthrough Properties LLC and Breakthrough Services LLC since April 2019, and IconOVir Bio, Inc. since August 2018. Mr. Kazam has also served on the boards of several blank check companies formed for the purpose of effecting a business combination with one or more businesses: Screaming Eagle Acquisition Corp. since January 2022, Tishman Speyer Innovation Corp. II since February 2021, TS Innovation Acquisitions Corp. from November 2020 until June 2021, Soaring Eagle Acquisition Corp. from February 2021 to September 2021, Flying Eagle Acquisition Corp. from February 2020 until December 2020, Diamond Eagle Acquisition Corp. from January 2019 until April 2020, and Platinum Eagle Acquisition Corp. from January 2018 to March 2019. Mr. Kazam has served as the President of Desert Flower Foundation since June 2016. Mr. Kazam received his bachelor's degree in Entrepreneurial Management from the Wharton School of the University of Pennsylvania and is a Member of the Wharton School's Undergraduate Executive Board.

Stephen Mayo, Ph.D., 62, has served as a member of our Board since July 2022. Since 2021, he has served as a member of the board of directors and as a member of the research and development and audit committees of Sarepta Therapeutics, Inc. Since 2021, Dr. Mayo has served as a member of the board of directors and on the audit and research committees of Merck & Co. In addition, he serves on the scientific advisory boards of Vida Ventures and Evozyne. He co-founded Molecular Simulations Inc. (now Biovia) and Xencor, a public antibody engineering company. Dr. Mayo is currently the Bren Professor of Biology and Chemistry and Merkin Institute Professor at California Institute of Technology (Caltech). He joined the Caltech faculty in 1992, was a Caltech-based Howard Hughes Medical Institute Investigator from 1994 to 2007, served as Vice Provost for Research from 2007 to 2010 and Chair of the Division of Biology and Biological Engineering from 2010 to 2020. Dr. Mayo was elected to the National Academy of Sciences in 2004 for his pioneering contributions in the field of protein design. He served as an elected board member for the American Association for the Advancement of Science from 2010 to 2014 and as a presidential appointee on the National Science Foundation's National Science Board from 2013 to 2018. Dr. Mayo holds a B.S. in Chemistry from Pennsylvania State University and a Ph.D. in Chemistry from Caltech. He completed postdoctoral work at both UC Berkeley and Stanford University School of Medicine in chemistry and biochemistry, respectively.

Deborah Messemer, 66, has served as a member of our Board since September 2018. Ms. Messemer has served as director of TPG Inc. since January 2022 and PayPal Holdings, Inc. since January 2019. Ms. Messemer is a certified public

accountant and joined KPMG LLP ("KPMG"), the U.S. member firm of KPMG International, in 1982 and was admitted into the partnership in 1995. Most recently, she served as the Managing Partner of KPMG's Bay Area and Northwest region until her retirement in September 2018. Ms. Messemer spent the majority of her career in KPMG's audit practice as an audit engagement partner serving public and private clients in a variety of industry sectors. In addition to her operational and audit signing responsibilities, she has significant experience in SEC filings, due diligence, initial public offerings, mergers and acquisitions, and internal controls over financial reporting. Ms. Messemer received a bachelor's degree in accounting from the University of Texas at Arlington.

Vicki Sato, Ph.D., 75, has served as a member of our Board since July 2021. She was a professor of management practice at Harvard Business School from September 2006 to July 2017 and was a professor in the Department of Molecular and Cell Biology at Harvard University from July 2005 until October 2015. Previously, she served as President of Vertex Pharmaceuticals, Inc. ("Vertex"), a publicly-traded biotechnology company, which she joined in 1992. Prior to becoming President of Vertex, she was the Chief Scientific Officer and Senior Vice President of Research and Development. Prior to joining Vertex, Dr. Sato served as Vice President of Research at Biogen Inc. Dr. Sato is a member of the board of directors of the following publicly-traded companies: Denali Therapeutics, Inc. and Vir Biotechnology, Inc. She previously served on the board of directors of Akouos, Inc., Bristol Myers Squibb Company and BorgWarner, Inc., both publicly-traded companies. Dr. Sato received her A.B. in Biology from Radcliffe College and her A.M. and Ph.D. in Biology from Harvard University. She conducted her postdoctoral work at both the University of California, Berkeley and Stanford Medical Center.

Todd Sisitsky, 52, has served as a member of our Board since April 2018. Mr. Sisitsky is a board member and President of TPG, Inc. and Co-Managing Partner of TPG Capital, TPG's scale private equity business in the U.S. and Europe, and co-leads the firm's investment activities in the healthcare services, pharmaceuticals and medical device sectors. He also serves on the executive committee of TPG Holdings. He has played leadership roles in connection with TPG's investment in us, Adare Pharmaceuticals, Aptalis, Biomet, Exactech, Fenwal, Healthscope, IASIS Healthcare, Immucor, IQVIA Holdings, Inc. (and predecessor companies IMS Health and Quintiles), Par Pharmaceutical, and Surgical Care Affiliates. Mr. Sisitsky currently serves as director of the following additional public companies: Convey Health Solutions, Inc., and IQVIA Holdings, Inc. Prior to joining TPG in 2003, Mr. Sisitsky worked at Forstmann Little & Company and Oak Hill Capital Partners. He received an MBA from the Stanford Graduate School of Business, where he was an Arjay Miller Scholar, and earned his undergraduate degree from Dartmouth College, where he graduated summa cum laude. Mr. Sisitsky currently serves as the chair of the Dartmouth Medical School board of advisors, and as a board member of Grassroot Soccer.

Owen Witte, M.D., 74, has served as a member of our Board since April 2018. Dr. Witte previously served as a member of the board of directors of Kite from March 2017 until October 2017. Dr. Witte joined the UCLA faculty in 1980, where he is presently a University Professor of microbiology, immunology and molecular genetics, the UCLA David Saxon Presidential Chair in Developmental Immunology and previously served as the director of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research. Dr. Witte was appointed a University Professor by the University of California Board of Regents, an honor reserved for scholars of the highest international distinction. Dr. Witte is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the National Academy of Medicine. Dr. Witte currently serves on several editorial and advisory boards. He previously served on the board of directors for the American Association for Cancer Research. He was appointed by President Obama to the President's Cancer Panel. Dr. Witte holds a bachelor's degree from Cornell University and an M.D. from Stanford University. He completed postdoctoral research at the Massachusetts Institute of Technology.

In addition to Dr. Chang, our executive officers include the following:

Timothy Moore, 62, has served as our Executive Vice President, Chief Technical Officer since April 24, 2023. Previously, Mr. Moore served as the Chief Operating Officer of Instil Bio from September 2022 to December 2022, President and Chief Operating Officer at PACT Pharma, Inc. from April 2020 to July 2022, and as the President and Chief Technology Officer at PACT from October 2019 to April 2020. Prior to PACT, Mr. Moore served as Executive Vice President, Technical Operations of Kite Pharma, or Kite, a Gilead Company, from March 2016 to September 2019. Prior to Kite, he spent more than 12 years at Genentech, a Roche Company, most recently as Senior Vice President, Head of Global Technical Operations – Biologics and as a member of the Genentech Executive Committee. He holds a B.S. in Chemical Engineering from Tulsa University and an M.S. from Northwestern University.

Zachary Roberts, M.D., Ph.D., 46, has served as our Chief Medical Officer since April 2023 and as our Executive Vice President, Research and Development, since January 2023. Previously, Dr. Roberts served as Chief Medical Officer for Instil Bio, Inc. (Instil) from March 2020 to November 2022. Prior to joining Instil, he served in various roles for Kite, during his five-year tenure, with his last position as Vice President, Clinical Development from February 2018 to May 2019. Prior to joining Kite, Dr. Roberts served in various roles in Amgen, with his last position as Clinical Research Medical Director for

Amgen Oncology from January 2015 to July 2015. Dr. Roberts completed his training in internal medicine and hematology/oncology at the Massachusetts General Hospital and Dana Farber Cancer Institute. He earned his B.S. in microbiology and immunology from the University of Maryland, College Park and both his Ph.D. in immunology and his M.D. from the University of Maryland, Baltimore.

Geoffrey Parker, 59, has served as our Executive Vice President, Chief Financial Officer since October 2023. Prior to joining us, Mr. Parker served as Chief Operating Officer, Chief Financial Officer and Executive Vice President of Tricida, Inc. Prior to joining Tricida, Mr. Parker served as Chief Financial Officer of Anacor Pharmaceuticals, and served as a Partner and Managing Director at Goldman Sachs, where he led the West Coast Healthcare Investment Banking group. In addition, Mr. Parker currently serves as a member of the board of directors of Better Therapeutics and of Perrigo Company plc. He earned an A.B. with a double major in Economics and Engineering Sciences from Dartmouth College and an MBA from the Stanford Graduate School of Business.

Earl Douglas, 61, has served as our Senior Vice President, General Counsel and Compliance Officer since August 2023 and as our corporate secretary since January 2024. Before joining Allogene, Mr. Douglas served as Executive Vice President, General Counsel of Applied Molecular Transport. Prior to that role, he served in the same capacity for Kiverdi, Inc. He has also served as Vice President, General Counsel at BioMimetic Therapeutics, Spinal Dynamics, and OPX Biotechnologies. He previously served as Counsel with Wilson Sonsini Goodrich & Rosati, and earlier in his career practiced as an Associate with Weil, Gotshal & Manges. He earned his B.S. in chemical engineering from the Massachusetts Institute of Technology (MIT) and his J.D. from Columbia University School of Law.

We have adopted a code of ethics for directors, officers (including our principal executive officer, principal financial officer and principal accounting officer) and employees, known as the Code of Business Conduct and Ethics. The Code of Business Conduct and Ethics is available on our website at *http://www.allogene.com* under the Governance section of our Investors page. We will promptly disclose on our website (i) the nature of any amendment to the policy that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of the policy that is granted to one of these specified individuals, the name of such person who is granted the waiver and the date of the waiver. Stockholders may request a free copy of the Code of Business Conduct and Ethics from our Compliance Officer, c/o Allogene Therapeutics, Inc., 210 E. Grand Avenue, South San Francisco, CA 94080.

Item 11. Executive Compensation.

The information required by this Item will be set forth in the section headed “Executive Compensation” in our Proxy Statement and is incorporated in this Annual Report by reference.

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

The information required by this Item will be set forth in the section headed “Security Ownership of Certain Beneficial Owners and Management” in our Proxy Statement and is incorporated in this Annual Report by reference.

Information regarding our equity compensation plans will be set forth in the section headed “Executive Compensation” in our Proxy Statement and is incorporated in this Annual Report by reference.

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

The information required by this Item will be set forth in the sections headed “Transactions With Related Persons” and “Information Regarding the Board of Directors and Corporate Governance” in our Proxy Statement and is incorporated in this Annual Report by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this Item will be set forth in the section headed “—Ratification of Selection of Independent Registered Public Accounting Firm” in our Proxy Statement and is incorporated in this Annual Report by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) Financial Statements.

The response to this portion of Item 15 is set forth under Part II, Item 8 above.

(a)(2) Financial Statement Schedules.

All schedules have been omitted because they are not required or because the required information is given in the Financial Statements or Notes thereto set forth under Item 8 above.

(a)(3) Exhibits.

The exhibits listed in the Exhibit Index below are filed or incorporated by reference as part of this Annual Report.

Exhibit Index

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-38693), filed with the SEC on October 15, 2018).
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-38693), filed with the SEC on June 17, 2022).
3.3	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-38693), filed with the SEC on October 15, 2018).
4.1	Reference is made to Exhibits 3.1, 3.2 and 3.3
4.2	Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on October 2, 2018.
4.3	Description of Common Stock (incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on February 28, 2023).
10.1+	Form of Indemnity Agreement by and between the Registrant and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on October 2, 2018).
10.2+	Indemnification Agreement, dated April 6, 2018, by and between the Registrant and John DeYoung (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on October 2, 2018).
10.3+	Allogene Therapeutics, Inc. Amended and Restated 2018 Equity Incentive Plan (Prior Plan) and Forms of Stock Option Grant Notice, Option Agreement, Notice of Exercise and Early Exercise Stock Purchase Agreement thereunder, as amended (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on September 14, 2018).
10.4+	Allogene Therapeutics, Inc. Amended and Restated 2018 Equity Incentive Plan and Forms of Stock Option Grant Notice, Option Agreement, Notice of Exercise, Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement thereunder (incorporated by reference to Exhibit 99.2 to the Registrant's Registration Statement on Form S-8 (File No. 333-227965), filed with the SEC on October 24, 2018).
10.5+	Allogene Therapeutics, Inc. 2018 Employee Stock Purchase Plan (incorporated by reference to Exhibit 99.3 to the Registrant's Registration Statement on Form S-8 (File No. 333-227965), filed with the SEC on October 24, 2018).
10.6+	Allogene Therapeutics, Inc. 2018 Change in Control Plan and Severance Benefit Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on October 2, 2018).
10.7+	Non-Employee Director Compensation Policy.
10.8+	Employment Agreement by and between the Registrant and David Chang, M.D., Ph.D. (incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on September 14, 2018).

10.9+	Consulting Agreement, dated April 29, 2023, by and between the Registrant and Alison Moore, Ph.D. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on May 3, 2023).
10.10+	First Amendment to Consulting Agreement, dated December 16, 2023, by and between the Registrant and Alison Moore, Ph.D.
10.11+	Employment Letter of Agreement, dated December 28, 2022, by and between the Registrant and Zachary Roberts, M.D., Ph.D. (incorporated by reference to Exhibit 10.13 to the Registrant's Annual Report on Form 10-K (File No. 001-38693), filed with the SEC on February 28, 2023).
10.12+	Employment Letter of Agreement, dated April 18, 2023, by and between the Registrant and Timothy Moore (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on May 3, 2023).
10.13+	Employment Letter of Agreement, dated August 11, 2023, by and between the Registrant and Earl Douglas (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on November 2, 2023).
10.14+	Employment Letter of Agreement, dated October 12, 2023, by and between the Registrant and Geoffrey Parker (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on November 2, 2023).
10.15*	License Agreement, dated March 8, 2019, between the Registrant and Cellectis S.A. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on May 7, 2019).
10.16†	Exclusive License and Collaboration Agreement, dated October 30, 2015, by and between the Registrant (assignee of Pfizer Inc.) and Les Laboratoires Servier and Institut de Recherches Internationales Servier (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), filed with the SEC on September 17, 2018).
10.17†	Asset Contribution Agreement, dated April 2, 2018, by and between the Registrant and Pfizer Inc. (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on November 2, 2023).
10.18*	Amended and Restated Collaboration and License Agreement, dated January 17, 2024, by and between the Registrant and Notch Therapeutics Inc.
10.19	Lease, dated August 1, 2018, by and between the Registrant and Britannia Pointe Grand Limited Partnership (incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-227333), originally filed with the SEC on September 14, 2018).
10.20	First Amendment, dated December 10, 2021, to the Lease, dated August 1, 2018, by and between the Registrant and Britannia Pointe Grand Limited Partnership (incorporated by reference to Exhibit 10.18 to the Registrant's Annual Report on Form 10-K (File No. 001-38693), filed with the SEC on February 23, 2022).
10.21	Lease Agreement, dated October 25, 2018, by and between the Registrant and HCP, Inc. (incorporated by reference to Exhibit 10.17 to the Registrant's Annual Report on Form 10-K (File No. 001-38693), filed with the SEC on March 8, 2019).
10.22	First Amendment, dated December 10, 2021, to the Lease Agreement, dated October 25, 2018, by and between the Registrant and Healthpeak Properties, Inc. (formerly known as HCP, Inc.) (incorporated by reference to Exhibit 10.20 to the Registrant's Annual Report on Form 10-K (File No. 001-38693), filed with the SEC on February 23, 2022).
10.23	Lease Agreement, dated February 19, 2019, by and between the Registrant and Silicon Valley Gateway Technology Center, LLC (incorporated by reference to Exhibit 10.18 to the Registrant's Annual Report on Form 10-K (File No. 001-38693), filed with the SEC on March 8, 2019).
10.24	First Amendment, dated September 4, 2019, to the Lease Agreement, dated February 19, 2019, by and between the Registrant and Silicon Valley Gateway Technology Center, LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693), filed with the SEC on November 5, 2019).
10.25	Second Amendment, dated July 15, 2020, to the Lease Agreement, dated February 19, 2019, by and between the Registrant and Silicon Valley Gateway Technology Center, LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693) for the quarter ended June 30, 2020, filed with the SEC on August 5, 2020).

10.26*‡	Exclusive License Agreement, dated December 14, 2020, by and between the Registrant and Allogene Overland Biopharm (CY) Limited (incorporated by reference to Exhibit 10.23 to the Registrant's Annual Report on Form 10-K (File No. 001-38693) for the year ended December 31, 2020, filed with the SEC on February 25, 2021).
10.27*‡	Share Purchase Agreement, dated December 14, 2020, by and among the Registrant, Overland Pharmaceuticals (CY) Inc. and Allogene Overland Biopharm (CY) Limited (incorporated by reference to Exhibit 10.24 to the Registrant's Annual Report on Form 10-K (File No. 001-38693) for the year ended December 31, 2020, filed with the SEC on February 25, 2021).
10.28*	First Amendment to the Share Purchase Agreement, dated May 11, 2022, by and among the Registrant, Overland Pharmaceuticals (CY) Inc. and Allogene Overland Biopharm (CY) Limited (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-38693) for the quarter ended June 30, 2022, filed with the SEC on August 9, 2022).
10.29*	Shareholders' Agreement, dated December 14, 2020, by and among the Registrant, Overland Pharmaceuticals (CY) Inc. and Allogene Overland Biopharm (CY) Limited (incorporated by reference to Exhibit 10.25 to the Registrant's Annual Report on Form 10-K (File No. 001-38693) for the year ended December 31, 2020, filed with the SEC on February 25, 2021).
10.30*	Strategic Collaboration Agreement, dated January 3, 2024, by and between Foresight Diagnostics, Inc. and the Registrant
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney. Reference is made to the signature page hereto.
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97.1	Allogene Therapeutics, Inc. Incentive Compensation Recoupment Policy
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	The cover page of the Company's Annual Report on Form 10-K has been formatted in Inline XBRL.

+ Indicates management contract or compensatory plan.

† Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission

* Certain portions of this exhibit (indicated by "[***]") have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K because it is both not material and is the type of information that the Registrant treats as private or confidential.

‡ Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, in South San Francisco, California, on March 14, 2024.

Allogene Therapeutics, Inc.

By: /s/ David Chang, M.D., Ph.D.
David Chang, M.D., Ph.D.
President, Chief Executive Officer and Member of the Board of Directors
(*Principal Executive Officer*)

POWER OF ATTORNEY

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

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
/s/ David Chang, M.D., Ph.D. David Chang, M.D., Ph.D.	President, Chief Executive Officer and Member of the Board of Directors (*Principal Executive Officer*)	March 14, 2024
/s/ Geoffrey Parker Geoffrey Parker	Chief Financial Officer (*Principal Financial and Accounting Officer*)	March 14, 2024
/s/ Arie Belldegrun, M.D., FACS Arie Belldegrun, M.D., FACS	Executive Chair of the Board of Directors	March 14, 2024
/s/ Elizabeth Barrett Elizabeth Barrett	Member of the Board of Directors	March 14, 2024
/s/ David Bonderman David Bonderman	Member of the Board of Directors	March 14, 2024
/s/ John DeYoung John DeYoung	Member of the Board of Directors	March 14, 2024
/s/ Franz Humer, Ph.D. Franz Humer, Ph.D.	Member of the Board of Directors	March 14, 2024
/s/ Joshua Kazam Joshua Kazam	Member of the Board of Directors	March 14, 2024
/s/ Stephen Mayo, Ph.D. Stephen Mayo, Ph.D.	Member of the Board of Directors	March 14, 2024
/s/ Deborah Messemer Deborah Messemer	Member of the Board of Directors	March 14, 2024
/s/ Vicki Sato, Ph.D. Vicki Sato, Ph.D.	Member of the Board of Directors	March 14, 2024
/s/ Todd Sisitsky Todd Sisitsky	Member of the Board of Directors	March 14, 2024
/s/ Owen Witte, M.D. Owen Witte, M.D.	Member of the Board of Directors	March 14, 2024

Exhibit 10.7

ALLOGENE THERAPEUTICS, INC.
NON-EMPLOYEE DIRECTOR COMPENSATION POLICY ADOPTED:
SEPTEMBER 26, 2018
AMENDED: APRIL 16, 2019
AMENDED: SEPTEMBER 17, 2019
AMENDED: SEPTEMBER 13, 2023

Each member of the Board of Directors (the "***Board***") of Allogene Therapeutics, Inc. (the "***Company***") who is a non-employee director of the Company (each such member, a "***Non- Employee Director***") will receive the compensation described in this Non-Employee Director Compensation Policy (the "***Director Compensation Policy***") for his or her Board service following the closing of the initial public offering of the Company's common stock (the "***IPO***").

A Non-Employee Director may decline all or any portion of his or her compensation by giving notice to the Company prior to the date cash is to be paid or equity awards are to be granted, as the case may be.

Annual Cash Compensation

Commencing January 1, 2019, each Non-Employee Director will receive the cash compensation set forth below for service on the Board. The annual cash compensation amounts will be payable in equal quarterly installments, in arrears following the end of each quarter in which the service occurred, pro-rated for any partial months of service. All annual cash fees are vested upon payment.

1. Annual Board Service Retainer:
    a. All Eligible Directors: $40,000

2. Annual Committee Member Service Retainer:
    a. Member of the Audit Committee: $12,500
    b. Member of the Compensation Committee: $7,500
    c. Member of the Nominating and Corporate Governance Committee: $5,000
    d. Member of the Research and Development Committee: $10,000

3. Annual Committee Chair Service Retainer (in lieu of Committee Member Service Retainer):
    a. Chair of the Audit Committee: $25,000
    b. Chair of the Compensation Committee: $15,000
    c. Chair of the Nominating and Corporate Governance Committee: $10,000

d. Chair of the International and Business Development Oversight Committee: $100,000
e. Chair of the Research and Development Committee: $ 20,000

In addition, the members of the International and Business Development Oversight Committee, excluding the Chair, are eligible to receive compensation of $3,500 per meeting, and the members of the Research and Development Committee are eligible to receive compensation of $5,000 per annual Scientific Advisory Board meeting that they attend.

Equity Compensation

Equity awards will be granted under the Company's Amended and Restated 2018 Equity Incentive Plan (the "***Plan***"), adopted in connection with the IPO. All stock options granted under this policy will be Nonstatutory Stock Options (as defined in the Plan), with a term of ten years from the date of grant and an exercise price per share equal to 100% of the Fair Market Value (as defined in the Plan) of the underlying common stock of the Company on the date of grant.

(a) Automatic Equity Grants.

(i) **Initial Grant for New Directors.** Without any further action of the Board, each person who, after the IPO, is elected or appointed for the first time to be a Non-Employee Director will automatically, upon the date of his or her initial election or appointment to be a Non- Employee Director (or, if such date is not a market trading day, the first market trading day thereafter), be granted (i) a Nonstatutory Stock Option to purchase shares of common stock of the Company (the "***Initial Option Grant***") and (ii) a restricted stock unit award covering shares of common stock of the Company (the "***Initial RSU Grant***"), whereby the Initial Option Grant and Initial RSU Grant shall together have a total grant date value of $850,000 (with the shares covered by the award rounded down to the nearest whole share). The recipient shall designate the proportionate share between the Initial Option Grant and Initial RSU Grant prior to or on the date of grant. The grant date value will be calculated in accordance with the Black-Scholes option valuation methodology or such other methodology as the Board or the Compensation Committee of the Board may determine prior to the grant of such award. Each Initial Option Grant will vest in a series of 36 successive equal monthly installments over the three-year period measured from the date of grant. Each Initial RSU Grant will vest in a series of three successive equal annual installments over the three-year period measured from the date of grant.

(ii) **Annual Grant.** Without any further action of the Board, at the close of business on the date of each Annual Meeting following the IPO, each person who is then a Non- Employee Director will automatically be granted (i) a Nonstatutory Stock Option to purchase shares of common stock (the "***Annual Option Grant***") and (ii) a restricted stock unit award covering shares of common stock of the Company (the "***Annual RSU Grant***"), whereby the Annual Option Grant and Annual RSU Grant shall together have a total grant date value of $425,000 (with the shares covered by the award rounded down to the nearest whole share). The

recipient shall designate the proportionate share between the Annual Option Grant and Annual RSU Grant prior to or on the date of grant. The grant date value will be calculated in accordance with the Black-Scholes option valuation methodology or such other methodology as the Board or the Compensation Committee of the Board may determine prior to the grant of such award. Each Annual Option Grant will vest in a series of 12 successive equal monthly installments over the one-year period measured from the date of grant. Each Annual RSU Grant will vest on the one-year anniversary of the date of grant.

(b) Vesting; Change in Control. All vesting is subject to the Non-Employee Director's "***Continuous Service***" (as defined in the Plan) on each applicable vesting date. Notwithstanding the foregoing vesting schedules, for each Non-Employee Director who remains in Continuous Service with the Company until immediately prior to the closing of a "***Change in Control***" (as defined in the Plan), the shares subject to his or her then-outstanding equity awards that were granted pursuant to this policy will become fully vested immediately prior to the closing of such Change in Control.

(c) Remaining Terms. The remaining terms and conditions of each award, including transferability, will be as set forth in the Company's Director Option Grant Package or Director RSU Grant Package, as applicable, in the forms adopted from time to time by the Board.

Expenses

The Company will reimburse Non-Employee Director for ordinary, necessary and reasonable out- of-pocket travel expenses to cover in-person attendance at and participation in Board and committee meetings; *provided*, that the Non-Employee Director timely submit to the Company appropriate documentation substantiating such expenses in accordance with the Company's travel and expense policy, as in effect from time to time.

FIRST AMENDMENT TO CONSULTING AGREEMENT

This First Amendment to the Consulting Agreement ("Amendment") is made as of December 16, 2023 ("Amendment Effective Date") by and between Alison Moore, Ph.D., having an address at 5 Hill Ave., San Carlos CA 94070 ("Consultant") and Allogene Therapeutics, Inc., a Delaware corporation having an address at 210 E. Grand Ave., South San Francisco, CA 94080 ("Allogene").

WHEREAS, Consultant and Allogene have entered into that certain Consulting Agreement effective April 29, 2023 ("Agreement"), and

WHEREAS, the Parties desire to amend the Agreement.

NOW, THEREFORE, Consultant and Allogene hereby agree as follows:

1. The Term of the Agreement shall be extended to March 31, 2024.

2. The following sentence shall be added to the end of the Compensation section of Exhibit A of the Agreement:

   "Beginning January 1, 2024, no vesting of any equity shall continue for Consultant under any existing Allogene Equity Incentive Plan; provided, however, that Consultant shall have three months to exercise their options upon the termination of this Agreement."

3. Capitalized terms used but not defined herein shall have the meaning set forth in the Agreement. Except as specifically amended above, all terms and conditions of the Agreement shall remain in full force and effect and are hereby ratified and confirmed. In the event that there are any conflicts between the terms of this Amendment and the terms of the Agreement, the terms of this Amendment shall control. The terms of this Amendment shall be controlling over any terms of any purchase order, sales acknowledgement, quote, invoice, or other such documents issued by either party.

IN WITNESS WHEREOF, Consultant and Allogene have caused this Amendment to be duly executed and delivered as of the Amendment Effective Date written above.

ALISON MOORE, Ph.D.

By: /s/ Alison Moore

Date: 12/17/2023

ALLOGENE THERAPEUTICS, INC.

By: /s/ Lillian Smith

Name: Lillian Smith

Title: Vice President, Corporate Counsel

Date: 12/15/2023

CERTAIN INFORMATION CONTAINED IN THIS EXHIBIT, MARKED BY [***], HAS BEEN EXCLUDED BECAUSE THE REGISTRANT HAS DETERMINED THE INFORMATION IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

AMENDED AND RESTATED

COLLABORATION AND LICENSE AGREEMENT

This Amended and Restated Collaboration and License Agreement (the "**Agreement**"), effective as of [***] (the "**Restatement Effective Date**"), is made by and between **Allogene Therapeutics, Inc.**, a Delaware corporation with its principal place of business at 210 East Grand Ave., South San Francisco, CA 94080 ("**Allogene**"), and **Notch Therapeutics (Canada) Inc**., having an address at 300-2233 Columbia St, Vancouver, BC V5Y 0M6 ("**Notch**"). Allogene and Notch are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties.**"

RECITALS

WHEREAS, Allogene is a clinical-stage biotechnology company engaged in the research, development and commercialization of genetically engineered allogeneic T cell therapies for the treatment of cancer;

WHEREAS, Notch possesses certain technology and expertise relating to the use of pluripotent stem cells to manufacture T cell therapies;

WHEREAS, the Parties desire to collaborate in relation to research and development of the use of Notch's proprietary technologies for generating and manufacturing cells of T cell or NK cell lineage in connection with Allogene's cellular therapies, and potential commercialization of pharmaceutical products arising from such research and development activities for the treatment of certain hematological malignancies;

WHEREAS, the Parties previously entered into a Collaboration and License Agreement (the "**CLA**") effective as of November 1, 2019 ("**Original Effective Date**"), as amended in an Amendment to Collaboration and License Agreement dated May 16, 2022, and the Parties now wish to further amend the CLA and fully restate the terms thereof; and

WHEREAS, the Parties have entered into that certain stock purchase agreement as of the Original Effective Date;

NOW, **THEREFORE**, in consideration of the foregoing premises and the mutual covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. DEFINITIONS

1.1 "**Academic Use Rights**" means a non-exclusive license to Research Program Inventions granted by Notch or its Affiliate to a non-profit academic or research institution solely for such academic or research institution's internal, non-commercial, non-clinical research. Such license shall not permit the publication or disclosure of any Research Program Invention or data related thereto without Allogene's prior approval, not to be unreasonably withheld.

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1.2 "**Affiliate**" means, as to a Party, any entity directly or indirectly controlling, controlled by or under common control with such Party, where "control" means (a) beneficial ownership of greater than fifty percent (50%) of the voting equity interests in such entity or (b) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of a voting equity interest, by contract or otherwise.

1.3 "**Alliance Manager**" has the meaning set forth in Section 3.1.

1.4 "**Allogene Background Technology**" means Background Technology Controlled by Allogene or its Affiliates.

1.5 "**Allogene Indemnitee**" has the meaning given in Section 11.1.

1.6 "**Allogene Technology**" means (a) Background Technology Controlled by Allogene, and (b) Allogene's interest in any Research Program Inventions, excluding any Joint Technology.

1.7 "**Allogene Patents**" has the meaning given in Section 8.2.

1.8 "**Applicable Law**" means any and all applicable laws, ordinances, rules, directives, administrative circulars and regulations of any kind whatsoever of any Governmental Authority within the applicable jurisdiction.

1.9 "**Available**" and its cognates mean, with respect to a Target, that (a) Notch has not granted any Third Party any license, or option to acquire a license, under the Notch Technology to Exploit cellular therapy products Directed Against such Target (excluding licenses granted to service providers solely to provide services to Notch), or, if Notch has granted such a license or option to acquire a license, such license or option to acquire a license has expired or terminated; and, if the requirement in clause (a) is met, (b) Notch, together with its Affiliates and any Third Party to which Notch had previously granted a license or option as described in clause (a), have not expended an aggregate amount in excess of [***] dollars [***] directly in the research and development of a cellular therapy product Directed Against such Target.

1.10 "**Background Technology**" means Patent Rights and Know-How (a) Controlled by a Party prior to the Original Effective Date or (b) Controlled by such Party during the Term, but not generated in the performance of the activities under this Agreement.

1.11 "**Bankruptcy Code**" has the meaning given in Section 12.4.

1.12 "**B-Cell Malignancies**" means the hematological malignancies or cancer that begins in blood-forming tissue, such as the bone marrow, or in the cells of the immune system and affect B cells. These include B-cell lymphomas and some leukemias. For clarity, B-Cell Malignancies shall for example not include Multiple Myeloma, chronic myelogenous leukemia, acute myelogenous leukemia, or T cell malignancies.

1.13 "**Biologics License Application**" or "**BLA**" means a Biologics License Application (as more fully described in U.S. 21 C.F.R. Part 601.20 or any successor regulation) and all amendments and supplements thereto submitted to the FDA, or any equivalent filing in a country or regulatory jurisdiction other than the U.S. with the applicable Regulatory Authority, or any similar application or submission for Regulatory Approval filed with a Regulatory Authority to obtain marketing approval for a biologic product in a country or in a group of countries.

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1.14 "**Bi-Specific Product**" means [***].

1.15 "**Business Day**" means a day other than Saturday, Sunday or any day on which commercial banks located in the San Francisco, California, USA, or Toronto, Canada are authorized or obligated by Applicable Laws to close.

1.16 "**Calendar Quarter**" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31; provided, however, that (a) the first Calendar Quarter of the Term or following First Commercial Sale of a product shall extend from the commencement of such period to the end of the first complete Calendar Quarter thereafter; and (b) the last Calendar Quarter of the Term shall end upon the expiration or termination of this Agreement.

1.17 "**Calendar Year**" means (a) for the first year of the Term, the period beginning on the Original Effective Date and ending on December 31, 2019, (b) for each year of the Term thereafter, each successive period beginning on January 1 and ending twelve (12) consecutive calendar months later on December 31, and (c) for the last year of the Term, the period beginning on January 1 of the year in which the Agreement expires or terminates and ending on the effective date of expiration or termination of this Agreement.

1.18 "**CAR**" means a chimeric antigen receptor. For clarity, a CAR does not contain a TCR binding domain.

1.19 "**CAR Product**" means a pharmaceutical or biological product comprising an Engineered CAR Cell.

1.20 "**[***]**" means the [***] located at [***].

1.21 "**CEOs**" means the Chief Executive Officer of Notch and the Chief Executive Officer of Allogene, or a named designee of either of the foregoing.

1.22 "**Cell Type**" means either a T Cell or an NK Cell.

1.23 "**Change of Control**" means with respect to a specified Party: (a) the acquisition, directly or indirectly, by a Person or "group" (whether in a single transaction or multiple transactions) of more than 50% of the voting power of such Party or of beneficial ownership of (or the right to acquire such beneficial ownership) of more than 50% of the outstanding equity or convertible securities of such Party (including by tender offer or exchange offer); (b) any merger, consolidation, share exchange, business combination, recapitalization, the sale of substantially all of assets of, or similar corporate transaction involving such Party (whether or not including one or more wholly owned subsidiaries of such Party), other than: (i) transactions involving solely such Party and/or one or more Affiliates, on the one hand, and one or more of such Party's Affiliates, on the other hand, and/or (ii) transactions in which the stockholders of such Party immediately prior to such transaction hold at least 50% of the voting power of the surviving company or ultimate parent company of the surviving company; or (c) the adoption of a plan relating to the liquidation or dissolution of such Party. For purposes of this definition, the terms "group" and "beneficial ownership" has the meaning accorded in the U.S. Securities Exchange Act of 1934 and the rules of the U.S. SEC thereunder in effect as of the Original Effective Date.

1.24 "**Claims**" means all liability, loss, damage, claim, injury, costs or expenses (including reasonable attorneys' fees and expenses of litigation) of any kind arising from Third Party demands, claims, actions and proceedings (whether criminal or civil, in contract, tort or otherwise).

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1.25 "**Collaboration Product**" means a T Cell or NK Cell created pursuant to the Research Program that expresses one or more CARs that are Directed Against one or more of the Exclusive Targets.

1.26 "**Collaboration Term**" has the meaning set forth in Section 2.1(h).

1.27 "**Combination Product**" has the meaning set forth in the definition of Net Sales.

1.28 "**Commercially Reasonable Efforts**" means, with respect to either Party in relation to this Agreement, such efforts (whether undertaken by such Party directly or by such Party's Affiliates or Sublicensees) that are consistent with the efforts and resources used by a biopharmaceutical company of similar size and resources in the exercise of its commercially reasonable business practices relating to an exercise of a right or performance of an obligation under this Agreement, including the research, development, manufacture and commercialization of a pharmaceutical or biologic compound or product, as applicable, at a similar stage in its research, development or commercial life as the relevant Product, and that has commercial and market potential similar to the relevant Product, taking into account issues of intellectual property coverage, safety and efficacy, stage of development, product profile, competitiveness of Third Party products in the marketplace, supply chain, proprietary position, regulatory exclusivity, anticipated or approved labeling, present and future market and commercial potential, the likelihood of receipt of Regulatory Approval, profitability (including pricing and reimbursement status achieved or likely to be achieved), alternative therapies and legal issues.

1.29 "**Competing Products**" has the meaning set forth in Section 4.5(b).

1.30 "**Competitive Indication**" means [***].

1.31 "**Confidential Information**" has the meaning set forth in Section 9.1.

1.32 "**Control**" or "**Controlled**" means, with respect to any Know-How, Patent Rights or other Intellectual Property Rights, that a Party has the legal authority or right (whether by ownership, license or otherwise) to grant a license, sublicense, access or right to use (as applicable) under such Know-How, Patent Rights or other Intellectual Property Rights to the other Party on the terms and conditions set forth herein at the time of such grant, in each case without breaching the terms of any agreement with a Third Party. Notwithstanding the foregoing, (a) Know-How, Patent Rights and other Intellectual Property Rights licensed by Notch from a Third Party shall only be considered to be Controlled by Notch if (i) (A) such Know-How, Patent Rights or other Intellectual Property Rights were licensed under a New Notch Third Party In-License entered into [***] or (B) such Know-How, Patent Rights or other Intellectual Property Rights were licensed under a New Notch Third Party In-License entered into after the end of the [***] and Notch has incorporated such Know-How, Patent Rights or other Intellectual Property Rights into a Product or the Research Program, and (ii) Allogene elects, within [***] days after notification thereof from Notch, to be bound by all terms and conditions thereof applicable to sublicensees under such New Notch Third Party In-License (which terms and conditions shall be fully included in the applicable notification to Allogene described below) and to pay the share of the license fees, milestone payments and royalties payable thereunder and reasonably allocated to such sublicense rights (which share that is paid by Allogene is subject to offset against Notch's royalties to the extent permitted under Section 6.9(b)) based on Allogene's sublicense rights thereunder relative to the rights thereunder retained by Notch, which share shall be negotiated by the Parties in good faith; and (b) without limiting Section 4.5(a), Know-How, Patent Rights and Intellectual Property Rights arising under collaboration, research or similar agreements between Notch and Third Parties shall not be considered to be Controlled by Notch unless, pursuant to the terms of the applicable Third Party agreement, Notch retains or is granted such Control. Notch shall notify Allogene of each New Notch Third Party In-License (*i.e.*, each Third Party license

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entered into by Notch prior to the end of the Collaboration Term that includes any Intellectual Property Rights that would, if Allogene were to make the election set forth in clause (a)(ii), fall within the definition of Notch Technology) within [***] days after entering into such New Notch Third Party In-License.

1.33 "**Cover**", "**Covering**" or "**Covered**" means, with reference to a Patent Right and a product, composition, article of manufacture or method, that the manufacture, practice, use, offer for sale, sale or importation of such product, composition, article of manufacture or method, would infringe a Valid Claim of such Patent Right in the country in which such activity occurs without a license thereto (or ownership thereof) (or if such Patent Right is pending, would infringe such Valid Claim if it were to issue as then being prosecuted in good faith).

1.34 "**Development Milestone**" means any of the milestones described in Section 6.5.

1.35 "**Directed Against**" means, as used in connection with a Target, that the product or agent at issue is designed to interact or bind with such Target as its primary mechanism of action.

1.36 "**Dollars**" means the U.S. dollar, and "$" shall be interpreted accordingly.

1.37 "**EMA**" means the European Medicines Agency, and any successor entity thereto.

1.38 "**Engineered CAR Cell**" means an engineered T Cell or NK Cell that expresses one or more CARs Directed Against a Target.

1.39 "**EU**" means all countries that are officially recognized as member states of the European Union at the relevant time.

1.40 "**Exclusive Target**" means (a) [***] and (b) if applicable, the [***].

1.41 "**Exclusivity Term**" has the meaning set forth in Section 4.5(c).

1.42 "**Existing Notch Third Party In-License**" means [***].

1.43 "**Exploit**" means to research, develop, make, have made, use, offer for sale, sell, import, export or otherwise exploit, or transfer possession of or title in, a product. Cognates of the word "Exploit" shall have correlative meanings.

1.44 "**Field**" means the treatment, prevention and palliation of all human and animal diseases and disorders, including, without limitation, the Competitive Indications.

1.45 "**First Commercial Sale**" means the first arm's length commercial sale for monetary value by a Party, its Affiliates, Licensees or Sublicensees of a Product or RIT Product (as applicable) in the Territory to a Third Party who is not a Licensee or Sublicensee for end use or consumption by the general public of such Product or RIT Product in any country following the receipt of Regulatory Approval for such Product or RIT Product by such Party, its Affiliates, its Licensees, or its Sublicensees; provided, however, that the following shall not constitute a First Commercial Sale: (a) any sale to an Affiliate, Licensee or Sublicensee unless the Affiliate, Licensee or Sublicensee is the last entity in the distribution chain of the Product or RIT Product; (b) any use of such Product or RIT Product in clinical trials, non-clinical development activities or other development activities with respect to such Product or RIT Product by or on behalf of a Party, or disposal or transfer of such Product or RIT Product for a bona fide charitable purpose; and (c) compassionate use, in each case for which no payment is received by a Party, its Affiliates, Licensees or Sublicensees. For purposes of clarification, except as otherwise provided

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in the previous sentence, any first arm's length commercial sale to a distributor or wholesaler under any non-conditional sale arrangement would be a First Commercial Sale.

1.46 "**Full Time Equivalent**" or "**FTE**" means the equivalent of a full-time scientist's work time over a twelve (12)-month period (including customary vacations, sick days and holidays). The portion of an FTE year devoted by a scientist to the Research Program shall be determined by dividing the number of eight (8)-hour days during any twelve (12)-month period devoted by such employee to the Research Program by the total number of working days during such 12-month period.

1.47 "**FTE Rate**" means an annualized rate [***] dollars [***] per year for FTEs performing activities under the Research Plan.

1.48 "**GAAP**" means United States generally accepted accounting principles applied on a consistent basis.

1.49 "**Governmental Authority**" means any federal, state, national, state, provincial or local government, or political subdivision thereof, or any multinational organization or any authority, agency or commission entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power, any court or tribunal (or any department, bureau or division thereof, or any governmental arbitrator or arbitral body).

1.50 "**Improvement**" means an advancement, modification, development or improvement.

1.51 "**Indemnify**" has the meaning given in Section 11.1.

1.52 "**Infringe**" or "**Infringement**" means any infringement as determined by Applicable Law, including, without limitation, direct infringement, contributory infringement or induced infringement.

1.53 "**Initial Target**" means any target set forth in Exhibit A.

1.54 "**Intellectual Property Rights**" means rights in and to all (a) U.S. and foreign patents and patent applications, including all provisional, utility, divisions, substitutions, continuations, continuations-in-part, reissues, re-examinations and extensions thereof ,or inventor certificates, or equivalents thereof, (b) copyrights, whether registered or unregistered, (c) Know-How, (d) software, (e) trademarks, service marks, trade names, trade dress, domain names and similar rights, including goodwill therein whether registered or not, and (f) any other intellectual or other proprietary rights of any kind now known or hereafter recognized in any jurisdiction, including the right to bring a claim with respect to any of the foregoing for past, present or future infringement, and any applications or registrations thereof.

1.55 "**Inventions**" means any process, method, composition, formulation, article of manufacture, method, discovery or finding, whether or not patentable or copyrightable, including all rights, title and interest in and to the Intellectual Property Rights therein.

1.56 "**iPSCs**" means induced pluripotent stem cells.

1.57 "**Joint Development Committee**" or "**JDC**" has the meaning set forth in Section 3.2.

1.58 "**Joint Know-How**" means the Know-How included in the Joint Technology.

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1.59 "**Joint Patents**" means the Patent Rights included in the Joint Technology.

1.60 "**Joint Technology**" has the meaning given in Section 7.2.

1.61 "**Know-How**" means any information and materials, including discoveries, improvements, modifications, processes, techniques, methods, assays, designs, protocols, formulas, data, databases, know-how and trade secrets (in each case, patentable, copyrightable or otherwise), but excluding any of the foregoing to the extent claimed by any issued Patent Right.

1.62 "**Licensee(s)**" means any Third Party to which Notch has granted a license under this Agreement.

1.63 "**Materials**" has the meaning set forth in Section 2.3.

1.64 "**Member**" has the meaning set forth in Section 3.2.

1.65 "**Multiple Myeloma**" means a cancer that forms in a type of white blood cell called a plasma cell.

1.66 "**Necessary**" has the meaning set forth in Section 6.9(a).

1.67 "**Negotiation Period**" has the meaning set forth in Section 2.7(c).

1.68 "**Net Sales**" means, with respect to any Product or RIT Product, the gross amounts invoiced by a Party, its Affiliates, Licensees and Sublicensees (each, a "**Selling Party**") to Third Party customers in an arm's length transaction for sales of such Product or RIT Product, less the following deductions actually incurred, allowed, taken, paid, accrued or allocated in its financial statements in accordance with GAAP (as applicable to the Selling Party), for:

(a) discounts (including trade, quantity and cash discounts) actually allowed, cash and non-cash coupons, retroactive price reductions, and charge-back payments and rebates granted to any Third Party (including to Governmental Authorities, purchasers, reimbursers, customers, distributors, wholesalers, and group purchasing and managed care organizations or entities (and other similar entities and institutions));

(b) credits or allowances, if any, on account of price adjustments, recalls, claims, damaged goods, rejections or returns of items previously sold (including Product or RIT Product returned in connection with recalls or withdrawals) and amounts written off by reason of uncollectible debt; provided, that if the debt is thereafter paid, the corresponding amount shall be added to the Net Sales of the period during which it is paid;

(c) rebates (or their equivalent), administrative fees, chargebacks and retroactive price adjustments and any other similar allowances granted by a Selling Party (including to Governmental Authorities, purchasers, reimbursers, customers, distributors, wholesalers, and group purchasing and managed care organizations and entities (and other equivalent entities and institutions)) which effectively reduce the selling price or gross sales of the Product or RIT Product, as well as costs of distribution and wholesale;

(d) insurance, customs charges, freight, postage, shipping, handling, and other transportation costs incurred by a Selling Party in shipping Product or RIT Product to a Third Party; and

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(e) import taxes, export taxes, excise taxes, sales tax, value-added taxes, consumption taxes, duties or other taxes levied on, absorbed, determined and/or imposed with respect to such sales (excluding income or net profit taxes or franchise taxes of any kind).

(f) Sales of Product(s) or RIT Product(s) between or among a Party and its Affiliates, licensees or sublicensees shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Affiliates, licensees or sublicensees are end users.

For the avoidance of doubt, sales of a Product or RIT Product for an invoice price less than or equal to Allogene's or its applicable Affiliate's, licensee's or sublicensee's cost of goods sold (reasonably determined consistent with GAAP and customary manufacturing cost accounting principles) for (x) use in conducting clinical trials of such Product or RIT Product in a country in order to obtain the Regulatory Approval of such Product or RIT Product in such country or (y) any compassionate use or named patient sales shall be excluded from Net Sales calculations for all purposes.

If a Product or RIT Product (as applicable) is sold in combination with other pharmaceutical or biologic active ingredients that are not themselves Products or RIT Products, respectively (collectively, the "**Combination Components**", and taken together (whether co-formulated, co-packaged or for co-administration) with the Product or RIT Product (as applicable), the "**Bundled Product**"), for a single price, the Net Sales applicable to such transaction will be the product of (i) Net Sales of the Bundled Product calculated as above (i.e., calculated as for a non-Bundled Product) and (ii) the fraction (A/(A+B)), where:

"A" is the gross invoice price in such country of the Product or RIT Product (as applicable) as the sole therapeutically active ingredient; and

"B" is the gross invoice price in such country of all of the Combination Components contained in the Bundled Product.

If "A" or "B" cannot be determined by reference to sales other than in connection with a Bundled Product as described above, then Net Sales will be calculated as above, but the gross invoice price in the above equation shall be the relative value contributions of the Product or RIT Product (as applicable) and Combination Components to the Bundled Product gross invoice price, as reasonably determined by the Parties in good faith. Notwithstanding the foregoing and solely for calculating Net Sales under this Agreement, if the Combination Component is a pre-conditioning antibody, the Parties shall assign relative value contributions of the Product or RIT Product (as applicable) and such Combination Component to the Bundled Product gross invoice price, as reasonably determined by the Parties in good faith.

1.69 "**New Notch Third Party In-License**" means any license of Third Party Know-How, Patent Rights or other Intellectual Property Rights entered into by Notch after the Original Effective Date.

1.70 "**NK Cell**" means a natural killer cell, or an innate lymphocyte that does not express a TCR, and recognizes target cells through a balance of signals from activating and inhibitory receptors. For clarity, NK Cells do not include T Cells. NK cells may express CD56 and CD16.

1.71 "**Non-Publishing Party**" has the meaning given in Section 9.7(a).

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1.72 "**Notch Background Technology**" means Background Technology Controlled by Notch or its Affiliates.

1.73 "**Notch Indemnitee**" has the meaning given in Section 11.1.

1.74 "**Notch Know-How**" means all Know-How that (a) is Controlled by Notch or its Affiliates as of the Original Effective Date or during the Term, (b) is or was utilized in, or arose or arises out of, the Research Program and (c) is necessary or useful for the Exploitation of any CAR Product Directed Against one or more Exclusive Targets, including, to the extent meeting the requirements of clauses (a)-(c) above, methods for (i) generating progenitor T Cells from donor material; (ii) generating and manufacturing cells of the T Cell lineage, including mature T Cells, hematopoietic stem cells, embryonic stem cells and/or iPSCs via a soluble or insoluble, bead-based system; and (iii) generating and manufacturing cells of the NK Cell lineage. Notch Know-How includes Notch's interest in the Joint Know-How.

1.75 "**Notch Microbeads**" means a surface, such as a microbead, which creates an engineered thymic niche for three-dimensional presentation of immobilized proteins, such as delta-like ligand 4 and VCAM-1, in suspension cultures in order to instruct expedite progenitor and mature T-Cell differentiation from stem cells, such as hematopoietic or induced pluripotent stem cells.

1.76 "**Notch Microbead Technology**" means all Notch Technology that relates to the production or use, as produced or used by or on behalf of Notch, of Notch Microbeads for the Exploitation of CAR Products directed to one or more Exclusive Targets.

1.77 "**Notch Patents**" means any Patent Right that (a) is Controlled by Notch or its Affiliates as of the Original Effective Date or during the Term and (b) claims any invention that (i) is or was utilized in, or arose or arises out of, the Research Program since the Original Effective Date, and (ii) is necessary or useful for the Exploitation of any CAR Product Directed Against one or more Exclusive Targets, or which Notch has incorporated into a CAR Product Directed Against one or more Exclusive Targets. Notch Patents include Notch's interest in Joint Patents.

1.78 "**Notch Technology**" means the Notch Know-How and Notch Patents, and includes the Notch Microbead Technology.

1.79 "**Notch Third Party In-Licenses**" means (a) the Existing Notch Third Party In-License and (b) any New Notch Third Party In-License pursuant to which Allogene receives a sublicense of rights under this Agreement.

1.80 "**Optioned Target**" has the meaning set forth in Section 2.6(a).

1.81 "**Patent Rights**" means all US patents and provisional and non-provisional patent applications (which for the purpose of this Agreement shall be deemed to include certificates of invention and applications for certificates of invention), including all divisionals, continuations, substitutions, continuations-in-part, re-examinations, reissues, additions, renewals, revalidations, extensions, registrations, patent term extensions, patent term adjustments, and supplemental protection certificates and the like of any such patents and patent applications, and any and all foreign equivalents of the foregoing.

1.82 "**PBMC**" means peripheral blood mononuclear cell.

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1.83 "**Person**" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association, governmental body, authority, bureau or agency, any other entity or body, or an individual.

1.84 "**Phase 1 Clinical Trial**" means a human clinical trial of a CAR Product, the principal purpose of which is a preliminary determination of safety, pharmacokinetics, and pharmacodynamic parameters in healthy individuals or patients, as described in 21 C.F.R. 312.21(a), or a similar clinical study prescribed by the relevant Regulatory Authorities in a country other than the United States.

1.85 "**Phase 2 Clinical Trial**" means a human clinical trial of a CAR Product in any country that would satisfy the requirements of U.S. 21 C.F.R. Part 312.21(b) and is intended to explore a variety of doses, dose response, and duration of effect, and to generate evidence of clinical safety and effectiveness for a particular therapeutic indication or therapeutic indications in a target patient population, or a similar clinical study prescribed by the relevant Regulatory Authorities in a country other than the United States.

1.86 "**Phase 3 Clinical Trial**" means a human clinical trial of a CAR Product in any country that would satisfy the requirements of U.S. 21 C.F.R. Part 312.21(c) and is intended to (a) establish that the Product is safe and efficacious for its intended use, (b) define contraindications, warnings, precautions and adverse reactions that are associated with the Product in the dosage range to be prescribed, and (c) support Regulatory Approval for such Product, or a similar clinical study prescribed by the relevant Regulatory Authorities in a country other than the United States.

1.87 "**Pivotal Clinical Trial**" means a Clinical Trial of a CAR Product in a sufficient number of subjects that satisfies both of the following ((a) and (b)):

(a) such Clinical Trial establishes that such CAR Product has an acceptable safety and efficacy profile for its intended use, and to determine warnings, precautions, and adverse reactions that are associated with such CAR Product in the dosage range to be prescribed, which Clinical Trial can be used to support Regulatory Approval of such CAR Product, or a similar clinical study prescribed by the United States, Canada or EMA; and

(b) such Clinical Trial may be a Phase 2 Clinical Trial or Phase 3 Clinical Trial that satisfies the requirements of any of the expedited development and review pathways available at the FDA or its foreign equivalent.

For the avoidance of doubt, a Clinical Trial may become a Pivotal Clinical Trial after the commencement of such trial based on the statistical significance of the data generated in such trial.

1.88 "**Prior Confidentiality Agreement**" means that certain non-disclosure agreement between the Parties dated January 11, 2019.

1.89 "**Product**" means a CAR Product that (a) expresses one or more CARs that are Directed Against one or more Exclusive Targets; and (b) the manufacture, use or sale of which is Covered by a Notch Patent or which was developed or manufactured through use of the Notch Technology. For clarity, a Product may be a Bispecific Product.

1.90 "**Product Infringement**" has the meaning given in Section 8.5(a).

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1.91 "**Prosecuting and Maintaining**", and its correlates, means preparing, filing, prosecuting (including, but not limited to provisional, reissue, continuing, continuation-in-part, and substitute applications and any foreign counterparts thereof) and maintaining a Patent Right. For these purposes, "**prosecution**" shall include any post-grant proceeding including supplemental examination, post grant review proceeding, inter parties review proceeding, patent interference proceeding, opposition proceeding and reexamination.

1.92 "**PSCs**" means pluripotent stem cells.

1.93 "**Publishing Party**" has the meaning given in Section 9.7(a).

1.94 "**Regulatory Approval**" means all approvals, licenses, registrations, and authorizations by the Regulatory Authority necessary for the commercial sale of a CAR Product in the Field in a given country or regulatory jurisdiction, including pricing and reimbursement approval where required as part of obtaining such regulatory approval.

1.95 "**Regulatory Authority**" means any applicable Governmental Authority or other authority responsible for granting Regulatory Approvals for a CAR Product, including the FDA, the EMA and any corresponding national or regional regulatory authorities.

1.96 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a Product, other than Patent Rights.

1.97 "**Released Initial Target**" or "**RIT**" means [***].

1.98 "**Remainder**" has the meaning set forth in Section 8.5(f).

1.99 "**Research Budget**" has the meaning set forth in Section 2.1(a).

1.100 "**Research Costs**" means (a) the costs of Notch FTEs performing activities under the Research Plan at the FTE Rate and otherwise without mark-up, (b) out-of-pocket costs directly incurred by Notch in performing activities under the Research Plan without mark-up, and (c) costs incurred by Notch for the Research Facility and cGMP manufacturing capacity in accordance with Section 2.2 without mark-up.

1.101 "**Research Milestones**" means any milestone described in Section 6.4.

1.102 "**Research Milestone 3**" means the first to be achieved of Research Milestone "T3A" and Research Milestone "N-3A" as described in Section 6.4.

1.103 "**Research Plan**" has the meaning set forth in Section 2.1.

1.104 "**Research Program**" has the meaning set forth in Section 2.1.

1.105 "**Research Program Inventions**" means all Inventions discovered, conceived or created during the Collaboration Term by either Party or its Affiliates alone, or by the Parties jointly, in each case as a result of the activities conducted under the Research Plan.

1.106 "**RIT Product**" means any CAR Product that is designed to, as its primary mechanism of action, interact or bind with any Released Initial Target expressed on or in a tumor cell.

1.107 "**Royalty Term**" has the meaning set forth in Section 6.10.

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1.108 "**Rules**" has the meaning given in Section 13.2.

1.109 "**Selling Party**" has the meaning set forth in the definition of Net Sales.

1.110 "**Sublicensee(s)**" means any Third Party to which Allogene or a Licensee or Sublicensee has granted a sublicense under this Agreement.

1.111 "**Substitute Target**" has the meaning set forth in Section 2.5(a).

1.112 "**Success Criteria**" has the meaning set forth in Section 2.1(a).

1.113 "**Supply Agreement**" has the meaning set forth in Section 5.3.

1.114 "**Target**" means an antigen expressed on or in a tumor cell.

1.115 "**T Cell**" means any lymphocytes that naturally contain a TCR and includes alpha beta T cells, gamma delta T cells, natural killer T cells and any other cell type naturally containing a TCR, whether variable or invariant. TCR may be genomically rearranged at alpha and beta loci, expressed on cell surface or intracellularly. T Cells may express both alpha and beta, only alpha or only beta chains, or neither.

1.116 "**TCR**" means a T cell receptor.

1.117 "**Term**" has the meaning set forth in Section 12.1.

1.118 "**Territory**" means worldwide.

1.119 "**Third Party**" means any person or entity other than a Party and its Affiliates and their respective employees, agents and representatives.

1.120 "**Third Party License**" has the meaning set forth in Section 6.9.

1.121 "**Useful**" has the meaning set forth in Section 6.9(a).

1.122 "**Valid Claim**" means (a) an issued claim of any issued patent within the Notch Patents that has not expired, or been revoked, cancelled, become abandoned or disclaimed, been declared invalid and/or unenforceable by a patent office or a decision or judgment of a court or other appropriate body of competent jurisdiction; and (b) a claim included in a pending patent application included in the Notch Patents that is being prosecuted in good faith and that has not been cancelled, withdrawn from consideration, finally determined to be unallowable by the patent office or applicable governmental authority (from which no appeal is or can be taken), or abandoned or disclaimed; provided, however, that, if a claim of a patent application has been pending for more than seven (7) years, such claim will not constitute a Valid Claim for the purposes of this Agreement unless and until a Patent issues with such claim; provided, further, that, for purposes of the foregoing proviso, any newly filed claim which claims priority to any earlier filed claim shall be considered pending for the same period of time as such earlier filed claim has been pending.

1.123 "**VAT**" has the meaning set forth in Section 6.13(b).

2. RESEARCH PROGRAM

2.1 **Research Program**.

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(a) The Parties will conduct a research program directed to the use of the Notch Technology to discovery, generation and manufacturing of Products for oncology applications, pursuant to a research plan mutually agreed to by the Parties (such plan, the "**Research Plan**" and such program, the "**Research Program**"). The Research Plan shall include the following: (i) a timeline for the conduct of research activities, on an Exclusive Target-by-Exclusive Target basis as applicable (it being understood that, unless otherwise agreed by the Parties, the Research Plan shall be limited in scope to the activities for the Exclusive Target(s) specifically set forth in the Research Plan); (ii) the deliverables to be provided arising from such research activities; (iii) the personnel and other resources Notch is required to apply to the performance of the Research Program, which resources shall not exceed the Research Costs set forth in the Research Budget, (iv) any biological or chemical materials to be provided by a Party to the other Party in order for such Party to conduct its activities under the Research Plan (the providing Party's "**Materials**") and timing therefor; (v) any Know-How to be provided by a Party to the other Party in order for such Party to conduct its activities under the Research Plan and timing therefor; (vi) the criteria for determining whether each Research Milestone or Development Milestone has been successfully completed (with respect to each such milestone, the "**Success Criteria**"); (vii) a budget for the Research Costs (the "**Research Budget**"), which, excluding the Research Costs incurred pursuant to Section 2.2, shall not exceed [***] dollars [***] for the duration of the Collaboration Term, unless otherwise agreed in writing by the Parties; and (viii) an allocation of the Research Budget between the Parties. If Allogene exercises its option under Section 2.6, [***], unless otherwise agreed in writing by the Parties. Upon execution of this Agreement, the original Research Plan shall be cancelled, and the Parties shall agree on a mutually acceptable amended Research Plan, which shall be deemed the Research Plan under this Amended and Restated Collaboration and License Agreement. For the avoidance of doubt, if the Parties do not agree on such mutually acceptable amended Research Plan, then there will not be a Research Program and Notch shall not have any obligation to perform any research or development activities under this Agreement. The Parties hereby agree that, except as otherwise agreed by the Parties, the T Cell-based Collaboration Products Directed Against [***] shall utilize a chimeric antigen receptor construct produced using technology Allogene has licensed from Cellectis SA.

(b) Notch shall provide reasonable, good faith, non-binding estimates for the Research Budget that is intended to fund Notch for the activities to be performed by Notch as set forth in the Research Plan and intended for the achievement of the goals set forth in the Research Plan, and shall provide supporting documentation therefor to Allogene upon request.

(c) Notch may elect (in its sole discretion) to provide resources or to perform activities under the Research Plan the aggregate cost of which (including Notch FTEs at the FTE Rate, material and equipment purchases, costs pursuant to Section 2.2 below, and other Third-Party costs as specified in the Research Plan) exceeds the funding provided by Allogene for such activities.

(d) Subject to the foregoing provisions of this Section 2.1, each Party shall use Commercially Reasonable Efforts to conduct its respective obligations set forth in the Research Plan. For clarity, neither Party guarantees that any timeline, deliverables or Success Criteria will be achieved or provided, within the Research Budget or otherwise, and any failure by a Party to achieve any of the same shall not constitute a breach of this Agreement provided that such Party has fulfilled its obligations to use Commercially Reasonable Efforts as set forth in the preceding sentence. In addition, any refusal by either Party to agree to any specific commitment under the Research Plan shall not constitute a breach of this Agreement.

(e) Each Party shall perform, and shall require that its applicable Affiliates, licensees, sublicensees and Third Party contractors perform, all research activities in a good scientific and ethical business manner and in compliance with the terms of this Agreement, and

in compliance with all Applicable Laws. Any breaches of the foregoing by an Affiliate or Third Party shall, as between the Parties, be the responsibility of the Party that engaged such Affiliate or Third Party. No agreement between Notch and its Affiliates, licensees, sublicensees, or Third Party contractors that perform services pursuant to the Research Plan will conflict with the terms of this Agreement or impose any obligations on Allogene, except as approved in writing in advance by Allogene. Each Party shall use Commercially Reasonable Efforts to maintain materially complete, current and accurate records of the activities conducted by or on behalf of such Party under the Research Program and all data and other information resulting from such activities. Such records shall properly reflect all work done and results achieved in good scientific manner and with intention to be appropriate for regulatory and patent purposes.

(f) Notch shall keep accurate records of the Notch FTEs involved in the performance of the Research Program, including time sheets tracking the time such individual spent working in support of the Research Program.

(g) Subject to Section 2.1(a), with respect to each Exclusive Target, Allogene shall have the right to specify whether the Research Plan shall at any particular time be directed to T Cells, NK Cells or both T Cells and NK Cells.

(h) The term of the Research Program shall commence on the Original Effective Date and expire upon the earliest of (i) completion of all activities set forth in the mutually acceptable amended Research Plan agreed upon by the Parties pursuant to Section 2.1(a), (ii) the tenth (10^{th}) anniversary of the Original Effective Date, (iii) at Allogene's election, following the JDC's determination that for each Exclusive Target, Notch has met the Success Criteria for all Development Milestones for at least one Product (irrespective of cell type) Directed Against such Exclusive Target, or (iv) the JDC's determination that the Research Program cannot be reasonably pursued against any Exclusive Target due to technical infeasibility or safety issues (the "**Collaboration Term**"). Subject to Sections 2.1(c) and (d), Allogene shall have the right to terminate the Collaboration Term by written notice if Notch materially fails to perform its obligations under the Research Plan and does not cure such failure within [***] days following Notch's receipt of Allogene's written notice of such failure. In such event, at Allogene's request, Notch shall perform the technology transfer described in Section 2.4.

(i) During the Collaboration Term, each Party shall report to the JDC each Calendar Quarter summarizing the results and data obtained from the conduct of the Research Plan. If reasonably necessary for Allogene to perform its work under the Research Plan or to Exploit a Product or exercise its rights under the Agreement, Allogene may request that Notch provide more detailed information and data regarding such results reported by Notch, and Notch shall promptly provide Allogene with such reasonable information and data responsive to such request to the extent in Notch's possession or control, provided that, without limiting Notch's obligations to perform the Research Plan as set forth in this Article 2, Notch shall not be required to perform any additional work in responding to such request beyond transmitting such existing information and data in the form it exists unless Notch and Allogene agree upon reasonable additional funding (including Notch FTEs at the FTE Rate) in accordance with an agreed budget that Allogene will pay to Notch for such additional work.

2.2 **Notch Research and Manufacturing Facilities.**

(a) Notch will use Commercially Reasonable Efforts to maintain access to laboratory and process development facilities at [***] or similar facility approved by the JDC (the "**Research Facility**") at its own cost. Notch will use Commercially Reasonable Efforts to negotiate a fee-for-service agreement with the Research Facility to maintain access to cGMP manufacturing resources for cGMP master cell line generation and banking to perform the Research Plan as necessary during the Collaboration Term. Such agreement shall not conflict

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with the terms of this Agreement or impose any obligations upon Allogene, except as expressly approved in advance in writing by Allogene. Allogene shall reimburse Notch in accordance with the Research Budget for its actual, out-of-pocket costs of the Research Facility specifically incurred for the conduct of manufacturing activities pursuant to the Research Plan.

(b) In addition, Allogene shall fully reimburse Notch in accordance with the Research Plan budget for its actual, out-of-pocket costs for Notch's costs of maintaining cGMP facility manufacturing capacity required for Notch's performance under this Agreement (which shall be paid on a pro rata basis if such capacity is also used for other Notch programs). If the Parties enter into a Supply Agreement, then such costs shall be addressed under the Supply Agreement. For clarity, Allogene shall not be responsible for any legal or advisory costs incurred by Notch in contracting for such capacity. Such agreement between Notch and the manufacturer shall not impose any obligations upon Allogene, except as expressly approved in advance in writing by Allogene.

2.3 **Transfer of Know-How and Materials for Research Program.** Each Party shall use Commercially Reasonable Efforts to transfer to the other Party any Materials and Know-How specified in the Research Plan for use by such other Party in conducting the Research Program in accordance with the timeline for such transfer set forth therein. Each Party shall use the other Party's Materials and Know-How in compliance with Applicable Law and the terms and conditions of this Agreement. Except as otherwise provided under this Agreement, all Materials and Know-How shall remain the sole property of the providing Party, and shall be returned to such Party or destroyed, in such Party's sole discretion, upon the termination of this Agreement or, solely with respect to Allogene's Materials and Know-How, expiration of the Collaboration Term, whichever is the earlier.

2.4 **Technology Transfer for Collaboration Products**.

(a) For each Collaboration Product, upon the date that is [***] days following Notch's completion of its activities under the Research Plan for such Collaboration Product or upon Allogene's written request, the Parties will agree in writing on a plan for the transfer of Notch Know-How relating to such Collaboration Product to Allogene, or its designee, including the manufacturing process therefor (a "**Technology Transfer Plan**"), subject to Section 5.3 and the Supply Agreement, if and when in force. If the Parties do not execute a Supply Agreement pursuant to Section 5.3, Allogene may engage a reputable Third Party manufacturer located in the United States, Europe or Japan and transfer or instruct Notch to transfer the applicable Notch Microbead Technology (including any reagents or other factors necessary to use the Notch Microbead Technology) in accordance with Section 5.3. If the Parties do not execute a Supply Agreement pursuant to Section 5.3, Allogene may not engage a Third Party manufacturer located outside the United States, Europe or Japan without Notch's prior written approval, not to be unreasonably withheld. Prior to any transfer to a Third Party manufacturer, Notch may require that the Third Party manufacturer execute an agreement with Notch, to be negotiated in good faith by Notch, that includes reasonable industry-standard measures to protect Notch Know-How relating to the applicable Collaboration Product and manufacturing process therefor, including reasonable confidentiality and non-use provisions.

2.5 **[RESERVED]**

2.6 **Target Option.** Notch hereby grants to Allogene an option to add [***] additional Target as an Exclusive Target under this Agreement, as follows:

(a) From the Restatement Effective Date through [***], Allogene shall have the right, but not the obligation, to propose in writing to Notch from time-to-time an additional Target to be added to this Agreement. Notch shall notify Allogene within [***] days following

its receipt of such notice as to whether such Target is Available or, if such Target is not Available, a brief description of why such Target is not Available (for clarity, Notch shall not be required to disclose the identity of any Third Party that holds a license or option to such Target). If such Target is Available, then Allogene shall, within [***] days following its receipt of Notch's notice of Availability, notify Notch whether Allogene desires to exercise its option with respect to such Target.

(b) Promptly following Notch's receipt of a notice from Allogene that Allogene desires to exercise its option with respect to a Target pursuant to Section 2.6(a), the Parties shall, subject to Section 2.1(a)(ix), update the Research Plan to reflect such addition and the activities to be performed with respect to such Optioned Target, provided that Notch shall not be obligated to undertake such additional work unless and until the Research Budget has also been modified as necessary to cover any expansion to the scope of activities to be required of Notch.

(c) If the Parties agree on an update to the Research Plan to include a potential Optioned Target pursuant to Section 2.6(b), then Allogene shall be deemed to have exercised its option with respect to such Target, such Target shall be deemed an "**Optioned Target**," and Allogene shall pay to Notch an option exercise fee therefor in accordance with Section 6.2.

2.7 **[RESERVED]**

2.8 **Option under Existing Notch Third Party In-License**. If Notch receives a notice from [***] pursuant to Section 4.5(a) of the Existing Notch Third Party In-License regarding any Licensor Improvement (as defined in the Existing Notch Third Party In-License) that relates to the Notch Technology, then Notch shall notify Allogene of such Licensor Improvement within [***] days of Notch's receipt of such notice. If Allogene wishes to include such Licensor Improvement in its licenses granted under Section 4.2(a) of this Agreement, then (a) Allogene shall so notify Notch within [***] days of its receipt of Notch's notice; (b) promptly following its receipt of Allogene's notice, Notch shall notify [***] of its interest in exercising its option under Section 4.5(a) of the Existing Notch Third Party In-License with respect to such Licensor Improvement (unless Notch has already provided such notice); and (c) the Parties shall discuss in good faith the terms for such license to such Licensor Improvement. For clarity, this Section 2.8 shall not prevent Notch from exercising such option with respect to any Licensor Improvement that Allogene does not wish to include in its licenses hereunder.

3. GOVERNANCE

3.1 **Alliance Managers**. Each Party shall by written notice to the other Party appoint a principal point of contact to be its project manager (the "**Alliance Manager**") who shall coordinate and act as a liaison with such other Party with respect to this Agreement and the Research Program and who shall have the authority to act on behalf of their respective Parties. Each Party may from time to time change its Alliance Manager upon written notice and reasonable consultation with the other Party. The Alliance Managers' responsibilities shall generally include overseeing and supervising its Party's fulfillment of its obligations under the Research Plan, understanding the obligations of the other Party under the Research Plan, discussing the progress of the Research Program, and identifying barriers to success, key issues and issues-resolution options with the other Party's Alliance Manager. The Alliance Managers shall not have any authority to amend or interpret this Agreement.

3.2 **Joint Development Committee**. Promptly following the Original Effective Date, the Parties shall establish a joint development committee to oversee, coordinate and review the

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activities to be conducted under the Research Plan during the Collaboration Term (the "**Joint Development Committee**" or "**JDC**"). The JDC shall be comprised of at three (3) members from each Party with appropriate relevant expertise (each, a "**Member**"). Each Party may replace any appointed Member at any time upon written notice to the other Party. Each Party shall designate one (1) of its Members as co-chairperson of the JDC. Each of the co-chairpersons shall be responsible, on an alternating basis, with the Allogene co-chairperson having responsibility with respect to the initial meeting, for working with the Alliance Managers to schedule meetings, prepare and circulate an agenda in advance of each meeting. Any JDC member may add topics to the draft agenda. The following shall apply to the JDC and its members:

(a) During the Collaboration Term, the JDC shall meet at least once every Calendar Quarter at times mutually agreed upon by the Parties, or more frequently as the Parties deem appropriate. At least one (1) such meeting per Calendar Year shall be held in person, and all other such meetings may be held by teleconference or videoconference. The location of the meetings to be held in person shall alternate between sites designated by each Party, or as otherwise mutually agreed upon.

(b) The presence of at least one Notch Member and one Allogene Member shall be required to constitute a quorum at any meeting of the JDC.

(c) In addition to its Members, the Parties' Alliance Managers may attend any meeting of the JDC. Each Party may invite other of its relevant employees or consultants to a JDC meeting as non-voting observers, provided that (i) such Party must provide the other Party with advance written notice identifying each such observer and such other Party has no reasonable objection to such observers, and (ii) such Party shall ensure that such observers are bound by written obligations relating to confidentiality and intellectual property that are consistent with this Agreement.

(d) Each Party shall be responsible for all travel and related costs and expenses for its Members and other representatives to attend meetings of, and otherwise participate on, the JDC.

3.3 **Responsibilities of the JDC**. The responsibilities of the JDC shall include: (a) overseeing, reviewing and coordinating the Parties' implementation of the Research Plan, including reviewing data provided by Notch to evidence its achievement of the Research Milestones and Development Milestones; (b) making key decisions as designated in the Research Plan, including determining whether or not the Research Milestones (as applicable) have been met, as set forth in Section 3.4; (c) subject to Section 2.1, amending the Research Plan, including following the substitution of an Exclusive Target pursuant to Section 2.5 or the addition of an Exclusive Target pursuant to Section 2.6; (d) undertaking and/or approving such other matters as are specifically provided for the JDC under this Agreement; and (e) serving as an initial forum for resolving any disputes between the Parties.

3.4 **Milestone Achievement**. Promptly following Notch's determination that it has achieved a particular Research Milestone or Development Milestone with respect to a Collaboration Product of either Cell Type, Notch shall provide the JDC with a data package that includes the data and information required under the Research Plan and reasonably necessary for the JDC to determine whether the Success Criteria for such milestone has been achieved. The JDC shall have [***] days to meet and consider such data package, and to determine in writing whether such Success Criteria have been achieved. The JDC may request that Notch provides additional data and information to assist in such determination, which Notch shall promptly provide. If the JDC determines that the applicable Success Criteria have been achieved, then

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Allogene shall pay the applicable milestone payment in accordance with Section 6.4 or 6.5, as applicable.

3.5 **Decision-Making**. All of a Party's Members whether present in person or by other means (e.g., teleconference) at any JDC meeting shall vote collectively counting as one vote. Decisions of the JDC shall require the unanimous vote of both Parties. If the JDC is unable to reach a unanimous vote with respect to a particular matter, then the matter shall be escalated for resolution by the CEOs in accordance with Section 13.1. All decisions of the JDC within its authority shall be documented in meeting minutes prepared by Allogene's Alliance Manager. Other communications between or among any members of the JDC outside of a JDC meeting shall not be deemed to constitute a JDC decision unless incorporated in meeting minutes, nor shall any decision of the JDC outside its authority be deemed binding on either Party.

3.6 **Scope of Authority**. The JDC shall have no authority to amend or modify any term or condition of this Agreement, or to determine or waive any compliance therewith.

3.7 **Disbandment**. Except as otherwise agreed by the Parties pursuant to Section 2.6(b), the JDC shall be automatically disbanded at the end of the Collaboration Term.

4. LICENSES; EXCLUSIVITY

4.1 **Research Program License**. Subject to the terms and conditions of this Agreement:

(a) Allogene hereby grants to Notch, a non-exclusive, non-sublicenseable (except as set forth in subsection (b) below), non-transferable license during the Collaboration Term (i) to use and practice the Allogene Technology, solely to the extent necessary for Notch to carry out its obligations under the Research Plan, and (ii) to use Allogene's Materials transferred to Notch pursuant to Section 2.3, solely for performing activities under the Research Plan.

(b) The license set forth in subsection (a) shall include the right for Notch to sublicense such rights to its Affiliates, contractors or service providers (but solely to the extent that they are identified in the Research Plan and are performing services solely related to the Research Plan), provided that Notch shall remain fully liable for the acts and omissions of, and for any breach of this Agreement by, such Affiliate(s), contractors and service providers. Except as set forth in this subsection (b), Notch shall not have the right to sublicense to any Third Party without Allogene's consent.

4.2 **License to Allogene**.

(a) Subject to the terms and conditions of this Agreement, Notch hereby grants to Allogene a worldwide, royalty-bearing, sublicenseable (through multiple tiers) license under the Notch Technology to Exploit CAR Products Directed Against one or more Exclusive Targets for use in the Field. Such license shall be (i) exclusive (even as to Notch and its Affiliates, provided that Notch shall retain such rights as are necessary to carry out its obligations under the Research Plan) during the applicable Exclusivity Term and (ii) non-exclusive following the end of the applicable Exclusivity Term. Allogene shall remain fully liable for the acts and omissions of, and for any breach of this Agreement by, any of its Affiliates or Sublicensees.

(b) Allogene shall not exercise its rights granted under subsection (a) above with respect to the Notch Microbead Technology to make or have made Notch Microbeads,

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except (i) if the Parties do not enter into a Supply Agreement in accordance with Section 5.3 during the Supply Agreement Negotiation Period, (ii) if the Parties do enter into a Supply Agreement and Allogene terminates the Supply Agreement for Notch's material breach thereof or Notch otherwise fails to fulfill its obligations to supply Notch Microbeads sufficient to support the development and commercialization of the Products in the Field throughout the Territory, or (iii) as otherwise set forth in the Supply Agreement or agreed in writing by the Parties.

4.3 **Notch Third Party In-Licenses**.

(a) Allogene shall comply, and shall cause its Affiliates and Sublicensees to comply, with all terms and conditions of the Notch Third Party In-Licenses applicable to sublicensees thereunder, provided that such terms and conditions have been provided to Allogene.

(b) Allogene's express prior informed written consent shall be required before Notch incorporates into the Research Program, a Product, or a Collaboration Product any Third Party intellectual property that would require license payments from Allogene. Provided that Allogene has provided such prior written consent, Allogene shall be responsible for the payment of all license fees, milestone payments, royalties and other amounts payable under the Notch New Third Party In-Licenses based on Allogene's sublicense rights thereunder, which Allogene shall pay to Notch or directly to the Third Party licensors, as mutually agreed by Notch and Allogene, in time for Notch to satisfy its payment obligations to the applicable Third Party licensors. Notch shall be responsible for the payment of all license fees, milestone payments, royalties and other amounts payable under the Existing Notch Third Party In-License.

(c) Notch shall, and shall cause its Affiliates to:

(i) subject to Allogene's satisfaction of its obligations as a sublicensee thereunder, maintain each Notch Third Party In-License in full force and effect and not terminate such Notch Third Party In-License if the failure to do so would adversely affect, or would reasonably be expected to adversely affect, Allogene's rights under this Agreement, without Allogene's prior written consent, not to be unreasonably withheld; and

(ii) not amend or waive, or take any action or omit to take any action that would alter, any of Notch's or such Affiliates' rights under any Notch Third Party In-License in any manner that adversely affects, or would reasonably be expected to adversely affect, Allogene's rights under this Agreement without Allogene's prior written consent, not to be unreasonably withheld; and

(iii) Notch shall promptly notify Allogene in writing of the receipt or delivery of any notice of any default under, or any termination or amendment of, any Notch Third Party In-License. If Notch fails to cure any such default and the failure to do so would adversely affect, or would reasonably be expected to adversely affect, Allogene's rights under this Agreement, Allogene shall have the right to cure any such default and subtract any reasonable amounts paid to the counterparty under the applicable Notch Third Party In-License in connection with such cure (other than amounts with respect to Notch New Third Party In-Licenses for which Allogene is responsible as set forth in this Section 4.3) from any amounts due to Notch hereunder.

(d) At Allogene's request, Notch shall use reasonable efforts to obtain the written agreement of the counterparty to any Notch Third Party In-License that, in the event of any termination of such Notch Third Party In-License, which termination does not result from any failure by Allogene or its Affiliates or Sublicensee to comply with the applicable terms of this Agreement or of such Notch Third Party In-License, such counterparty shall grant to

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Allogene a direct license under the Intellectual Property Rights covered by such Notch Third Party In-License that are equivalent in scope to the sublicense under such Intellectual Property Rights granted to Allogene hereunder, under the same terms as are in such Notch Third Party In-License (adjusted for any differences in the scope of such direct license from the license granted to Notch under such Notch Third Party In-License), and provided that such counterparty shall not be required to accept any obligations greater than those provided for in such Notch Third Party In-License.

4.4 **No Other Rights**. Except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights that are not specifically granted herein are reserved to the possessing Party.

4.5 **Exclusivity**.

(a) During the applicable Exclusivity Term, neither Notch nor any of its Affiliates shall sell, license or otherwise transfer any Notch Technology to any Third Party for application to products in the Field the primary mechanism of action of which is modulation of an Exclusive Target.

(b) During the applicable Exclusivity Term and other than as set forth in the Research Plan, neither Notch nor any of its Affiliates shall, itself or with any Third Party, research, develop, manufacture or otherwise progress any [***] (such products, together with any products described in subsection (a) above, "**Competing Products**").

(c) "**Exclusivity Term**" means (a) with respect to [***] the period commencing on the Original Effective Date and ending [***], and (b) with respect to the Optioned Target (if any), the period commencing on the date such Target is deemed to be an Optioned Target pursuant to Section 2.6(c) and ending [***] years after such date. Notwithstanding the foregoing, for each Exclusive Target for which Allogene is conducting (itself or through an Affiliate or Sublicensee) development or commercialization of a Product Directed Against such Exclusive Target at the end of the period set forth in the immediately preceding sentence, the Exclusivity Term with respect to such Exclusive Target shall be extended until the earliest of [***].

4.6 **Rights in Bankruptcy**. All rights and licenses granted under or pursuant to this Agreement by Notch to Allogene, are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the Bankruptcy Code, licenses of rights to "intellectual property" as defined under Article 101(35A) of the Bankruptcy Code. The Parties agree that Allogene, as a licensee of such Intellectual Property Rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code. The Parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against Notch under the Bankruptcy Code or analogous provisions of applicable Laws outside the United States, Allogene will be entitled to a complete duplicate of (or complete access to, as appropriate) any intellectual property licensed to Allogene and all embodiments of such intellectual property, which, if not already in Allogene's possession, will be promptly delivered to it (a) upon any such commencement of a bankruptcy proceeding upon Allogene's written request therefor, unless Notch elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under clause (a), following the rejection of this Agreement in the bankruptcy proceeding, upon written request therefor by Allogene. The Parties further agree that, upon the occurrence of a bankruptcy event, each Party shall have the right to retain and enforce their rights under this Agreement.

4.7 **PBMC Rights**. Prior to the Restatement Effective Date, Allogene provided Notch with certain Materials arising from certain PBMCs, which Materials Notch used in the

performance of Research Program activities under this Agreement. If Notch desires to use the data arising from such activities for any regulatory purposes, it may need additional rights relating to such PBMCs, including rights relating to donor consent. At any time and from time to time after the Restatement Effective Date, as and when reasonably requested by Notch and at Notch's expense, Allogene shall use all reasonable efforts to execute and deliver, or cause to be executed and delivered, all such documents, and shall take, or cause to be taken, all such further or other actions as are necessary to provide Notch with such rights.

5. DEVELOPMENT; COMMERCIALIZATION

5.1 **Generally**. Following the completion of the technology transfer described in Section 2.4 with respect to a Collaboration Product, Allogene shall, during the applicable Exclusivity Term, have sole and exclusive responsibility for the development and commercialization of such Collaboration Product. In any event, following the Collaboration Term and for the remainder of the applicable Exclusivity Term, as between the Parties, Allogene shall have sole and exclusive responsibility for the development and commercialization of Products. Following the Collaboration Term, Allogene shall use Commercially Reasonable Efforts to develop and commercialize, in the United States and in the European Union, at least one (1) Product Directed Against each Exclusive Target for which Notch has met all Success Criteria set forth in Section 6.5; provided that Commercially Reasonable Efforts shall not require simultaneous development and/or commercialization in both the United States and the European Union. The timelines for Allogene's development and commercialization of Products set forth in the foregoing clause (a) and (b) may vary based on the factors set forth in the definition of Commercially Reasonable Efforts relating to such Products (e.g., in some circumstances, one of such Products may progress further in development at an earlier point in time based on such factors).

5.2 **Reports**. On an Exclusive Target-by-Exclusive Target basis, following the disbanding of the JDC, and until the First Commercial Sale of the first Product Directed Against such Exclusive Target, Allogene shall provide Notch with a written report providing a status of Allogene's development (including registration) of Products Directed Against such Exclusive Target annually. Such report shall cover the previous twelve (12) month period and shall be provided by Allogene no later than [***] days after each Calendar Year. Each such update shall summarize Allogene's (either by itself or through its Affiliates and its Sublicensees) activities with respect to Exploitation of such Products.

5.3 **Supply of Notch Microbeads**. For [***] days following Allogene's request therefor, the Parties shall seek in good faith to negotiate the commercially reasonable terms of supply agreement pursuant to which Notch would supply to Allogene, its Affiliates and its Sublicensees the Notch Microbeads sufficient to support the development and commercialization of the Products in the Field throughout the Territory (a "**Supply Agreement**"), provided that Notch shall not be obligated to negotiate a Supply Agreement after [***] months after the Restatement Effective Date. If the Parties do not enter into a Supply Agreement within such [***] day period and prior to [***] months after the Restatement Effective Date (or such longer period as the Parties may agree in writing) (the "**Supply Agreement Negotiation Period**"), then Notch shall transfer to Allogene or its designee applicable Notch Microbead Technology (including any reagents or other factors necessary to use the Notch Microbead Technology) in accordance with Section 2.4, subject to Allogene reimbursing Notch for the cost of any tangible materials included in such transfer that were not acquired or generated using Research Budget funding previously paid by Allogene. If the Parties execute a Supply Agreement that relates to the supply of Notch Microbeads for a particular Product and Allogene thereafter requires Notch Microbeads to be supplied for an additional Product, then the Parties shall follow the procedures set forth in this Section 5.3 to amend the existing Supply Agreement for the supply of Notch

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Microbeads for any additional Product. For clarity, to the extent the Parties were previously unable to negotiate a Supply Agreement or amendment thereto as set forth above, Allogene shall have the right to request Notch to transfer to its designee the Notch Microbead Technology (including any reagents or other factors necessary to use the Notch Microbead Technology) in accordance with Section 2.4 for Product, subject to Allogene reimbursing Notch for the cost of any tangible materials included in such transfer that were not acquired or generated using Research Budget funding previously paid by Allogene.

6. PAYMENTS

6.1 **Initial Consideration; Option Exercise Fee**.

(a) In consideration for the rights granted to Allogene under this Agreement, Allogene shall pay to Notch a one-time-only, non-refundable, non-creditable payment of ten million Dollars ($10,000,000) on the Original Effective Date.

(b) On the Original Effective Date, Allogene shall purchase [***] shares of Notch's Series Seed convertible preferred stock at $[***] per share, pursuant to the stock purchase agreement and related agreements entered or to be entered into between the Parties of even date herewith.

6.2 **Option Exercise Fee**. For each Optioned Target, Allogene shall pay to Notch an option exercise fee of [***] Dollars ($[***]) within [***] days following its receipt of Notch's invoice therefor, which invoice shall not be sent until Allogene has exercised its option with respect to such Target in accordance with Section 2.6.

6.3 **Payment of Research Costs**. Within [***] days after the end of each Calendar Quarter in which Notch has conducted activities under the Research Plan, Notch will invoice Allogene for Research Costs actually incurred in such Calendar Quarter for which Allogene is responsible under the Research Plan. Within [***] days of receipt of the invoice, Allogene shall pay all undisputed Research Costs set forth in such invoice. Notch shall provide Allogene with sufficient detail and supporting documentation of the costs incurred for which payments are sought and the periods for payment shall be commensurately extended for any delay in the provision thereof or for the resolution of any good faith dispute relating thereto. In no event shall Allogene be obligated to reimburse Notch for any amounts not set forth in the applicable Research Budget, unless otherwise agreed in writing by an authorized representative of Allogene.

6.4 **Research Milestones**. In consideration for the rights granted to Allogene under this Agreement, Allogene shall make the following non-refundable, non-creditable milestone payments to Notch within thirty (30) days from Allogene's receipt of Notch's invoice after Notch's achievement of the Success Criteria for the applicable milestone:

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Research Milestone		Milestone Amount Due
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***] [***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***] [***]	[***]

Each of the milestone payments set forth in the table above shall be payable only once, the first time the Success Criteria for the applicable Research Milestone is achieved by Notch and irrespective of the number of Exclusive Targets with respect to which such Research Milestone is achieved. The aggregate amount payable by Allogene for all Research Milestones shall not exceed [***]. The determination of the achievement of each Research Milestone shall be made pursuant to Section 3.4.

6.5 **Development Milestones**. In consideration for the rights granted to Allogene under this Agreement, Allogene shall make the following non-refundable, non-creditable milestone payments to Notch within [***] days from Allogene's receipt of Notch's invoice after Notch's achievement of the Success Criteria for the applicable milestone:

Development Milestone			Milestone Amount Due
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]

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Each of the milestone payments set forth in the table above shall be payable only once per Exclusive Target, the first time the Success Criteria for the applicable Development Milestone for such Exclusive Target is achieved by Notch, and irrespective of the number of times a Development Milestone is achieved with respect to an Exclusive Target. If any Development Milestone is achieved for an Initial Target which is subsequently replaced by a Substitute Target, then such achieved Development Milestone shall not be paid for such Substitute Target; however, Allogene shall pay for any Development Milestones achieved by Notch for such Substitute Target that were not paid for such Initial Target. The aggregate amount payable by Allogene for all Development Milestones achieved by Notch with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively) [***]. The determination of the achievement of any Development Milestone shall be made pursuant to Section 3.4.

Notwithstanding the foregoing, Allogene shall only be required to pay one set of Development Milestones relating to any Bi-Specific Product that meets a Development Milestone and that is Directed Against two (2) or more Exclusive Targets (each a "**Bi-Specific Excluded Target**"); provided that Allogene shall thereafter pay any additional Development Milestones that are achieved for any further Product that is Directed Against a Bi-Specific Excluded Target, subject to the limitations that each milestone payment be payable only once per Exclusive Target and that the aggregate amount payable by Allogene for all Development Milestones achieved by Notch with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively) [***]. For example, if a Development Milestone is first achieved by a Product Directed Against an Exclusive Target and then such Development Milestone is achieved by a Bi-Specific Product Directed Against such Exclusive Target and a second Exclusive Target as to which no Product has previously achieved such Development Milestone, the applicable milestone payment shall become payable based on such achievement by such Bi-Specific Product.

6.6 **Clinical and Regulatory Milestones**. In consideration for the rights granted to Allogene under this Agreement, Allogene shall make the following non-refundable, non-creditable milestone payments to Notch following the achievement of the following milestones by Allogene or any of its Affiliates or Sublicensees:

	Milestone	Milestone Amount Due for First T Cell Product	Milestone Amount Due for First NK Cell Product
1.	[***]	[***]	[***]
2.	[***]	[***]	[***]
3.	[***]	[***]	[***]
4.	[***]	[***]	[***]
5.	[***]	[***]	[***]

Each of the milestone payments set forth in the table above shall be payable only once per Exclusive Target per Cell Type, the first time such milestone for such Exclusive Target and Cell Type is achieved, and irrespective of the number of times such milestone is achieved with respect to an Exclusive Target and Cell Type. If any milestone above is achieved for an Initial Target which is subsequently replaced by a Substitute Target, then such achieved milestone shall not be paid for such Substitute Target; however, Allogene shall pay for any milestones above achieved by Allogene or any of its Affiliates or Sublicensees for such Substitute Target that were

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not paid for such Initial Target. The aggregate amount payable by Allogene under this Section 6.6 for all milestones achieved by Allogene, its Affiliates and its Sublicensees with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively) shall not exceed [***] Dollars [***] per Cell Type. Allogene shall notify Notch within [***] days following the achievement of any milestone above (or, if achieved by a Sublicensee, within [***] days following its receipt of notice of such achievement) and shall pay the corresponding milestone payment within [***] days following its receipt of Notch's invoice therefor.

Notwithstanding the foregoing, Allogene shall only be required to pay one set of clinical and regulatory milestones relating to any Bi-Specific Product that meets a clinical or regulatory milestone and that is Directed Against two (2) or more Bi-Specific Excluded Targets; provided that Allogene shall thereafter pay any additional clinical and regulatory milestones that are achieved for any further Product that is Directed Against a Bi-Specific Excluded Target, subject to the limitations that each milestone payment be payable only once per Exclusive Target and that the aggregate amount payable by Allogene for all clinical and regulatory milestones achieved by Allogene, its Affiliates and its Sublicensees with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively shall not exceed [***] Dollars [***] per Cell Type. For example, if a clinical or regulatory milestone is first achieved by a Product Directed Against an Exclusive Target and then such clinical or regulatory milestone is achieved by a Bi-Specific Product Directed Against such Exclusive Target and a second Exclusive Target as to which no Product has previously achieved such clinical or regulatory milestone, the applicable milestone payment shall become payable based on such achievement by such Bi-Specific Product.

6.7 **Commercial Milestones**. In consideration for the rights granted to Allogene under this Agreement, Allogene shall make the following non-refundable, non-creditable milestone payments to Notch following the achievement of the following milestones based on cumulative annual, worldwide Net Sales by Allogene or any of its Affiliates or Sublicensees:

	Milestone	Milestone Amount Due for First T Cell Product	Milestone Amount Due for First NK Cell Product
1.	[***]	[***]	[***]
2.	[***]	[***]	[***]
3.	[***]	[***]	[***]

Each of the milestone payments set forth in the table above shall be payable only once per Exclusive Target per Cell Type, the first time such milestone for such Exclusive Target and Cell Type is achieved, and irrespective of the number of times such milestone is achieved with respect to an Exclusive Target and Cell Type. If any milestone above is achieved for an Initial Target which is subsequently replaced by a Substitute Target, then such achieved milestone shall not be paid for such Substitute Target; however, Allogene shall pay for any milestones above achieved by Allogene or any of its Affiliates or Sublicensees for such Substitute Target that were not paid for such Initial Target. The aggregate amount payable by Allogene under this Section 6.7 for all milestones achieved by Allogene, its Affiliates and its Sublicensees with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively) shall not exceed [***] Dollars [***] per Cell Type. Allogene shall notify Notch contemporaneously with its provision of its royalty report under Section 6.11 for the Calendar Quarter in which such

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milestone was achieved and shall pay the corresponding milestone payment within [***] days following its receipt of Notch's invoice therefor.

Notwithstanding the foregoing, Allogene shall only be required to pay one set of commercial milestones relating to any Bi-Specific Product that meets a commercial milestone and that is Directed Against two (2) or more Bi-Specific Excluded Targets; provided that Allogene shall thereafter pay any additional commercial milestones that are achieved for any further Product that is Directed Against a Bi-Specific Excluded Target, subject to the limitations that each milestone payment be payable only once per Exclusive Target and that the aggregate amount payable by Allogene for all commercial milestones achieved by Allogene, its Affiliates and its Sublicensees with respect to an Exclusive Target (including an Initial Target and its Substitute Target, collectively) shall not exceed [***] Dollars [***] per Cell Type. For example, if a commercial milestone is first achieved by a Product Directed Against an Exclusive
Target and then such commercial milestone is achieved by a Bi-Specific Product Directed Against such Exclusive Target and a second Exclusive Target as to which no Product has previously achieved such commercial milestone, the applicable milestone payment shall become payable based on such achievement by such Bi-Specific Product.

6.8 **Royalties**. Subject to Sections 6.9 and 6.10, following Regulatory Approval, on a an Exclusive Target-by-Exclusive Target basis and Cell Type-by-Cell Type basis, Allogene shall pay to Notch non-creditable, non-refundable royalties on aggregate annual Net Sales of all Products Directed Against such Exclusive Target in the Territory, as calculated by multiplying the applicable royalty rate by the corresponding amount of incremental Net Sales of all such Products in the Territory in each Calendar Year as follows, provided that, in the case of Bi-Specific Products, such Products shall be deemed to be Directed Against one (but not both) of the applicable Exclusive Targets for such Bi-Specific Product (i.e., royalties for such Product shall be calculated as though the entire Product were of a single Cell Type). Notwithstanding the foregoing, if (a) there are Net Sales of Products Directed Against one of the Exclusive Targets a Bi-Specific Product is Directed Against, such Bi-Specific Product Net Sales shall be aggregated with such Products, and (b) there are Net Sales of Products Directed Against one of the Exclusive Targets of a Bi-Specific Product and Net Sales of Products Directed Against the second Exclusive Target of a Bi-Specific Product, the Net Sales of the Bi-Specific Product shall be allocated equally between the Exclusive Targets.

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Annual Net Sales	Royalty Rate for T Cell Products	Royalty Rate for NK Cell Products
For that portion of annual aggregate Net Sales of all Products of such Cell Type Directed Against a particular Exclusive Target in a Calendar Year that are less than or equal to [***] Dollars [***]	[***]%	[***]%
For that portion of annual aggregate Net Sales of all Products of such Cell Type Directed Against a particular Exclusive Target in a Calendar Year that are greater than [***] Dollars [***] and less than or equal to o[***] Dollars [***]	[***]%	[***] %
For that portion of annual aggregate Net Sales of all Products of such Cell Type Directed Against a particular Exclusive Target in a Calendar Year that are greater than [***] Dollars [***] and less than or equal to [***] Dollars [***]	[***]%	[***]%
For that portion of annual aggregate Net Sales of all Products of such Cell Type Directed Against a particular Exclusive Target in a Calendar Year that are greater than [***] Dollars [***] and less than or equal to [***] Dollars [***]	[***]%	[***]%
For that portion of annual aggregate Net Sales of all Products of such Cell Type Directed Against a particular Exclusive Target in a Calendar Year that are greater than [***] Dollars [***]	[***]%	[***]%

6.9 **Royalty Floors and Offsets**.

(a) If, on a country-by-country and Product-by-Product basis, there is no Valid Claim in such country that Covers the manufacture, use or sale of such Product in such country and, solely with respect to countries outside of the United States, there is no applicable Regulatory Exclusivity that covers the Product in such country at the time of sale, then the applicable royalty rate under Section 6.8 shall be reduced by [***] percent [***], subject to Section 6.9(c).

(b) If it is Necessary or Useful for Allogene to license one or more Patent Rights from one or more Third Parties in order to Exploit any Product, whether directly or through any Allogene Affiliate or Sublicensee, then Allogene may, in its sole discretion, negotiate and obtain a license under such Patent Right(s) (each such Third Party license, or any such Third Party, referred to herein as a "**Third Party License**"). Any royalty otherwise payable to Notch under this Agreement with respect to Net Sales of any Product by Allogene, its Affiliates or Sublicensees will be reduced by [***] percent ([***]%) of the amounts paid to Third Parties pursuant to any Third Party Licenses, provided that in no event will the total royalty payable to Notch be less than [***] percent ([***]%) of the royalty amounts otherwise payable to Notch and provided that if any portion of any such reduction is limited by the immediately preceding proviso, the portion that is not permitted to be deducted may be carried forward for reduction in subsequent Calendar Quarters, subject to the limitation in the

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immediately preceding proviso, until such amounts have been expended. For purposes of this Section 6.9(b), (i) "**Necessary**" means that, without a license to use the Third Party's Patent Right, the Exploitation of any Product in the form such Product exists at the time that the Third Party License is executed would, in Allogene's reasonable opinion, based on written advice from counsel, infringe such Third Party's Patent Right, and (ii) "**Useful**" means that Allogene has determined in its discretion that use of such Third Party's Patent Right would enhance the commercial potential of any Product. For clarity, a Third Party License may include a license for Patent Rights and Know-How and all payments thereunder shall be subject to the offset set forth in this Section 6.9.

(c) Notwithstanding subsection (a) above, in no event shall the royalty rate on the sale of any Product in any country outside the United States be reduced below [***] percent ([***]%). Notwithstanding subsection (a) above, in no event shall the royalty rate on the sale of any Product in the United States be reduced below [***] percent ([***]%).

6.10 **Royalty Term**. Royalties shall be paid under Section 7.6, on a country-by-country and Product-by-Product basis, commencing on First Commercial Sale of such Product in such country and continuing until the latest of (a) the date upon which there is no Valid Claim of the Notch Patents (including Joint Patents) in such country of sale, (b) the expiration of applicable data or other regulatory exclusivity in such country of sale or (c) the tenth (10^{th}) anniversary of the First Commercial Sale of such Product in such country (collectively, the "**Royalty Term**"). Following the Royalty Term, Allogene's license rights under any Notch Technology with respect to such Product and country shall be perpetual, irrevocable, fully paid up and royalty-free.

6.11 **Royalty Reports and Payment**. Within [***] days after the end of each Calendar Quarter, commencing with the Calendar Quarter during which the First Commercial Sale of the first Product or RIT Product (as applicable) is made anywhere in the Territory, Allogene or Notch, respectively, shall provide the other Party with a report that contains the following information for the applicable calendar quarter, on a product-by-product and country-by-country basis: (a) the gross sales and Net Sales of each Product or RIT Product (as applicable), (b) a summary of the deductions from gross sales applied in calculating Net Sales, (c) the basis for any adjustments to the royalty payable for the sale of such Product or RIT Product (as applicable), and (d) the royalty due hereunder for the sale of such Product or RIT Product (as applicable). Concurrent with the delivery of the foregoing applicable quarterly report, the applicable Party shall pay in Dollars all royalties due to the other Party with respect to Net Sales by such Party and its Affiliates, Licensees, and Sublicensees for such Calendar Quarter.

6.12 **Currency; Exchange Rate**. All payments to be made by either Party under this Agreement shall be made in Dollars by bank wire transfer in immediately available funds to a bank account designated by written notice from the other Party. The rate of exchange to be used in computing the amount of currency equivalent in Dollars shall be made at the average of the closing exchange rates reported on the Oanda website (http://www.oanda.com/currency/historical-rates/) with Interbank +/- 0%, or such other source as the Parties may agree in writing, for the first, middle and last business days of the applicable reporting period for the payment due.

6.13 **Taxes**.

(a) Withholding. If any Applicable Law requires a Party to withhold taxes with respect to any payment to be made by such Party pursuant to this Agreement, such Party will notify the other Party of such withholding requirement prior to making the payment and provide such reasonable assistance to the other Party, including the provision of such standard documentation as may be required by a tax authority, as may be reasonably necessary in the

other Party's efforts to claim an exemption from or reduction of such taxes. At the other Party's request, a Party shall delay making any payment otherwise due hereunder in order to provide time for the other Party to provide documentation necessary to claim an exemption from or reduction of such taxes prior to withholding; for clarity, no interest shall apply during such period and the paying Party shall not be required to pay any such payment to the other Party on less than [***] days' notice following such delay request. Each Party will, in accordance with such Applicable Law withhold taxes from the amount due, remit such taxes to the appropriate tax authority, and furnish the other Party with proof of payment of such taxes within [***] days following the payment. If taxes are paid to a tax authority, each Party shall provide reasonable assistance to the other Party to obtain a refund of taxes withheld, or obtain a credit with respect to taxes paid.

(b) VAT. All payments due to a Party pursuant to this Agreement shall be paid exclusive of any value-added tax ("**VAT**") (which, if applicable, shall be payable by the other Party upon such other Party's receipt of a valid VAT invoice). If a Party determines that it is required to report any such tax, the other Party shall promptly provide such Party with applicable receipts and other documentation necessary or appropriate for such report. For clarity, this Section is not intended to limit either Party's right to deduct value-added taxes in determining Net Sales of its products.

6.14 **Interest**. Any undisputed payments or portions thereof due hereunder that are not paid on the date such payments are due under this Agreement will bear interest at a rate equal to the lesser of: (a) [***] or (b) [***], in each case calculated on the number of days such payment is delinquent.

6.15 **Notch Net Payments**.

(a) For purposes of this Section 6.15, "**Net Payments**" means upfront and milestone payments received by Notch or its Affiliates from any Third Party to the extent in consideration for a grant of rights (whether through an out-license, partnership, sale, or other transaction) to develop or commercialize any RIT Product. Net Payments exclude (a) royalties or any profit share or other revenue sharing on the sale or distribution of any RIT Product (provided royalties are paid to Allogene on such RIT Product), (b) any payment (i) for the purpose of funding the costs of *bona fide* development or reimbursing the costs of *bona fide* commercialization of any RIT Product or (ii) for purchase of goods or services by a Third Party from Notch or its Affiliates at fair market value, (c) any reimbursement of patent prosecution or enforcement expenses, or (d) any purchase price for Notch's or any of its Affiliates' stock or other securities to the extent not in excess of the fair market value of such stock or other securities. Where rights to one or more products other than an RIT Product are granted to the applicable Third Party in addition to rights to the RIT Product(s), Notch and Allogene shall agree to an equitable apportionment of the amounts paid to Notch or any of its Affiliates between, as applicable, the rights attributable to the RIT Product(s) and the rights attributable to the other product(s) based on a valuation model that takes into account, among other things, stage of development, market potential, potential market share, and competitive products that are approved or under development. The portion of such amounts paid to Notch that allocated to the RIT Product(s) will be the Net Payments for such agreement.

(b) Subject to Section 6.18, with respect to each agreement entered into by Notch pursuant to which Notch grants a Third Party rights (whether through an out-license, partnership, sale, or other transaction) to develop or commercialize any RIT Product, (a) if Notch enters into such agreement prior to November 1, 2026, then Notch shall pay Allogene [***] percent ([***]%) of all Net Payments received pursuant to such agreement, and (b) if Notch enters into such agreement after [***], then Notch shall pay Allogene [***] percent ([***]%) of all Net Payments received pursuant to such agreement.

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6.16 **Notch Milestones**. Subject to Section 6.18, Notch shall make the following one-time, non-refundable, non-creditable milestone payments to Allogene following the achievement of the following milestones by Notch or any of its Affiliates, Licensees, or Sublicensees:

	Development Milestone	**Milestone Amount Due**
1.	[***]	[***]
2.	[***]	[***]
3.	[***]	[***]

6.17 **Royalties**. Notch shall pay to Allogene, on an RIT Product-by-RIT Product and country-by-country basis, non-creditable, non-refundable royalties of [***] percent ([***]%) of Net Sales of such RIT Product by Notch and its Affiliates, Licensees, and Sublicensees in such country during the period beginning on the First Commercial Sale of such RIT Product in such country and ending ten (10) years following such First Commercial Sale.

6.18 **Payment Cap**. Notwithstanding anything in this Agreement to the contrary, in no event shall Notch be required to pay Allogene more than [***] dollars ([***]), in the aggregate, under Section 6.15 and Section 6.16.

6.19 **Subsequent Notch Financings**. If, following the Restatement Effective Date, Notch's parent, Notch Therapeutics, Inc., a Delaware corporation ("**Notch US**"), obtains external equity financing from institutional investors (each such financing, a "**Subsequent Financing Round**"), Notch US shall, in connection with each Subsequent Financing Round and pursuant to a securities issuance agreement in substantially the form attached hereto as Exhibit I, issue to Allogene, for no additional consideration, equity securities of the same class and series issued to such other investors in such Subsequent Financing Round (the "**Equity Securities**"), equal to [***]. The obligation of Notch US to issue equity securities to Allogene pursuant to this Paragraph 2 shall expire immediately following the earlier to occur of (x) [***] or (y) [***]. Notwithstanding anything to the contrary provided for herein, in no event will Notch US be obligated to issue [***].

7. TECHNOLOGY OWNERSHIP

7.1 **Background Technology**. As between the Parties, each Party will own and retain all right, title and interest in its Background Technology.

7.2 **Ownership of Inventions**. Ownership of all Inventions shall be assigned based on inventorship, as determined in accordance with the rules of inventorship under United States patent laws. All jointly owned Inventions shall be referred to as "**Joint Technology**" and each Party shall own an undivided half interest in the Joint Technology and any Patent Rights claiming such Joint Technology ("**Joint Patents**"). Subject to the licenses granted to the other Party under this Agreement, and Section 8.5(c) with respect to enforcement of such Joint Technology, neither Party will have any obligation to obtain any approval or consent of, nor pay a share of the proceeds to or account to, the other Party to practice, enforce, license, assign or otherwise exploit Inventions or intellectual property included within Joint Technology, and each Party hereby waives any right it may have under the laws of any jurisdiction to require such approval, consent or accounting. Each Party agrees to execute all papers and otherwise agrees to assist the other Party as reasonably required, to perfect in the other Party the rights, title and other interests owned by such Party under this Section and Intellectual Property Rights relating thereto, as applicable.

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7.3 **Disclosure of Research Program Inventions**. Each Party shall promptly disclose to the other Party, in writing, no later than the occurrence of the first JDC meeting following such conception, all Research Program Inventions, including all invention disclosures or other similar documents submitted to such Party by its, or its Affiliates', employees, agents or contractors relating to such Research Program Inventions, and shall respond promptly to reasonable requests from the other Party for additional information relating to such Research Program Inventions.

8. PATENT PROSECUTION AND ENFORCEMENT

8.1 **Notch Patent(s)**.

(a) As between the Parties, and subject to subsection (b) below, Notch will be solely responsible, at its own cost, for the Prosecution and Maintenance of all Notch Patents, excluding all Joint Patents. During each Exclusivity Term, (i) with respect to any Notch Patents, Notch shall consult with Allogene and keep Allogene reasonably informed of the status of such Notch Patents and shall promptly provide Allogene with material correspondences received from any patent authorities in connection therewith, (ii) Notch shall promptly provide Allogene with drafts of all proposed material filings and correspondences to any patent authorities with respect to the Notch Patents for Allogene's review and comment prior to the submission of such proposed filings and correspondences, and (iii) (A) Notch shall confer with Allogene and shall give good faith consideration to Allogene's comments in relation to such Prosecution and Maintenance, and shall use reasonable efforts to implement any reasonable changes requested by Allogene towards the objective of optimizing overall patent protection with respect to the Notch Patents, (B) Allogene shall provide any such comments within [***] days of receiving the draft filings and correspondences from Notch, and (C) if Allogene does not provide comments within such period of time, then Allogene shall be deemed to have no comment to such proposed filings or correspondences.

(b) Subject to the terms of any applicable Notch Third Party In-License (provided that such terms have been provided to Allogene), during each Exclusivity Term, (i) if Notch wishes to abandon or cease Prosecution and Maintenance of any Notch Patent, Notch shall provide reasonable prior written notice to Allogene of such intention to abandon (which notice shall, to the extent possible, be given no later than [***] days prior to the next deadline for any action that must be taken with respect to any such Notch Patent in the relevant patent office), (ii) in such case, upon Allogene's written election, Allogene shall have the right, but not the obligation, to assume Prosecution and Maintenance of such Notch Patent at Allogene's expense, and (iii) if Allogene elects to assume the Prosecution and Maintenance of such Notch Patent, then Notch shall promptly transfer to Allogene's patent counsel all relevant files and materials and Allogene shall have the right to deduct [***] percent ([***]%) of the reasonable costs of Prosecution and Maintenance against milestone payment and royalty amounts payable to Notch hereunder.

8.2 **Allogene Patents**. As between the Parties, Allogene will be solely responsible, at its own cost, and at its discretion, for preparing, filing, prosecuting (including, but not limited to provisional, reissue, continuing, continuation-in-part, and substitute applications and any foreign counterparts thereof), and maintaining all Patent Rights included within Allogene Background Technology and any Patent Rights Controlled by Allogene, excluding Joint Patents (collectively, the "**Allogene Patents**").

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8.3 **Joint Patents**.

(a) Subject to subsection (b) below, Allogene shall be solely responsible, at Allogene's cost, and at its discretion, for the Prosecution and Maintenance of the Joint Patents. Allogene shall consult with Notch and keep Notch reasonably informed of the status of the Joint Patents and shall promptly provide Notch with material correspondences received from any patent authorities in connection therewith. In addition, Allogene shall promptly provide Notch with drafts of all proposed material filings and correspondences to any patent authorities with respect to the Allogene Prosecuted Patents for Notch's review and comment prior to the submission of such proposed filings and correspondences. Allogene shall confer with Notch and shall take into consideration Notch's comments in relation to such Prosecution and Maintenance, and shall use reasonable efforts to implement any reasonable changes requested by Notch towards the objective of optimizing overall patent protection for such Joint Patents prior to submitting such filings and correspondences, provided that Notch shall provide such comments within [***] days of receiving the draft filings and correspondences from Allogene. If Notch does not provide comments within such period of time, then Allogene may proceed without obtaining or considering such comments in order to continue the Prosecution and Maintenance of the Joint Patents on a timely basis in Allogene's reasonable discretion. In case of disagreement between the Parties with respect to the Prosecution and Maintenance of the Joint Patents, the final decision shall be made by Allogene with the objective of optimizing overall patent protection for such Joint Patents.

(b) If Allogene wishes to abandon or cease Prosecution and Maintenance of any Joint Patent, Allogene shall provide reasonable prior written notice to Notch of such intention to abandon (which notice shall, to the extent possible, be given no later than [***] days prior to the next deadline for any action that must be taken with respect to any such Joint Patent in the relevant patent office). In such case, upon Notch's written election, Notch shall have the right, but not the obligation, to assume Prosecution and Maintenance of such Joint Patent at Notch's expense. If Notch elects to assume the Prosecution and Maintenance of such Joint Patent, then Allogene shall promptly transfer to Notch's patent counsel all relevant files and materials and Notch shall keep Allogene reasonably informed regarding the Prosecution and Maintenance.

8.4 **Collaboration**. Each Party shall provide the other Party all reasonable assistance and cooperation in the Prosecution and Maintenance efforts under this Article 8, including providing any necessary powers of attorney and executing any other required documents or instruments for such prosecution. The Party assuming such Prosecution and Maintenance responsibilities shall have the right to engage its own counsel to perform such activities.

8.5 **Enforcement**

(a) Each Party hereto shall inform the other Party promptly in writing of any alleged or threatened Infringement known to such Party by any Third Party of any Patent Right included within the Notch Patents, Joint Patents or any Allogene Patents, where such infringement adversely affects or is expected to adversely affect any Product in the Field or any RIT Product, including any "patent certification" filed in the United States under 21 U.S.C. §355(b)(2) or 21 U.S.C. §355(j)(2) or similar provisions in other jurisdictions and of any declaratory judgment, opposition, or similar action alleging the invalidity, unenforceability or non-infringement of any such Patent (collectively "**Product Infringement**"). The Parties shall consult with each other regarding any actions to be taken with respect to such Product Infringement, including sharing all information available to such Party regarding such alleged Product Infringement.

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(b) Allogene shall have the exclusive right to bring and control any legal action in connection with any Product Infringement in the Territory that infringes any Allogene Patent, at its own expense as it reasonably determines appropriate.

(c) Subject to the terms of any applicable Notch Third Party In-License and provided that such terms have been provided to Allogene, for Product Infringement in connection with a Notch Patent or Joint Patent that adversely affects or is expected to adversely affect any Product in the Field during the applicable Exclusivity Term, Allogene shall have the first right to bring and control any legal action in connection with such Product Infringement at its own cost and expense, and Notch shall have the right to be represented in any action by counsel of its choice. Allogene shall have a period of [***] days after its receipt or delivery of notice under subsection (a) to elect to so enforce the applicable Notch Patents or Joint Patents in the Field in the Territory (or to settle or otherwise secure the abatement of such Product Infringement). If Allogene fails to commence a suit to enforce the applicable Notch Patents or Joint Patents, or to settle or otherwise secure the abatement of such Product Infringement within such period, then Notch shall have the right, but not the obligation, to commence a suit or take action to enforce such Notch Patents or Joint Patents, as applicable, in the Field in the Territory at its own cost and expense. In such event, promptly after the expiration of the applicable [***]-day period, or Allogene's notice to Notch that it does not elect to enforce such Notch Patents or Joint Patents, the Parties shall meet to discuss in good faith the strategy for enforcing such Patent Rights. Notch shall reasonably consider Allogene's views with respect to such enforcement.

(d) The Party enforcing a Patent Right under subsection (b) or (c) above shall keep the other Party reasonably informed as to the status of, and all material developments in, such action, and reasonably consider and incorporate such other Party's input regarding the strategy and handling of such enforcement activities. Such other Party shall provide the enforcing Party reasonable assistance in such enforcement, at the enforcing Party's request and expense, including by executing reasonably appropriate documents, cooperating in discovery and joining as a party to the action if required or if reasonably beneficial for the action. Such other Party shall have the right to be represented in any such action by counsel of its choice, at its expense. In connection with any such proceeding, the Party bringing the action shall not enter into any settlement admitting the invalidity of, or otherwise impairing the other Party's rights in, the Patent Rights that are the subject of the applicable enforcement action without the prior written consent of the other Party.

(e) Notch shall have the exclusive right to enforce the Notch Patents, other than Joint Patents, against any Infringement that is not a Product Infringement that adversely affects or is expected to adversely affect any Product in the Field during the applicable Exclusivity Term at its own expense as it reasonably determines appropriate. Allogene shall have the exclusive right to enforce the Allogene Patents for any Infringement at its own expense as it reasonably determines appropriate. With respect to any Infringement, other than a Product Infringement that adversely affects or is expected to adversely affect any Product in the Field during the applicable Exclusivity Term, relating to any Joint Patents, each Party shall have the right to enforce such Joint Patents as its cost and its sole discretion, provided that the enforcing Party shall notify the other Party in writing promptly upon becoming aware of such Infringement.

(f) Any recoveries resulting from enforcement action relating to a claim of Product Infringement that adversely affects or is expected to adversely affect any Product in the Field during the applicable Exclusivity Term shall be first applied pro rata against payment of each Party's costs and expenses in connection therewith. Any such recoveries in excess of such costs and expenses (the "**Remainder**") shall be shared by the Parties as follows:

(i) if Allogene is the enforcing Party, the Remainder shall be allocated

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[***] percent ([***]%) to Allogene and [***] percent ([***]%) to Notch; and

(ii) if Notch is the enforcing Party, the Remainder shall be allocated [***] percent ([***]%) to Notch and [***] percent ([***]%) to Allogene.

9. CONFIDENTIALITY

9.1 **Confidentiality; Exceptions**. Except to the extent expressly authorized by this Agreement or otherwise agreed by the Parties in writing, each Party (the "**Receiving Party**") agrees that it shall keep confidential and shall not publish or otherwise disclose or use for any purpose other than as provided for in this Agreement any Confidential Information of the other Party (the "**Disclosing Party**"). The term "**Confidential Information**" will mean all information and materials of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, which are transferred, disclosed or made available to the Receiving Party by or on behalf of the Disclosing Party in connection with this Agreement or the Prior Confidentiality Agreement, including any of the foregoing of Third Parties. The Joint Technology and the terms of this Agreement shall be the Confidential Information of both Parties, such that each Party shall be deemed to be a Receiving Party with respect thereto. Results, data and other information arising from the Research Plan or related to any CAR Product Directed Against an Exclusive Target that is Controlled by Notch and licensed to Allogene hereunder shall, solely during the applicable Exclusivity Term and subject to the licenses granted hereunder, be the Confidential Information of both Parties. From and after the end of the applicable Exclusivity Term, such results, data and other information that is solely Controlled by Notch and licensed to Allogene hereunder shall be the Confidential Information of Notch.

9.2 **Exceptions**. Notwithstanding the foregoing, the Receiving Party's obligations under Section 9.1 shall not apply to information or materials to the extent that the Receiving Party can establish by competent evidence that such information or material:

(a) was already rightfully known to or possessed by the Receiving Party or any of its Affiliates, other than under an obligation of confidentiality, at the time of disclosure hereunder;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the Receiving Party or any of its Affiliates;

(c) became generally available to the public or otherwise part of the public domain after its disclosure hereunder other than through any act or omission of the Receiving Party or any of its Affiliates in breach of this Agreement or the Prior Confidentiality Agreement;

(d) was independently developed by employees, agents or contractors of the receiving Party or any of its Affiliates without use of or reference to the Disclosing Party's Confidential Information as demonstrated by documented evidence prepared contemporaneously with such independent development; or

(e) was disclosed to the Receiving Party or any of its Affiliates, other than under an obligation of confidentiality, by a Third Party who had the right to disclose such information without restriction.

9.3 **Authorized Use and Disclosure**. In addition to the rights granted in Article 5, the Receiving Party may use and disclose the Disclosing Party's Confidential Information as follows:

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(a) to its and its Affiliates' officers, directors, employees, agents, contractors and advisors who are under legally enforceable obligations of confidentiality and non-use at least as stringent as those herein and who reasonably require access to such information for purposes of this Agreement;

(b) complying with Applicable Laws, orders of a court, or the securities laws and regulations applicable to the public sale of securities; provided, however, that the Receiving Party shall, to the extent legally permissible and practicable, give reasonable advance notice to the Disclosing Party of such disclosure requirement and, shall use its reasonable efforts to secure confidential treatment of such Confidential Information required to be disclosed;

(c) such disclosure is reasonably necessary (i) to comply with the requirements of Regulatory Authorities with respect to obtaining and maintaining Regulatory Approval of a Product, (ii) to Prosecute and Maintain Patent Rights hereunder; or (iii) for prosecuting or defending litigation as contemplated by this Agreement; or

(d) as expressly agreed by the Disclosing Party.

9.4 **Prior Confidentiality Agreement**. As of the Original Effective Date, this Agreement terminates, supersedes and replaces the Prior Confidentiality Agreement with respect to information disclosed thereunder. Nothing herein shall release either Party for any liability incurred under the Prior Confidentiality Agreement prior to the Original Effective Date.

9.5 **Agreement Terms**.

(a) Each Party agrees not to disclose to any Third Party any non-public terms and conditions of this Agreement without the prior written approval of the other Party, except to advisors (including financial advisors, attorneys and accountants) and to potential and existing investors, collaborators, partners, licensees, acquirers, lenders, or investment bankers under circumstances that reasonably protect the confidentiality thereof, and except as permitted pursuant to Section 10.2. Allogene and Notch agree to issue a press release mutually agreed upon by the Parties, and either Party may publicly disclose the information contained in such press release without the need for further written approval by the other Party. Allogene shall have the sole right to disclose the Exclusive Targets, provided that Notch shall be permitted to disclose to any Third Party, without identifying Allogene, that an Exclusive Target is unavailable for the grant of rights to such Third Party.

(b) Each Party acknowledges that the other Party may be obligated to file a copy of this Agreement with the U.S. Securities and Exchange Commission (the "**SEC**") or other applicable entity having regulatory authority over such Party's securities or the exchange thereof, as a material agreement of such Party. Each Party shall be entitled to make such a required filing, provided that it requests confidential treatment of certain commercial terms and sensitive technical terms hereof to the extent such confidential treatment is reasonably available, and to the extent consistent with the legal requirements governing redaction of information from material agreements that must be publicly filed. In the event of any such filing, the filing Party will provide the other Party with a copy of this Agreement marked to show provisions for which the filing Party intends to seek confidential treatment and shall reasonably consider and incorporate the other Party's timely comments thereon to the extent consistent with the legal requirements governing redaction of information from material agreements that must be publicly filed. The other Party will as promptly as practical provide any such comments. Each Party recognizes that Applicable Laws and SEC policies and regulations to which the other Party is and may become subject to may require the other party to publicly disclose certain terms of this Agreement that such Party may prefer not be disclosed, and that the other Party is in all cases entitled hereunder

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to make such required disclosures to the extent necessary to comply with such Applicable Laws and SEC policies and regulations, as determined in good faith by the other Party's counsel.

9.6 **Term of Obligations of Confidentiality and Non-use**. The obligations of confidentiality and non-use under this Agreement shall expire [***] years from the termination or expiration of this Agreement.

9.7 **Publication**.

(a) Rights. If either Party wishes to publish the Confidential Information of the other Party, the Party desiring to publish such information ("**Publishing Party**") shall notify the other Party ("**Non-Publishing Party**") in writing at least [***] days prior to any proposed disclosure. During such at least [***] day reviewing period, if the Non-Publishing Party notifies the Publishing Party that it wishes to (a) remove its Confidential Information from such proposed publication or presentation, then the Publishing Party shall remove such Confidential Information from such proposed publication or presentation; (b) request a reasonable delay in publication or presentation in order to protect patentable information, then the Publishing Party shall delay the publication or presentation for a period of no more than [***] days to enable patent applications to be filed in accordance with Article 8 protecting Inventions disclosed in such publication or presentation, or (c) in the case that Allogene is the Non-Publishing Party, prohibit the proposed publication or presentation from proceeding, then the Publishing Party shall comply with such request. For clarity, if the Non-Publishing Party fails to notify the Publishing Party during the [***]-day reviewing period as provided under this Section, the Publishing Party shall be free to proceed with the proposed publication or presentation of such Confidential Information.

(b) Cooperation. Authorship of all publications and presentations of data, results or information arising from the Research Program will be based on contributions to the Research Program in accordance with industry standards and journal requirements. Each Party agrees to work in good faith with the other Party with respect to any such publication or presentation reasonably requested by such other Party.

9.8 Injunction. Each Party shall be entitled, in addition to any other right or remedy it may have, at law or in equity, to seek an injunction, in any court of competent jurisdiction, enjoining or restraining the other Party and/or its Affiliates from any violation or threatened violation of this Article 9.

10. WARRANTIES;

10.1 **Mutual Representations and Warranties**. Each Party represents and warrants to the other Party as of the Original Effective Date that:

(a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation, and it has the full right, power and authority to enter into this Agreement and to perform its obligations hereunder;

(b) this Agreement has been duly executed by it and is legally binding upon it, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it; and

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(c) it has obtained or will obtain written agreements from each of its employees, consultants, and contractors who perform activities under the Research Plan pursuant to this Agreement, which agreements will obligate such persons to obligations of confidentiality and non-use and to assign Inventions in a manner consistent with the provisions of this Agreement.

10.2 **Notch Representations and Warranties**. Notch represents and warrants to Allogene as of the Original Effective Date that, except as set forth in Schedule 10.2:

(a) Notch has full legal or beneficial title and ownership of, or an exclusive license to, the Notch Technology (excluding the Joint Technology) as is necessary to grant the licenses (or sublicenses) to Allogene to such Notch Technology that Notch purports to grant pursuant to this Agreement. Exhibit C is a complete and accurate listing of all Notch Patents existing as of the Original Effective Date.

(b) Exhibit G is a complete and accurate listing of all Notch Third Party In-Licenses pursuant to which Notch or its Affiliates have obtained rights to the Notch Technology as of the Original Effective Date, and Notch has shared with Allogene a complete and accurate copies of all such agreements. Each such agreement is in effect and is valid and binding on Notch or its Affiliates, enforceable in accordance with its terms, and neither Notch nor any of its Affiliates, nor to the knowledge of Notch, any other party thereto, is in material breach of, or material default under, any such agreement, and no event has occurred that, with the giving of notice or lapse of time or both, would constitute a material breach or material default by Notch or any of its Affiliates thereunder;

(c) None of the Notch Technology is subject to, any liens or encumbrances, and Notch has not granted to any Third Party any license or other right with respect to any Notch Technology that would conflict with the rights and licenses granted to Allogene pursuant to this Agreement. No patent application or registration within the Notch Patents is subject of any pending interference, opposition, cancellation, inter partes review, ex parte reexamination, post grant review, invalidity proceeding including nullity actions or patent protest;

(d) Notch is not a party to any current or anticipated legal action, including inventorship disputes, suit or proceeding relating to the Notch Technology;

(e) All employees and contractors of Notch or its Affiliates involved in the creation of any Notch Technology have assigned all right, title and interest in and to the Intellectual Property Rights relating to such Notch Technology to Notch or to an entity that is obligated to assign such Intellectual Property Rights to Notch;

(f) Notch has not received any communication from any Third Party claiming that: (i) any of the Notch Patents are invalid or unenforceable; (ii) any of the Notch Know-How has been misappropriated; or (iii) the manufacture, use, import, offer for sale, and sale of Products intended to be developed under the Research Program infringes or misappropriates or would infringe or misappropriate any Intellectual Property Rights of any Third Party; and

(g) to Notch's knowledge as of the Original Effective Date and the Restatement Effective Date, the practice of the Notch Patents and the use of the Notch Know-How as contemplated under the initial Research Plan as of the Original Effective Date and the Restatement Effective Date, will not infringe a Third Party's Intellectual Property Rights; provided that, for clarity, Notch gives no representation or warranty as to non-infringement with respect to any derivation of stem cell lines or any genetic engineering or gene editing of stem cell lines.

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In addition, Notch represents and warrants to Allogene as of the Restatement Effective Date that there are no New Notch Third Party In-License existing as of the Restatement Effective Date pursuant to which Notch has in-licensed any Know-How or Patent Rights that could be sublicensed to Allogene under this Agreement.

10.3 **Notch Covenants**. Notch covenants that all individuals and entities that conduct any portion of the Research Plan, prior to conducting such work, shall have entered into written agreements requiring that such individual or entity shall assign all right, title and interest in and to, or grant to Notch an exclusive (even as to such individual or entity), sublicensable (through multiple tiers), world-wide, fully paid-up license with respect to Products under, the Intellectual Property Rights relating to all Know-How and Inventions arising from such work to Notch or to an entity that is obligated to assign or license such Intellectual Property Rights to Notch, provided that Notch may grant Academic Use Rights to such an entity with notice to Allogene.

10.4 **Mutual Covenants**.

(a) No Debarment. In the course of conducting the Research Program and the Exploitation of Products hereunder, neither Party nor its Affiliates shall use any employee or consultant who has been debarred by any Regulatory Authority, or, to such Party's or its Affiliates' knowledge, is the subject of debarment proceedings by a Regulatory Authority. Each Party shall notify the other Party promptly upon becoming aware that any of its or its Affiliates' employees or consultants has been debarred or is the subject of debarment proceedings by any Regulatory Authority.

(b) Compliance. Each Party and its Affiliates shall comply in all material respects with all Applicable Laws (including all anti-corruption and anti-bribery laws) in relation to the conduct of the Research Program and performance of its obligations under this Agreement, including (in the case of Allogene) the Exploitation of Products hereunder.

10.5 **Warranty Disclaimer**. EXCEPT AS SET FORTH IN THIS ARTICLE 10, NOTCH AND ALLOGENE EXPRESSLY DISCLAIM ANY WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT, OR FITNESS FOR A PARTICULAR PURPOSE.

11. INDEMNITY; LIABILITY; INSURANCE

11.1 **Indemnification**.

(a) Indemnification by Notch. Notch hereby agrees to defend, hold harmless and indemnify (collectively, "**Indemnify**") Allogene and its Affiliates, and its and their respective agents, directors, officers and employees (each, an "**Allogene Indemnitee**") from and against any Claims against any Allogene Indemnitee to the extent arising out of any negligence or intentional misconduct of any Notch Indemnitee or breach of this Agreement (including of any representation or warranty) by any Notch Indemnitee. Notch's obligation to Indemnify the Allogene Indemnitees pursuant to this subsection (a) shall not apply to the extent that any such Claims arise out of (A) Allogene's breach of this Agreement or any negligence or intentional misconduct of any Allogene Indemnitee, or (B) any activity set forth in subsection (b) below for which Allogene is obligated to indemnify the Notch Indemnitees.

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(b) Indemnification by Allogene. Allogene hereby agrees to Indemnify Notch and its Affiliates, and its and their respective agents, directors, officers and employees (each, a "**Notch Indemnitee**") from and against any and all Claims against any Notch Indemnitee to the extent arising out of: (i) Allogene's Exploitation of Products or the exercise by or under the authority of Allogene of the rights and licenses granted to Allogene under this Agreement; or (ii) any negligence or intentional misconduct of any Allogene Indemnitee or breach of this Agreement (including of any representation or warranty) by any Allogene Indemnitee. Allogene's obligation to Indemnify the Notch Indemnitees pursuant to this subsection (b) shall not apply to the extent that any such Claims arise out of (A) Notch's breach of this Agreement or any negligence or intentional misconduct of any Notch Indemnitee, or (B) any activity set forth in subsection (a) above for which Notch is obligated to indemnify the Allogene Indemnitees.

11.2 **Procedures**. To be eligible to be Indemnified hereunder, the indemnified Party shall provide the indemnifying Party with prompt written notice of the Claim giving rise to the indemnification obligation pursuant to Section 11.1 and the exclusive ability to defend (with the reasonable cooperation of the indemnified Party) or settle any such claim; provided, however, that any failure or delay to notify shall not excuse any obligation of the indemnifying Party except to the extent the indemnifying Party is actually prejudiced thereby. The indemnifying Party shall not enter into any settlement that admits fault, wrongdoing or damages without the indemnified Party's written consent, such consent not to be unreasonably withheld or delayed. The indemnified Party shall have the right to participate, at its own expense and with counsel of its choice, in the defense of any claim or suit that has been assumed by the indemnifying Party, provided that the indemnifying Party shall have no obligations with respect to any Claims resulting from the indemnified Party's admission, settlement or other communication without the prior written consent of the indemnifying Party.

11.3 **Insurance**. Each Party shall maintain in full force and effect during the Term, and for a period of not less than [***] years thereafter, valid and collectible insurance policies providing reasonable liability insurance coverage to protect against potential liabilities and risk arising out of activities to be performed under this Agreement.

11.4 **Limitation of Liability**. EXCEPT WITH RESPECT TO (A) A BREACH OF EACH PARTY'S CONFIDENTIALITY OBLIGATIONS UNDER ARTICLE 9, OR (B) THE PARTIES' INDEMNIFICATION OBLIGATIONS UNDER ARTICLE 11, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING LOSS OF PROFITS OR ANTICIPATED SALES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

12. TERM; TERMINATION

12.1 **Term of Agreement**. The term of this Agreement shall commence on the Original Effective Date, and, unless terminated earlier as provided in the remainder of this Article 13, shall continue in full force and effect, on a country-by-country and Product-by-Product basis, until the expiration of all of Allogene's payment obligations under Article 6 (the "**Term**"), after which time Allogene shall retain a perpetual, irrevocable license, sublicenseable through multiple tiers, to any Intellectual Property Rights licensed to Allogene pursuant to the terms of this Agreement during the Term, solely within the scope of the licenses granted to Allogene herein during the Term.

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12.2 **Termination by Allogene**. Subject to Section 13.6, Allogene may terminate this Agreement for any reason at any time in its entirety or on a Product-by-Product basis upon ninety (90) days' written notice to Notch. Upon any termination by Allogene for convenience, all licenses and other rights granted to Allogene pursuant to this Agreement shall terminate as of the effective date of such termination, provided that if such termination is only with respect to a specific Product(s), then such licenses and rights shall terminate only with respect to such Product(s).

12.3 **Termination for Material Breach**. Either Party may terminate this Agreement by written notice referencing this Section 12.3 and specifying the breach to the other Party if the other Party is in material breach of its material obligations under this Agreement and has not cured such breach within ninety (90) days (or thirty (30) days in the case of payment breaches) after notice requesting cure of the breach; provided, however, that in the event of a good faith dispute with respect to the existence of a material breach, this Agreement shall not be terminated unless it is finally determined under Article 13 that this Agreement was materially breached, and, the breaching Party fails to cure such breach within thirty (30) days after such determination.

12.4 **Termination for Insolvency**. If, at any time during the Term (i) a case is commenced by or against either Party under Title 11, United States Code, as amended, or analogous provisions of Applicable Law outside the United States (the "**Bankruptcy Code**") and, in the event of an involuntary case under the Bankruptcy Code, such case is not dismissed within sixty (60) days after the commencement thereof, (ii) either Party files for or is subject to the institution of bankruptcy, liquidation or receivership proceedings (other than a case under the Bankruptcy Code), (iii) either Party assigns all or a substantial portion of its assets for the benefit of creditors, (iv) a receiver or custodian is appointed for either Party's business, or (v) a substantial portion of either Party's business is subject to attachment or similar process; then, in any such case ((i), (ii), (iii), (iv) or (v)), the other Party may terminate this Agreement upon written notice to the extent permitted under Applicable Law.

12.5 **Effect of Termination**.

(a) Accrued Obligations. Expiration or termination of this Agreement for any reason shall not release either Party of any obligation or liability which, at the time of such expiration or termination, has already accrued to such Party or which is attributable to a period prior to such expiration or termination. In addition, Sections 4.4, 4.6, 6.3 (solely with respect to Research Costs incurred prior to the effective date of termination), 6.11 (solely with respect to Product sales occurring prior to the effective date of termination), 6.12, 6.13, 6.14, 7.1, 7.2, 10.5 and 12.5, and Articles 9, 11, 13 and 14, shall survive any termination or expiration of this Agreement.

(b) Non-Exclusive Remedy. Notwithstanding anything herein to the contrary, termination of this Agreement by a Party shall be without prejudice to other remedies such Party may have at law or in equity.

(c) Consequences of Certain Terminations.

(i) If this Agreement is terminated pursuant to Section 12.2 by Allogene, Section 12.3 by either Party, or Section 12.4 by either Party, all licenses and other rights granted to Allogene pursuant to this Agreement shall terminate as of the effective date of termination, provided that if a termination by Allogene pursuant to Section 12.2 is not for this Agreement in its entirety, then the scope of such termination shall be limited to the particular Product(s) terminated pursuant to Section 12.2;

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(ii) If Allogene has the right to terminate this Agreement pursuant to Section 12.3, then in lieu of exercising such termination right Allogene shall be entitled to retain all licenses and other rights granted to it pursuant to this Agreement subject to all financial provisions and other obligations set forth herein, provided that in such event Allogene may also seek any other remedies that Allogene may have at law or in equity in respect of the applicable breach hereof by Notch.

(d) Return of Materials; Regulatory Documents; Reversion License. Upon termination or expiration of this Agreement, each Party shall return to the other Party or destroy all Confidential Information and materials (including any Materials) provided to it by the other Party and all copies and embodiments thereof, other than such Confidential Information and materials to which such Party retains an ongoing right to use. Notwithstanding the foregoing, each Party may retain one copy of the other Party's Confidential Information in its confidential files solely for archival purposes. In addition, upon termination, other than for termination by Allogene pursuant to Section 12.3 or 12.4, and at Notch's request, Allogene shall exclusively negotiate with Notch for a period of [***] days following the date of such termination for a sale or license to Notch of one or more of the Products developed hereunder.

13. DISPUTE RESOLUTION

13.1 **Disputes**. Subject to Section 13.3, if the Parties or the JDC are unable to resolve any dispute arising out of or in connection with this Agreement, either Party may, by written notice to the other, have such dispute referred to the CEOs of each of Notch and Allogene or their respective equivalents, or designees for attempted resolution by good faith negotiations within ten (10) Business Days after such notice is received. In such event, the Parties shall cause their respective officers or their designees to meet (face-to-face or by teleconference) and be available to attempt to resolve such issue. If the Parties should resolve such dispute, a memorandum setting forth their agreement shall be prepared and signed by both Parties at either Party's request. If the Parties are unable to resolve any dispute that is related to the Research Plan, Allogene shall have the final decision-making authority with respect to such dispute. Notwithstanding the foregoing, Allogene shall have no authority to require Notch to incur costs that are not included within the Research Budget or otherwise subject to reimbursement by Allogene, without Notch's prior written consent, and Allogene shall have no final decision-making authority to determine whether or not any payment due hereunder (including any milestone payment hereunder) has been earned or is payable, which payment disputes shall be subject to resolution in accordance with Section 13.2.

13.2 **Arbitration**. Subject to Sections 13.1 and 13.3, all disputes arising out of or in connection with this Agreement, including any question regarding its formation, existence, validity or termination, shall be finally settled by arbitration pursuant to this Section 13.2. Any arbitration under this Section 13.2 shall be held in San Francisco, California, and administered by JAMS pursuant to its Comprehensive Arbitration Rules and Procedures (the "**Rules**") by three (3) arbitrators appointed in accordance with such Rules. The arbitrators shall allow reasonable discovery, in an amount determined by the arbitrator to be necessary in view of the issues in dispute. The Parties shall use good faith efforts to complete arbitration under this Section 14.2 within [***] months following the initiation of such arbitration. The arbitrators shall establish reasonable additional procedures to facilitate and complete such arbitration within such [***] month period. The costs of such arbitration shall be shared equally by the Parties, and each Party shall bear its own expenses in connection with the arbitration; provided that the arbitrators shall have discretion to award all or any part of the costs of the arbitration, including reasonable attorneys' fees, to the prevailing Party. Judgment on the award may be entered in any court of competent jurisdiction. The existence of and proceedings in the arbitration shall be considered the Confidential Information of both Parties and shall be subject to the terms of Article 9.

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13.3 **Patents; Injunctive Relief**. Any dispute, controversy, or claim relating to the scope, validity, enforceability, or infringement of any Patent Rights covering the manufacture, use, or sale of any Product shall be submitted to a court of competent jurisdiction in the country or jurisdiction in which such patent or trademark rights were granted or arose. Nothing herein shall prevent either Party from seeking at any time a preliminary injunction or temporary restraining order in any court of competent jurisdiction in order to protect its interests.

14. MISCELLANEOUS

14.1 **Governing Law**. This Agreement shall be governed in all respects by the laws of the State of New York exclusively without regard to any conflict of law rule that would result in the application of the laws of any jurisdiction other than the State of New York.

14.2 **Force Majeure**. Except with respect to payment of money, neither Party shall be liable to the other for failure or delay in the performance of any of its obligations under this Agreement for the time and to the extent such failure or delay is caused by earthquake, riot, civil commotion, war, terrorist acts, strike, flood, or governmental acts or restriction, or other cause that is beyond the reasonable control of the respective Party. The Party affected by such force majeure shall provide the other Party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and shall use Commercially Reasonable Efforts to overcome the difficulties created thereby and to resume performance of its obligations as soon as practicable. If the performance of any such obligation under this Agreement is delayed owing to such a force majeure for any continuous period of more than one hundred [***] days, the Parties shall consult with respect to an equitable solution, including the possibility of the mutual termination of this Agreement.

14.3 **Relationship**. The Parties agree that the relationship of Notch and Allogene established by this Agreement is that of independent contractors. Furthermore, the Parties agree that this Agreement does not, is not intended to, and shall not be construed to, establish an employment, agency or any other relationship. Except as may be specifically provided herein, neither Party shall have any right, power or authority, nor shall they represent themselves as having any authority to assume, create or incur any expense, liability or obligation, express or implied, on behalf of the other Party, or otherwise act as an agent for the other Party for any purpose. Neither Party shall report the relationship between the Parties arising under this Agreement as a partnership for United States tax purposes without the prior written consent of the other Party unless required by a final "determination" as defined in Section 1313 of the United States Internal Revenue Code of 1986, as amended.

14.4 **Assignment**. This Agreement shall not be assignable by either Party to any Third Party without the written consent of the other Party and any such attempted assignment shall be void. Notwithstanding the foregoing, either Party may assign this Agreement, without the written consent of the other Party, to its Affiliate or an entity that acquires all or substantially all of the business or assets of such Party to which this Agreement pertains (whether by merger, reorganization, acquisition, sale or otherwise), and agrees in writing to be bound by the terms and conditions of this Agreement. No assignment or transfer of this Agreement shall be valid and effective unless and until the assignee/transferee agrees in writing to be bound by the provisions of this Agreement. The terms and conditions of this Agreement shall be binding on and inure to the benefit of the permitted successors and assigns of the Parties, provided that, the exclusivity provisions applicable to Notch pursuant to Section 4.5 shall not apply to any acquiror or successorin-interest to Notch or any Affiliate of any such acquiror or successor-in-interest, in any case that was not an Affiliate of Notch prior to an applicable Change of Control transaction involving Notch (but, for the avoidance of doubt, the exception from the exclusivity provisions set forth in this proviso shall not permit the use of any Notch Technology for activities that

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would otherwise be restricted by the exclusivity provisions applicable to Notch pursuant to Section 4.5). Except as expressly provided in this Section, any attempted assignment or transfer of this Agreement shall be null and void.

14.5 **Change in Control**. Notwithstanding Section 14.4, Notch shall provide written notice to Allogene upon its intention to sell all or substantially all of its business or assets (whether by merger, reorganization, acquisition, sale or otherwise) (a "**CIC Transaction**") at least [***] days prior to entering into a binding agreement for such sale or exclusivity agreement regarding the negotiation of such sale.

14.6 **Representation by Legal Counsel**. Each Party represents that it has been represented by legal counsel in connection with this Agreement and acknowledges that it has participated in the drafting hereof. In interpreting and applying the terms and provisions of this Agreement, the Parties agree that no presumption shall exist or be implied against the Party that drafted such terms and provisions.

14.7 **Waiver**. Neither Party may waive or release any of its rights or interests in this Agreement except in writing. The failure of either Party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition. No waiver by either Party of any condition or term in any one or more instances shall be construed as a continuing waiver of such condition or term or of another condition or term.

14.8 **Notices**. Any notice required or permitted to be given under this Agreement shall be in writing, shall make specific reference to this Agreement, and shall be addressed to the appropriate Party at the address specified below or such other address as may be specified by such Party in writing in accordance with this Section, and shall be deemed to have been given for all purposes (a) when received, if hand-delivered or sent by a reputable overnight delivery service, (b) on the day of sending by email (with receipt confirmation), or (c) three (3) days after mailing, if mailed by first class certified or registered mail, postage prepaid, return receipt requested.

If to Notch, addressed to:

Notch Therapeutics Inc.
Attn: President
40 King Street West, Suite 2100
Toronto, Ontario M5H 3C2 Canada Email: [***]

If to Allogene, addressed to:

Allogene Therapeutics, Inc.
Attn: General Counsel
210 E. Grand Avenue
South San Francisco, CA 94080
USA
Email: [***]

14.9 **Severability**. Any term or provision of this Agreement that is held to be invalid, void, or unenforceable in any situation in any jurisdiction will not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the invalid, void, or unenforceable term or provision in any other situation or in any other

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jurisdiction. If any term or provision of this Agreement is declared invalid, void, or unenforceable, the Parties agree that the authority making such determination will have the power to and shall, subject to the discretion of such authority, reduce the scope, duration, area or applicability of the term or provision, to delete specific words or phrases, or to replace any invalid, void, or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the original intention of the invalid or unenforceable term or provision.

14.10 **Interpretation**. The captions and headings to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless specified to the contrary, references to Articles, Sections or Exhibits mean the particular Articles, Sections or Exhibits to this Agreement and references to this Agreement include all Exhibits hereto. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation;" (b) the word "day" or "year" means a calendar day or year unless otherwise specified; (c) the word "notice" shall mean notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (d) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement (including any Exhibits); (e) the word "or" shall be construed as the inclusive meaning identified with the phrase "and/or;"(f) provisions that require that a Party, the Parties or a committee hereunder "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (g) words of any gender include the other gender; (h) words using the singular or plural number also include the plural or singular number, respectively; (i) references to any Applicable Laws, or article, section or other division thereof, shall be deemed to include the then-current amendments thereto or any replacement Applicable Laws thereto; and (j) neither Party or its Affiliates shall be deemed to be acting "on behalf of" or "under authority of" the other Party under this Agreement.

14.11 **Counterparts**. This Agreement may be executed in two or more counterparts (whether delivered by email via .pdf format, facsimile or otherwise), each of which will be considered one and the same agreement and will become effective when counterparts have been signed by each of the Parties and delivered to the other Party.

14.12 **Entire Agreement**. This Agreement with its Exhibits and Schedules (a) constitutes the entire agreement and supersedes, as of the Restatement Effective Date, all prior and contemporaneous agreements, negotiations, arrangements and understandings, both written and oral, between the Parties with respect to the subject matter hereof, and (b) is not intended to confer upon any person or entity, other than the Parties, any rights, benefits, or remedies of any nature whatsoever. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by the respective authorized officers of the Parties.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their authorized representative as of the Restatement Effective Date.

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ALLOGENE THERAPEUTICS, INC

By: /s/ David Chang

Name: David Chang

Title: CEO

NOTCH THERAPEUTICS INC.

By: /s/ David Main

Name: David Main

Title: CEO

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List of Exhibits

Exhibit A – Initial Targets
Exhibit B – Notch Microbead Technology
Exhibit C – Notch Patents
Exhibit D – ROFN Targets
Exhibit E – Initial Research Plan (Intentionally left Blank)
Exhibit F – Cellectis Technology Targets
Exhibit G – Notch Third Party In-Licenses
Exhibit H – Securities Issuance Agreement

CERTAIN INFORMATION CONTAINED IN THIS EXHIBIT, MARKED BY [***], HAS BEEN EXCLUDED BECAUSE THE REGISTRANT HAS DETERMINED THE INFORMATION IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

STRATEGIC COLLABORATION AGREEMENT

between

FORESIGHT DIAGNOSTICS, INC.

and

ALLOGENE THERAPEUTICS, INC.

Dated as of January 3, 2024

STRATEGIC COLLABORATION AGREEMENT

This Strategic Collaboration Agreement (this "**Agreement**") is effective as of January 3, 2024 (the "**Effective Date**") by and between Foresight Diagnostics, Inc., having a principal place of business at 2865 Wilderness Place, Boulder, CO 80301 ("**Foresight**"), and Allogene Therapeutics, Inc., having a principal place of business at 210 East Grand Avenue, South San Francisco, CA 94080 ("**Company**"). Foresight and Company are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**."

BACKGROUND

A. Foresight has or is developing a proprietary liquid biopsy testing platform for measurement of minimal residual disease technology known as PhasED-Seq™ for use, among other uses, as a companion diagnostics platform;

B. Company is a clinical-stage biopharmaceutical company and has expertise in the research, development, and manufacture of pharmaceutical products;

C. The Parties previously entered into that certain Letter Agreement dated [***] (the "**Letter Agreement**"); and

D. The Parties desire to collaborate to enable Foresight to seek and obtain Regulatory Approval for one or more Foresight Assays for use with one or more Company Products and to enable Company to seek and obtain Regulatory Approval and commercialization of one or more Company Products for a patient population determined by a Foresight Assay as a Companion Diagnostic, as set forth in the Work Plan and according to the following terms and conditions.

NOW, THEREFORE. in consideration of the premises and the mutual promises and conditions set forth herein and other good and valuable consideration, the receipt and sufficiency

of which are hereby acknowledged, the Parties, intending to be legally bound, do hereby agree as follows:

ARTICLE 1
DEFINITIONS; INTERPRETATION

Unless otherwise specifically provided herein, the following terms shall have the following meanings:

1.1. "**Activities**" means, with respect to a Party, the activities to be performed by such Party under the Work Plan, including activities performed under the Letter Agreement.

1.2. "**Activities Data**" means all data, reports, results and other information that are obtained or generated by or on behalf of a Party (whether alone or together) in the course of performing the Activities. For clarity, Activities Data shall not include clinical data generated by Company as part of a Clinical Study for any Company Product.

1.3. "**Affiliate**" means any Person that (i) directly or indirectly controls a Party, (ii) is directly or indirectly controlled by a Party, or (iii) is controlled, directly or indirectly, by the ultimate parent company of a Party. For purposes of this definition, "**control**" and, with correlative meaning, the term "**controlled by**" means the ownership, directly or indirectly, of more than fifty percent (50%) of the voting securities or other ownership interest of an organization or otherwise having the power to govern the financial and operating policies or to appoint the management of an organization.

1.4. "**Applicable Law**" means laws, statutes, rules, regulations, ordinances and other pronouncements (including those relating to data protection and privacy) having the effect of law of any federal, national, multinational, state, provincial, country, city or other political subdivision, domestic or foreign, that are applicable to a Party's Activities, including the United States Federal Food, Drug, and Cosmetic Act, as amended from time to time, together with any rules, regulations and requirements promulgated thereunder (including all additions, supplements, extensions and modifications thereto).

1.5. "**Arising IP**" means any and all Inventions conceived, reduced to practice, made or created by or on behalf of a Party (whether alone or together) in the course of performing the Activities, together with all intellectual property rights therein, including all Patents covering the same.

1.6. "**Business Day**" means any day other than a Saturday, a Sunday or a day on which commercial banks located in the State of Colorado or California are authorized or required by law to remain closed.

1.7. "**Clinical Study**" means a study conducted in human subjects and required by Applicable Law or recommended by a Regulatory Authority to obtain or maintain any Regulatory Approval for a Therapeutic Product.

1.8. "**Commercialization**" means any and all activities directed to the preparation for sale of, offering for sale of, or sale of a product, including activities related to marketing, promoting, distributing and importing such product, and interacting with Regulatory Authorities regarding any of the foregoing. For clarity, when used in relation to a Foresight Assay, "Commercialization" includes activities directed to the preparation for the sale of, offering for sale of, or sale of a service using such Foresight Assay, including activities related to marketing and promoting such service, and interacting with Regulatory Authorities regarding any of the foregoing. For clarity, when used in relation to Company Product(s), "Commercialization"

includes activities directed to the preparation for the sale of, or offering for sale of, such Company Product(s), including activities related to marketing and promoting such Company Product(s), and interacting with Regulatory Authorities regarding any of the foregoing. When used as a verb, "**to Commercialize**" and "**Commercializing**" mean to engage in Commercialization, and "**Commercialized**" has its corresponding meaning.

1.9. "**Commercially Reasonable Efforts**" means, [***]. To take an act or use resources or efforts described to be "**Commercially Reasonable**" shall be defined as the use of Commercially Reasonable Efforts in such context.

1.10. "**Companion Diagnostic**" means a Diagnostic that provides information essential to the safe or effective use of a corresponding Therapeutic Product or is otherwise necessary for or aids in the Regulatory Approval or use of a Therapeutic Product, including for patient selection or monitoring.

1.11. "**Company Product**" means the chimeric antigen receptor Therapeutic Product known as ALLO 501A, or any other compound expressly specified in the Work Plan, for study with the Foresight Assay as identified in the Work Plan. [***].

1.12. "**Control**" means, with respect to any (i) (a) Know-How, (b) Patent or (c) other intellectual property right; (ii) Regulatory Documentation; or (iii) physical material, possession of the right, whether directly or indirectly and whether by ownership, license or otherwise (other than by operation of the licenses and other grants in Sections 7.4.2), to grant a license, sublicense or other right (including the right to reference Regulatory Documentation) to or under such Know-How, Patent, other intellectual property right, Regulatory Documentation or physical material as provided for herein without violating the terms of any agreement with any Third Party.

1.14. "**Deliverable**" means tangible embodiments of the Activities Data specifically identified as a 'Deliverable' in the Work Plan.

1.15. "**Development**" means activities relating to the development, optimization, validation or clinical testing of any product (including any Product), including activities relating to obtaining or maintaining Regulatory Approval of such product. When used as a verb, "**Develop**" means to engage in Development.

1.16. "**Diagnostic**" means a procedure, tool, product or service for analysis, testing or other evaluation of a subject or specimen from a subject, or other biological materials, including to identify any genomic alterations or signatures, for use in the diagnosis, prognosis evaluation, prediction or other association with any status, symptom, condition or outcome with respect to such subject and includes "in vitro diagnostics" or "IVDs", "investigation use only" or "IUO", "research use only" or "RUO", "laboratory developed tests" or "LDTs", and "companion diagnostics" or "CDx, "complementary diagnostics" or "other IVDs".

1.17. "**Disclosing Party**" means, with respect to Confidential Information, the Party that provides or is deemed to provide such Confidential Information to the other Party.

1.18. "**Drug Approval Application**" means an application to initiate commercialization of a Therapeutic Product, including a "New Drug Application" as defined in the FFDCA, a "Biologics License Application" as defined in the FFDCA, or any corresponding or similar application in any other country or territory, including. with respect to the EU, a marketing authorization application filed with the EMA pursuant to the centralized approval procedure or with the applicable Regulatory Authority of a country in the EU with respect to the mutual recognition procedure or any other equivalent application filed with a Regulatory

Authority necessary to initiate marketing of a Therapeutic Product, and any supplement or amendment to any of the foregoing.

1.19. "**EMA**" means the European Medicines Agency and any successor agency thereto.

1.20. "**European Union**" or "**EU**" means that certain economic, scientific and political organization of member states known as the European Union, as it may be constituted from time to time, or any successor thereto.

1.21. "**FDA**" means the United States Food and Drug Administration and any successor agency thereto.

1.22. "**FFDCA**" means the United States Federal Food, Drug, and Cosmetic Act, as amended from time to time, together with any rules, regulations and requirements promulgated thereunder (including all additions, supplements, extensions and modifications thereto).

1.23. "**Foresight Assay**" means that certain B-cell lymphoma recurrence test assay comprising the Foresight Technology as identified in the Work Plan.

1.24. "**Foresight Technology**" means Foresight's liquid biopsy testing platform technology for the measurement of minimal residual disease known as PhasED-Seq™ including any and all [***].

1.25. "**IND**" means (i) an investigational new drug application filed with the FDA for authorization to commence Clinical Studies or any corresponding or similar application in other countries or regulatory jurisdictions and (ii) all supplements and amendments that may be filed with respect to the foregoing.

1.26. "**Invention**" means any subject matter, process, method, composition of matter, article of manufacture, discovery or finding that is made, created, conceived or reduced to practice.

1.27. "**Know-How**" means tangible or intangible trade secrets, know-how, expertise, discoveries, Inventions, information, results, sequences, cell lines, data, or materials, including ideas, concepts, formulae, methods, procedures, designs, technologies, compositions, plans, applications, technical data, assays, manufacturing information or data, samples, and chemical and biological materials. For clarity, Know-How excludes Patents.

1.28. "**Materials**" means biological materials provided by Company to Foresight, including human tissue or components thereof, as may be further identified in the Work Plan.

1.29. "**Patents**" means: (i) all national, regional and international patents and patent applications, including provisional patent applications; (ii) all patent applications claiming priority from such patent applications, provisional applications or from an application claiming priority from either of these, including divisionals, continuations, continuations-in-part, converted provisionals and continued prosecution applications; (iii) any and all patents that have issued or in the future issue from the foregoing patent applications ((i) and (ii)), including utility models, petty patents, innovation patents and design patents and certificates of invention; (iv) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations, reviews and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications ((i), (ii) and (iii)); and (v) any similar rights, including so-called pipeline protection or any

importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any of such foregoing patent applications and patents.

1.30. "**Permitted Representative**" means a representative duly authorized by Company who shall be bound by written confidentiality and non-use obligations no less stringent than those set forth in this Agreement, [***].

1.31. "**Person**" means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or other similar entity or organization, including a government or political subdivision, department or agency of a government.

1.32. "**PMA**" means an application to initiate Commercialization of a Companion Diagnostic including a premarket approval application as defined in the FFDCA or any corresponding or similar application in any other country or territory and (ii) any supplement or amendment with respect to the foregoing.

1.33. "**Product**" means, in the case of Company, any Company Product and, in the case of Foresight, the Foresight Assay, in each case, as designated in the Work Plan.

1.34. "**Quality System Regulation**" or "**QSR**" means the requirements applicable to manufacturers of finished medical devices (including design control and current good manufacturing practices) pertaining to the methods used in, and the facilities and controls used for, the design, manufacture, packaging, labeling, storage, installation, and servicing of all finished devices intended for human use, as specified in 21 C.F.R. Part 820 and FDA's guidance documents, and all successor applicable regulations and guidance documents thereto.

1.35. "**Receiving Party**" means, with respect to Confidential Information, the Party that receives or is deemed to receive such Confidential Information from the other Party or its agents.

1.36. "**Regulatory Approval**" means any and all clearances, approvals, licenses, registrations or authorizations of any Regulatory Authority necessary to Commercialize a product (including a Company Product or a Foresight Assay) in a country or territory, including, in the case of a Therapeutic Product approval of a Drug Approval Application therefor and in the case of a Companion Diagnostic approval of a PMA therefor.

1.37. "**Regulatory Authority**" means any applicable supra-national, federal, national, regional. state, provincial or local regulatory agencies, departments, bureaus, commissions, councils or other government entities regulating or otherwise exercising authority with respect to the Development or Commercialization of Therapeutic Products or Companion Diagnostics (including Products) in any country, regulatory jurisdiction or territory, including the FDA for the United States and the EMA for the European Union.

1.38. "**Regulatory Documentation**" means all (i) applications (including all INDs), Drug Approval Applications, investigational device exemption filings, 510(k)s, de novo determinations, humanitarian device exemption filings and PMAs), registrations. licenses, authorizations and approvals (including Regulatory Approvals); and (ii) correspondence and reports submitted to or received from Regulatory Authorities (including minutes and official contact reports relating to any communications with any Regulatory Authority), including all adverse event files and complaint files; in each case ((i) and (ii)), relating to the Foresight Assay or a Company Product.

1.39. "**Representative(s)**" means, approved subcontractors, professional advisors, non-employee staff and consultants, including but not limited to legal and financial advisors.

1.40. "**Senior Officer**" means, with respect to Foresight, its Chief Business Officer and with respect to Company, its Chief Financial Officer, or their respective designees.

1.41. "**Therapeutic Product**" means any product that constitutes or contains a chemical or biologic substance for the medical cure, treatment or prevention of disease.

1.42. "**Third Party**" means any Person other than Foresight, Company and their respective Affiliates.

1.43. "**United States**" or "**U.S.**" means the United States of America and its territories and possessions (including the District of Columbia and Puerto Rico).

1.44. "**Work Plan**" means the description of the Activities to be performed by the Parties, as described in Exhibit A.

1.45. Additional Definitions. Each of the following defined terms shall have the meaning given thereto in the corresponding sections of this Agreement indicated below:

Defined Term	**Section**
Agreement	Preamble
Alliance Manager	4.6.1
Authorized Foresight Employees	Exhibit D
Background IP	7.1
Breach Notice	11.2.1
Breaching Party	11.2.1
Co-Chair	4.3
Company	Preamble
Company Arising IP	7.3.1
[***]	3.1
Company Indemnitees	10.1
Company Product Data	6.6.1
Company Systems	Exhibit D
Completion	Work Plan – Exhibit B Section IV

Confidential Information	8.1.1
Diagnostic Data	6.6.1
Dispute	12.4.1
Effective Date	Preamble
Force majeure	12.1
Foresight	Preamble
Foresight Arising IP	7.2.1
Foresight Indemnitees	10.2
FTP	Exhibit D
Indemnification Claim	10.3
Indemnitee	10.3
Indemnitor	10.3
Infringement Action	7.7.1
Initiation	Work Plan – Exhibit B Section IV
Joint Arising IP	7.4.1
Joint Patent	7.6.3
Joint Patent Infringement	7.7.1
JSC	4.1
Letter Agreement	Recitals
Losses and Claims	10.1
Non-Breaching Party	11.2.1
Notice Period	11.2.1
Party	Preamble
Payment Breach	11.2.1
Personal Information	Exhibit D
Proceeds	7.7.4
Providers	9.4
Publications	8.5
Taxes	5.3
Term	11.1
Termination Fee	11.5.3

1.46. Interpretation. The captions and headings to this Agreement are for convenience only and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless specified to the contrary, references to Articles, Sections, or Exhibits mean the particular Articles, Sections, or Exhibits to this Agreement and references to this Agreement include all Exhibits hereto. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation;" (b) the word "day" or "year" means a calendar day or calendar year unless otherwise specified; (c) the word "notice" means notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other communications contemplated under this Agreement; (d) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement (including the Exhibits); (e) the word "or" shall be construed as the inclusive meaning identified with the phrase "and/or;" (f) provisions that require that a Party, the Parties or the JSC to "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (g) words of any gender include the other gender; (h) words using the singular or plural number also include the plural or singular number, respectively; (i) references to any specific law, rule or regulation, or article, section or other division thereof, shall be deemed to include the then-current amendments thereto or any replacement law, rule or regulation thereof; and (j) neither Party or its Affiliates shall be deemed to be acting "on behalf of" or "under authority of" the other Party.

ARTICLE 2
DEVELOPMENT; WORK PLAN; MATERIALS

2.1. Work Plan. Attached hereto as Exhibit A is the Work Plan, which the Parties may amend from time to time in writing referencing the Work Plan. If there is a conflict between the body of this Agreement and the Work Plan, then the terms of the body of this Agreement shall prevail, unless the Work Plan specifically and expressly states otherwise, in which case the terms of the Work Plan shall prevail, but only to the extent so otherwise provided. Nothing herein shall create an express or implied obligation on the part of either Party to enter into any other agreement or amend this Agreement.

2.2. Performance of Activities. Company shall use Commercially Reasonable Efforts to obtain Regulatory Approval of a Company Product and Foresight shall use Commercially Reasonable Efforts to obtain Regulatory Approval of a Foresight Assay for use as a Companion Diagnostic with a Company Product. Each Party shall use [***] to perform the Activities, including the provision of any in each case, assigned or allocated to it under the Work Plan. Each Party will promptly notify the other, in writing or via discussions during a JSC meeting, if: (a) material delays are likely and outline Party's proposed plan to remediate such delays if they are within such Party's reasonable control, or (b) a Party encounters any issue that has (or would reasonably be expected to have) a material impact on any Activities contemplated by the applicable Work Plan. Each Party will comply with Applicable Laws with respect to the conduct of the Activities and production of Deliverables and with any additional specific regulatory framework agreed to in a Work Plan, Quality Agreement or other specific standards set forth in a Work Plan or Quality Agreement. For the avoidance of doubt, each Party will comply with applicable: (x) Good Laboratory Practices, (y) Good Clinical Practices, and (z) regulatory requirements of each jurisdiction contemplated under the Work Plan. With respect to Foresight's performance of Activities, it shall comply with the minimum security requirements set forth in Exhibit D attached hereto.

2.3. Performance by Affiliates and Subcontractors. Each Party may delegate performance of Activities, or portions thereof, to (a) a subcontractor that has been approved in writing in advance by the other Party, [***], or (b) an Affiliate, *provided* that: (i) all Activities performed by an Affiliate or by an authorized subcontractor will be performed in accordance

with the Work Plan and this Agreement, (ii) such authorized subcontractor will have entered into an appropriate written agreement with the Party utilizing such authorized subcontractor that: (A) contains obligations of confidentiality and restrictions on use of any Confidential Information and any proprietary materials that are substantially as restrictive as the obligations set forth in Article 8 (including with respect to duration); and (B) contains obligations to assign or exclusively license any intellectual property generated by such authorized subcontractor in performing such Activities to the applicable Party utilizing such authorized subcontractor to enable such Party to comply with the provisions of Article 7 regarding ownership and Control of Arising IP. Each Party is and remains solely and exclusively responsible for the conduct of Activities by any Affiliate or authorized subcontractor under this Agreement.

2.4. Materials. Company shall use [***] to promptly provide to Foresight, [***], the Materials specified in the Work Plan. If Foresight determines that any Materials provided by or on behalf of Company do not conform to their descriptions or as the requirements set forth in the Work Plan, then Company shall use [***] to provide new or replacement Materials to the extent possible. Company owns the Materials. Company shall use [***] to ensure that all Materials transferred by or on behalf of Company to Foresight under this Agreement will be or have been collected, stored, handled, transported, and delivered in a manner appropriate to ensure compliance with Applicable Law. To the extent Applicable Law requires any informed consent or other authorization for the collection or provision to Foresight of any such Materials or any accompanying data, or for the use by or on behalf of Foresight as permitted by this Agreement and the Work Plan of any such Materials or accompanying data, then Company shall ensure that such informed consent or other authorization is obtained with a scope that permits such Activities. Foresight shall not use the Materials for any purpose other than the Activities for which they are provided as set forth in the Work Plan. None of such Materials shall be transferred or sold to Third Parties except as expressly provided in the Work Plan. With respect to any such Materials or accompanying data, (i) at Foresight's reasonable request, Company shall provide to Foresight (a) a copy of any protocol for any Clinical Study pursuant to which such Materials or data was obtained and the institutional review board or other ethics committee approval, rejection or amendment thereof, (b) any applicable form of informed consent or other authorization and (d) a written attestation that all necessary approvals, informed consents or other authorizations have been obtained, and (ii) to the extent any amendment to any such protocol or form of informed consent or other authorization would impact the use of the Foresight Assay in connection with a Clinical Study pursuant to the Work Plan, Company shall promptly inform Foresight in writing of such amendment and provide to Foresight any applicable updated versions of the items described in clauses (i)(a)-(d) above. Foresight shall handle, store, use and, as applicable, transport the Materials provided to it by or on behalf of Company in a manner consistent with Applicable Law, study protocols and any instructions Company provides, including but not limited to the Company's Clinical Study protocol and laboratory manual. Materials will be identified by the Company issued unique Clinical Study identification number. Company shall not, without first obtaining Foresight's prior written consent, and appropriate informed consent of the subject if applicable, deliver to Foresight individually identifiable health information or other data that could potentially identify a specific individual, in connection with the Materials or otherwise. Upon Company's prompt written request following the end of the Work Plan, Foresight shall, at Company's sole expense, return to Company any unused Materials associated with the Work Plan that were provided to Foresight by or on behalf of Company.

ARTICLE 3
COMMERCIALIZATION; REGULATORY APPROVAL; RIGHT OF REFERENCE

3.1. Coordination on Commercialization Activities. No later than [***], or as otherwise mutually agreed by the Parties, the JSC shall commence discussions of the high-level strategy (i) [***] and (ii) [***]. The JSC shall serve as a forum for the Parties to discuss periodically such strategies and to coordinate such activities as appropriate from time to time or

as the Parties may further agree. Not later than [***]following Foresight's receipt from Company of [***].

3.2. Commercialization Terms. As between the Parties and subject to Section 3.1, Company shall have the sole right to establish the terms of sale for, and otherwise Commercialize, each Company Product and Foresight shall have the sole right to establish the terms of sale for, and otherwise Commercialize, the Foresight Assay.

3.3. Statements and Compliance with Applicable Law. Each Party shall and shall cause its Affiliates and authorized subcontractors to comply in all material respects with Applicable Law with respect to the Commercialization of, in the case of Foresight, the Foresight Assay for use with the Company Product, and in the case of Company, the Company Product.

3.4. Regulatory Approval of Foresight Assays, Company Products and Rights of Reference.

3.4.1. Foresight Assays.

(i) [***].

(ii) [***].

3.4.2. Company Products.

(i) Company shall, at its own expense, have the sole right to prepare, obtain and maintain Regulatory Approvals for, and to conduct communications with Regulatory Authorities regarding Regulatory Approvals for, any Company Product. As between the Parties, all Regulatory Documentation (including all Regulatory Approvals) generated by Company or any of its Affiliates with respect to any Company Product anywhere in the world and all such documentation shall be owned by, and shall be the sole property and held in the name of, Company or its designee. At Company's reasonable request, Foresight shall provide Company with any Regulatory Documentation and other information in the Control and possession of Foresight or any of its Affiliates with respect to the Foresight Assay as may be necessary for, or reasonably requested by, Company or any of its Affiliates to refer to such Foresight Assay in obtaining or maintaining Regulatory Approvals for any Company Product.

(ii) Company shall provide Foresight [***] on all regulatory filings to obtain Regulatory Approval of the Company Product for use with the Foresight Assay, but only to the extent any such filing involves a discussion of the Foresight Assay. Company shall [***].

3.4.3. Rights of Reference.

(i) Company shall, and shall ensure that its Affiliates shall, upon reasonable request provide Foresight (and Foresight's designated Affiliates, (sub)licensees and authorized subcontractors) with any appropriate letters of reference or other related documentation necessary to authorize such Person to cross-reference and rely (on a non-exclusive basis) upon the contents of Company's or any of its Affiliate's (or, to the extent Controlled by Company or any of its Affiliates, any of their respective (sub)licensee's) Regulatory Documentation for the Company Product.

(ii) Foresight shall, and shall ensure that its Affiliates shall, upon reasonable request provide Company (and Company's designated Affiliates and (sub)licensees) with any appropriate letters of reference or other related documentation necessary to authorize such Person to cross-reference and rely (on a non-exclusive basis) upon the contents of

Foresight's or any of its Affiliate's (or, to the extent Controlled by Foresight or any of its Affiliates, any of their respective (sub)licensee's) Regulatory Documentation for the Foresight Assay.

(iii) The Parties will negotiate in good faith an amendment to this Agreement to provide for Development, Commercialization or regulatory requirements outside the United States.

ARTICLE 4
COLLABORATION MANAGEMENT; AUDITS

4.1. Establishment. Promptly after the Effective Date, Foresight and Company shall establish a joint steering committee (the "**JSC**") to oversee, review and coordinate the Activities. The JSC may appoint a working group, including any joint project team, to report back to the JSC as the JSC requires, provided such working group shall have no decision-making authority to modify the terms of this Agreement or the Work Plan.

4.2. Responsibilities. The JSC shall be responsible for: [***].

4.3. Membership. The JSC shall be comprised of an equal number of representatives from each of Company and Foresight and unless otherwise agreed such number shall be [***] from each of Company and Foresight. Either Party may replace its respective JSC representatives at any time upon written notice to the other Party. Without limiting the foregoing, each Party shall appoint one of its members to the JSC to co-chair the meetings for the JSC (each, a "**Co-Chair**"). The Co-Chairs for the JSC, or their designee, shall (i) coordinate and prepare the agenda and ensure the orderly conduct of the JSC's meetings, (ii) attend (subject to below) each meeting of the JSC, and (iii) prepare and issue minutes of each meeting within [***] thereafter accurately reflecting the discussions and decisions of the JSC. Such minutes from each JSC meeting shall not be finalized until the applicable Co-Chair from each Party has reviewed and confirmed the accuracy of such minutes in writing. The Co-Chairs shall solicit agenda items from the other JSC members and provide an agenda along with appropriate information for such agenda reasonably in advance (to the extent possible) of any meeting. It is understood that such agenda shall include all items requested by either Co-Chair for inclusion therein. In the event the Co-Chair or another member of the JSC from either Party is unable to attend or participate in any meeting of the JSC, the Party who designated such Co-Chair or member may designate a substitute Co-Chair or other representative for the meeting.

4.4. Meetings. Unless otherwise agreed by the Parties, the JSC will meet at least [***] during the Term, or as otherwise determined by the Parties. Each Party shall be responsible for its own expenses relating to such meetings. As appropriate, other employee representatives of the Parties may attend JSC meetings as nonvoting observers, but no Third Party personnel may attend unless otherwise agreed by the Parties. Each Party may also call for special meetings to resolve particular matters requested by such Party.

4.5. Decision Making. Decisions of the JSC shall be made by [***]. Notwithstanding anything herein to the contrary, the JSC shall not have any authority to amend, modify or waive compliance with any term or condition of this Agreement.

4.6. Alliance Managers.

4.6.1. Role. Each Party will designate a single individual to serve as its manager under each Work Plan (each a "**Alliance Manager**"). The Alliance Managers will be the principal point of contact for each Party for matters relating to that Party's performance under the applicable Work Plan and are responsible for implementing and coordinating, on a day-to-day

basis, all Activities and facilitating the exchange of information between the Parties regarding the performance under such Work Plan. The Alliance Managers may delegate tasks and responsibilities to sub-managers or sub-program teams, working groups and other team members as they deem appropriate to efficiently and effectively perform their respective obligations hereunder. Each Party may replace its Alliance Manager under an applicable Work Plan at any time and for any reason upon written notice to the other Party.

4.6.2. Meetings. The Alliance Managers under a Work Plan will meet as soon as practicable after the Effective Date and thereafter at least [***] or at such times or frequency as the Alliance Managers or the JSC deem reasonably appropriate. Meetings of the Alliance Managers may be conducted in person or by teleconference or video conference as agreed by the Alliance Managers. Additionally, the Alliance Managers (or their designees) will maintain close regular communications with each other as to the status of the ongoing Activities and other activities under this Agreement. Each Alliance Manager will keep accurate and complete records of their Activities and meetings and will, from time to time as requested by the JSC, provide the JSC with appropriate updates and information to keep the JSC apprised of each Party's performance under this Agreement.

4.7. Day-to-Day Responsibilities. Each Party shall: (i) be responsible for day-to-day implementation of its Activities hereunder for which it has or is otherwise assigned responsibility under this Agreement, provided that such implementation is not inconsistent with the express terms of this Agreement or the decisions of the JSC within the scope of their authority specified herein; and (ii) keep the other Party informed as to the progress of such Activities as reasonably requested by the other Party and as otherwise determined by the JSC.

4.8. Compliance; Audits.

4.8.1. Compliance. Each of Foresight and Company shall, and shall cause its Affiliates, and shall require its (sub)licensees and authorized subcontractors, to comply in all material respects with Applicable Law with respect to the Activities assigned to it under this Agreement, including the Work Plan.

4.8.2. Audits. During the Term and no more than [***], unless otherwise set forth in the Work Plan, on not less than [***] prior written notice and during Foresight's normal business hours, Company shall have the right to audit or have audited by a Permitted Representative, solely to the extent necessary to confirm Foresight's compliance with Applicable Law and the terms of this Agreement with respect to the conduct of the Activities. [***]. Notwithstanding anything to the contrary in this Section 4.8.2, if any Regulatory Authority wishes to conduct an inspection on one or more days reserved for Company to conduct, or have conducted, any audit pursuant to this Section 4.8.2, then Foresight shall have the right, upon written or telephonic notice to Company and without liability, to cancel such audit and shall work with Company in good faith to reschedule such audit for one or more days that does not conflict with such inspection.

4.8.3. Permitted Representatives. To the extent Company elects to utilize the services of a Permitted Representative to perform an audit permitted by Section 4.8.2, the selection of such Permitted Representative shall be approved by Foresight. Any auditor (including any Permitted Representative) shall he subject to Foresight's confidentiality, security and safety policies, and any audit shall not be unreasonably disruptive to Foresight's business operations, and shall be reasonable in scope and duration. Any information, records or other materials provided by Foresight in connection with such audit as well as any report, summary or other documentation resulting from such audit shall constitute Foresight's Confidential Information.

4.9. Non-Exclusive Relationship. The Parties agree that this Agreement and the Work Plan, and the relationship of the Parties hereunder and thereunder, are non-exclusive and nothing herein will prevent either Party or an Affiliate of either Party from entering into a similar agreement, collaboration or relationship with any Third Party or otherwise undertaking any activity. Except as expressly set forth herein, each Party and its respective Affiliates has the right to perform work for or together with Third Parties, or to undertake Activities of its own accord or with its Affiliates, in each case, that are substantially similar or identical to the Activities or other activities contemplated by this Agreement; *provided* that each Party will do so subject to the applicable rights and obligations set forth in Article 7 and Article 8 with respect to Intellectual Property Rights and Confidential Information.

4.10. Quality Agreement. Following execution of this Agreement, the Parties shall negotiate in good faith an appropriate quality assurance agreement to fulfill applicable legal and regulatory requirements.

ARTICLE 5
PAYMENTS

5.1. Fee Schedule; Payments. The Work Plan shall include a schedule of fees applicable to the Activities performed thereunder, which may generally include: (i) agreed work initiation payments by Company upon the commencement of Activities for corresponding milestone events set forth in the Work Plan, (ii) agreed milestone payments by Company upon the completion of corresponding milestone events set forth in the Work Plan, and (iii) per Materials acquisition (as applicable) and testing fees for any genomic profiling Activities under the Work Plan. Foresight shall submit to Company an electronic invoice and include a statement of Activities performed with respect to the applicable payments due under Exhibit B. Company shall pay each undisputed invoice within [***] of receipt thereof. All payments to Foresight shall be remitted by deposit of United States Dollars in the requisite amount to such bank account as Foresight may from time to time designate by notice to Company.

5.2. Work Initiation Payments; Milestones; Testing Fees.

5.2.1. Company shall pay to Foresight [***] work initiation payments as agreed upon in the Work Plan upon the commencement of the corresponding milestone activities and in accordance with Section 5.1. All work initiation payments will be invoiced upon according to the schedule in Section IV of the Work Plan.

5.2.2. Company shall pay to Foresight [***] milestone payments as agreed upon in the Work Plan upon the completion of the corresponding milestone events and in accordance with Section 5.1. [***]. All milestone events will be invoiced by Foresight according to the schedule in Section IV of the Work Plan.

5.2.3. Company shall pay to Foresight per sample testing as specified in the Work Plan in the amounts set forth in Exhibit B and in accordance with Section 5.1. All testing services will be invoiced [***].

5.3. Taxes; Interest. All fees set forth in this Agreement are exclusive of sales and use taxes, including all applicable goods and services tax, value-added tax (VAT), local taxes, applicable duties. electronic delivery taxes, excise taxes, levies and import Ices (collectively, "**Taxes**"). If applicable, Company shall pay any Taxes that are imposed by Applicable Law in connection with payments by Company to Foresight under this Agreement. If any undisputed payment owed to Foresight is not paid when due, then Company shall pay interest thereon (before and after any judgment) at an annual rate (but with interest accruing on a daily basis) of [***] percent or the maximum rate allowed by Applicable Law, if lower, such interest to run

from the date on which such payment became due until payment thereof in full together with such interest.

ARTICLE 6
DATA

6.1. Ownership and Use of Diagnostic Data.

6.1.1. As between the Parties, all Activities Data comprising or generated using Foresight Technology, including the analytical performance of the Foresight Assay (collectively, "**Diagnostic Data**") shall be owned by Foresight and shall constitute Confidential Information of Foresight (and Foresight shall be deemed to be the "Disclosing Party" and Company the "Receiving Party" with respect to the Diagnostic Data). All Activities Data that is not Diagnostic Data shall be "**Company Product Data**". Except as set forth in Section 6.1.2, Company shall have no right to use or otherwise disclose any Diagnostic Data other than for [***], without the prior written approval of Foresight, and (ii) Foresight shall have the right to use the Diagnostic Data for any and all uses. Foresight shall, upon the written request of Company not more frequently than [***], provide to Company, free of charge, a copy of such additional Diagnostic Data as is generated by or on behalf of Foresight to Company; provided that the foregoing shall not limit any express obligations of Foresight pursuant to this Agreement to provide data to the JSC. Foresight will comply with any Regulatory Authority request for Diagnostic Data relating to the use of Foresight Assay as a Companion Diagnostic with a Company Product, and shall reasonably cooperate with Company to comply with any other Regulatory Authority request for Diagnostic Data.

6.1.2. Notwithstanding the provisions of Section 6.1.1, Company shall have, and Foresight hereby grants to Company, a non-exclusive, perpetual, irrevocable, fully paid, royalty-free right and license to Diagnostic Data (a) to conduct the Activities assigned to Company and [***].

6.2. Company Product Data.

6.2.1. As between the Parties, the Company Product Data shall be owned exclusively by Company and shall constitute Confidential Information of Company (and Company shall be deemed to be the "Disclosing Party" and Foresight the "Receiving Party" with respect to the Company Product Data), and Company shall have the right to use the Company Product Data for any and all uses. Each Party shall, upon the written request of the other Party, provide, free of charge, a copy of such Company Product Data as is generated by or on behalf of such Party to the other Party. [***]. Company will comply with any Regulatory Authority request for Company Product Data relating to the use of Foresight Assay as a Companion Diagnostic with a Company Product, and shall reasonably cooperate with Foresight to comply with any other Regulatory Authority request for Company Product Data.

6.2.2. Notwithstanding the provisions of Section 6.2.1, Foresight shall have, and Company hereby grants to Foresight, a non-exclusive, perpetual, irrevocable, fully paid, royalty-free right and license to Company Product Data (a) to conduct the Activities assigned to Foresight and (b) [***].

ARTICLE 7
INTELLECTUAL PROPERTY

7.1. Background IP; Arising IP. Each Party shall retain all right, title and interest in and to all intellectual property, including patents and know-how, of any and all types that it owns or Controls as of the Effective Date of the Letter Agreement and/or developed, owned or

Controlled by a Party after the Effective Date of the Letter Agreement to the extent that such intellectual property is not developed under this Agreement or the Letter Agreement, and does not include the Confidential Information or Background IP of the other Party (together with all intellectual property rights therein, including Patents covering the same, collectively, "**Background IP**"). Nothing in this Agreement shall be construed as granting a license to either party under any Background IP of the other Party, except as expressly set forth herein. Notwithstanding anything in this Agreement to the contrary, this Agreement shall not effect a change in either Party's ownership or control of such Party's Background IP. Each Party hereby grants to the other Party a non-exclusive, fully paid, royalty-free license to such Party's Background IP to perform in accordance with this Agreement those Activities assigned to such other Party hereunder. Inventorship of Arising IP shall be determined by the inventorship laws of the United States and ownership shall follow inventorship, subject to Sections 7.2.1, 7.3.1 and 7.4.1.

7.2. Foresight Arising IP.

7.2.1. As between the Parties and irrespective of inventorship, Foresight is and shall at all times remain the sole and exclusive owner of all Arising IP that constitutes an improvement, modification, enhancement, or derivative of any Foresight Technology and does not incorporate or use Company Products ("**Foresight Arising IP**").

7.2.2. Company hereby assigns and agrees to assign, and to cause its Affiliates to assign to Foresight all of its or their right, title and interest to Foresight Arising IP and further agrees that it shall, and shall cause its Affiliates to execute and deliver such additional documents, instruments, conveyances, and assurances and take such further actions (including, if applicable, the payment of remuneration to inventors) as may be reasonably required to ensure that all right, title, and interest in Foresight Arising IP is effectively transferred to and held by Foresight.

7.2.3. License to Foresight Arising IP. Without limiting Section 7.2.2, Foresight hereby grants to Company a non-exclusive, fully paid, royalty-free, perpetual license to Foresight Arising IP (a) to perform in accordance with this Agreement those Activities assigned to Company hereunder and (b) (together with the right to sublicense through multiple tiers) to Develop and Commercialize any Company Product.

7.3. Company Arising IP.

7.3.1. As between the Parties and irrespective of inventorship, Company is and shall at all times remain the sole and exclusive owner of all Arising IP that constitutes an improvement, modification, enhancement, or derivative of any Company Products and does not incorporate or use Foresight Technology ("**Company Arising IP**").

7.3.2. Foresight hereby assigns and agrees to assign, and to cause its Affiliates to assign to Company all of its or their right, title and interest to Company Arising IP and further agrees that it shall, and shall cause its Affiliates to execute and deliver such additional documents, instruments, conveyances, and assurances and take such further actions (including, if applicable, the payment of remuneration to inventors) as may be reasonably required to ensure that all right, title, and interest in Company Arising IP is effectively transferred to and held by Company.

7.3.3. License to Company Arising IP. Without limiting Section 7.3.2, Company hereby grants to Foresight a non-exclusive, fully paid, royalty-free, perpetual license to Company Arising IP to perform in accordance with this Agreement those Activities assigned to Foresight hereunder.

7.4. Joint Arising IP.

7.4.1. As between the Parties and irrespective of inventorship, Foresight and Company shall jointly own all Arising IP that is neither Foresight Arising IP nor Company Arising IP ("**Joint Arising IP**").

7.4.2. Foresight and Company shall, and shall cause their Affiliates to, execute and deliver such additional documents, instruments, conveyances and assurances and take such further actions as may be reasonably required to ensure that all right, title, and interest in the Joint Arising IP is jointly owned by Foresight and Company. Each Party shall have an undivided joint interest in Joint Arising IP, which may be sublicensed and any ownership rights therein may be transferred, in whole or in part, by each Party. Neither Party hereto shall have the duty to account to the other Party for any revenues or profits obtained from any transfer of its interest in, or its use, sublicense or other exploitation of Joint Arising IP outside the scope of this Agreement. Solely to the extent necessary to effect the intent of this Section 7.4.2, each Party grants to the other Party a nonexclusive, sublicensable, royalty-free, irrevocable, worldwide, right and license under such Party's interest in Joint Arising IP for all purposes, subject to the terms of this Agreement.

7.5. Securing Ownership of IP. In the case of any Foresight Arising IP, Company Arising IP or Joint Arising IP to which a Party or its employees or contractors has made any inventive contribution, such Party shall, in order to enable assignment thereof as provided hereunder, take all steps necessary to secure ownership of such Intellectual Property from all applicable employees or contractors (including, as applicable, ensuring that its employees and contractors involved in Activities have a contractual obligation to assign Arising IP to such Party, and making all legal claims and paying all remuneration required by applicable law to secure ownership).

7.6. Prosecution, Maintenance and Defense of Patents.

7.6.1. Foresight shall have the sole right, but not the obligation, in its sole discretion and at its sole expense, to file, prosecute, maintain, defend or abandon Patents within the Foresight Arising IP or Foresight's Background IP, including patent term extensions and defending opposition, re-examination, post-grant review and similar proceedings.

7.6.2. Company shall have the sole right, but not the obligation, in its sole discretion and at its sole expense, to file, prosecute, maintain, defend or abandon Patents within the Company Arising IP or Company's Background IP, including patent term extensions and defending opposition, re-examination, post-grant review and similar proceedings.

7.6.3. Foresight, by counsel it selects and to which Company consents, shall have the first right, but not the obligation, to prepare, file, prosecute, defend and maintain Patents for the Joint Arising IP (each, a "**Joint Patent**") in any or all countries mutually agreed by Company and Foresight. Parties agree to inform each other of any Joint Arising IP before the filing of a Joint Patent and agree to [***]. Foresight shall provide Company with access to all substantive documentation, filings, and communications to or from the respective patent offices with respect to Joint Patents [***] to enable the Company to comment on any document intended for filing. Foresight shall confer with and keep Company reasonably informed regarding the status of such activities, if any, [***]. In the event that a Party desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any Joint Patents anywhere in the world, the Party shall provide reasonable prior written notice to the other Paty of such intention (which notice shall, in any event, be given no later than [***] prior to the next deadline and [***] prior to a final deadline for any action that may be taken with respect to such Joint Patent with the applicable patent office), and such other Party shall have the right, but not the obligation, to

assume, at its sole expense, responsibility for the prosecution and maintenance thereof, and the withdrawing Party hereby assigns all of its rights in and to such Joint Patent to such other Party.

7.7. Third Party Infringement of Certain Patents.

7.7.1. Each Party shall use Commercially Reasonable Efforts to promptly report in writing to the other Party any known or suspected infringement of any Joint Patent by a Third Party (each, a "**Joint Patent Infringement**") of which such Party becomes aware and provide the other Party with evidence in its possession and control supporting or relating to such Joint Patent Infringement. [***].

7.7.2. Neither Party shall enter into any settlement or compromise in connection with an Infringement Action with respect to a Joint Patent Infringement that would (i) admit the validity or enforceability, or invalidity or unenforceability, of Patents owned or controlled by the other Party or jointly owned by both Parties, (ii) impact the ability of the other Party to assert Patents owned or controlled by such other Party or jointly owned by both Parties, or (iii) require any payments, concessions, or otherwise bind such other Party to take or cease any actions, in each case (clauses (i) - (iii)) without such other Party's prior written consent[***].

7.7.3. Upon the request of the initiating Party in any Infringement Action in respect of a Joint Patent Infringement, the noninitiating Party shall cooperate with the initiating Party in such Infringement Action in reasonable respects, including by joining as a party if required by Applicable Law or otherwise to permit the initiation and maintenance of such Infringement Action, at the initiating Party's sole reasonable expense. The noninitiating Party shall also cooperate with the settlement of any such Infringement Action, including executing an appropriate settlement agreement, but only to the extent such Party has consented to such settlement in accordance with Section 7.7.2 or such consent is not required under Section 7.7.2.

7.7.4. The Parties shall share in the proceeds from any Infringement Action commenced with respect to a Joint Patent Infringement, in each case including settlements thereof (the "**Proceeds**"), as follows:

(i) first, for the costs and expenses, including legal fees, that are incurred by either Party as part of, or in preparation for, the Infringement Action (pro rata);

(ii) then, the Proceeds shall be allocated [***] to the initiating Party and [***] to the noninitiating Party.

7.8. Retained Rights. Neither Party grants to the other Party under this Agreement any Intellectual Property licenses or rights, express or implied. by estoppel or otherwise, other than those licenses or rights explicitly set forth in this Agreement.

ARTICLE 8
CONFIDENTIALITY AND NON-DISCLOSURE

8.1. Confidentiality Obligations.

8.1.1. During the Term and for a period of [***] thereafter, each Party shall and shall cause its officers, directors, employees, agents and Representatives to (i) keep confidential, in a manner consistent with such Party's treatment of its own confidential or proprietary information, but in no event less than reasonable measures, (ii) not publish or otherwise disclose, directly or indirectly, except to the extent such disclosure is expressly permitted by the terms of this Agreement or the Work Plan, (iii) not use, except for the purposes of fulfilling its obligations or exercising its rights under this Agreement, and (iv) will not use or disclose the Confidential

Information of the other Party in a Patent that is not a Joint Patent without such Party's prior written consent, in each case ((i)-(iv)), any Confidential Information of the other Party. "**Confidential Information**" of a Party means all data, Know-How and other business, financial, legal or technical information, in any form (written, oral, photographic, electronic, magnetic, or otherwise) provided by or on behalf of such Party or its Affiliate to the other Party or its Affiliate in connection with this Agreement or the Work Plan, whether prior to, on or after the Effective Date, that is marked or otherwise identified as confidential or proprietary at the time of disclosure or that a reasonable person would, by its nature, understand to be confidential or proprietary, including all copies thereof.

8.1.2. Notwithstanding Section 8.1.1, (i) the terms of this Agreement and the Work Plan shall be deemed the Confidential Information of each Party (and both Parties shall be deemed to be the Receiving Party and the Disclosing Party with respect thereto); (ii) Confidential Information constituting Know-How included in the Foresight Background IP and Foresight Arising IP shall be deemed the Confidential Information of Foresight (and Foresight shall be deemed to be the Disclosing Party and Company shall be deemed to be the Receiving Party with respect thereto); (iii) Confidential Information constituting Know-How included in the Company Background IP and Company Arising IP shall be deemed the Confidential Information of Company (and Company shall be deemed to be the Disclosing Party and Foresight shall be deemed to be the Receiving Party with respect thereto); and (iv) Confidential Information constituting Know-How arising from the Activities shall be deemed the Confidential Information of both Parties (and both Parties shall be deemed to be the Receiving Party and the Disclosing Party with respect thereto).

8.1.3. Notwithstanding the foregoing provisions of this Section 8.1, Section 8.1.1 shall not apply to the Receiving Party with respect to any Confidential Information of the Disclosing Party to the extent it can be established by the Receiving Party through competent evidence that such Confidential Information: (i) is or hereafter becomes publicly available through no breach of any obligation of confidentiality by the Receiving Party; (ii) is subsequently received by the Receiving Party from a Third Party who is not bound by any obligation of confidentiality with respect to such information, (iii) was in the Receiving Party's possession prior to disclosure by the Disclosing Party without any obligation of confidentiality with respect to such information; or (iv) is independently developed by or for the Receiving Party without reference to or access to the Disclosing Party's Confidential Information and such independent development is appropriately documented in written records; provided that the exceptions under clauses (iii) and (iv) shall not apply to the Receiving Party with respect to Confidential Information that a Party generates but is deemed to be the Receiving Party with respect thereto pursuant to Section 8.1.2. Notwithstanding anything to the contrary herein, the exceptions set forth in this Section 8.1.3 shall not apply with respect to the terms of this Agreement.

8.2. Permitted Disclosures. Each Party may use and disclose Confidential Information of the other Party as follows: (i) under appropriate confidentiality provisions substantially equivalent to those in this Agreement, in connection with the performance of its obligations or exercise of rights granted to such Party in this Agreement; (ii) to the extent such disclosure is reasonably necessary in filing for, prosecuting or the maintenance of Patents (including applications therefor) in accordance with this Agreement, prosecuting or defending litigation, complying with applicable governmental regulations, filing for, conducting preclinical or clinical trials, obtaining and maintaining regulatory approvals, or otherwise required by Applicable Law or the rules of a recognized stock exchange, provided, however, that if a Party is required by court order, Applicable Law or stock exchange to make any such disclosure of the other Party's Confidential Information it will, except where impracticable for necessary disclosures (for example, in the event of medical emergency), give reasonable advance notice to the other Party of such disclosure requirement and, except to the extent inappropriate in the case of patent

applications, will use its reasonable efforts to secure confidential treatment of such Confidential Information required to be disclosed; (iii) in communication with existing and potential investors, consultants, advisors (including financial advisors, lawyers and accountants) and others on a need to know basis, in each case under appropriate confidentiality provisions [***]; (iv) under confidentiality provisions [***], for any existing or future intellectual property license agreement(s) with an academic institution, or (v) to the extent mutually agreed to by the Parties.

8.3. Use of Name. Except as expressly provided herein in connection with this Agreement or any Activities hereunder, neither Party shall mention or otherwise use the name, logo or trademark of the other Party or any of its Affiliates or any of its or their (sub)licensees (or any abbreviation or adaptation thereof) in any publication, press release, marketing and promotional material or other form of publicity without the prior written approval of such other Party. The restrictions imposed by this Section 8.3 shall not prohibit either Party from (i) making any disclosure identifying the other Party to the extent required in connection with its exercise of its rights or obligations under this Agreement or the Work Plan, or (ii) making any disclosure identifying the other Party that is required by Applicable Law or the rules of a stock exchange on which the securities of the Party making such disclosure are listed (or to which an application for listing has been submitted).

8.4. Public Announcements. The Parties will issue a joint press release in the form of Exhibit C on or after the Effective Date, but in no event later than January 4, 2024, unless otherwise agreed to by the Parties. Except for such press release and except as required by Applicable Law or the rules of a stock exchange on which the securities of the Party making such disclosure are listed (or to which an application for listing has been submitted), neither Party shall issue any public announcement, press release or other public disclosure regarding the terms of this Agreement or the terms of the Work Plan without the other Party's prior written consent, except for any such disclosure that is, in the opinion of the disclosing Party's counsel, required by Applicable Law and with respect to which reasonable prior notice and opportunity to comment thereon is given to the other Party.

8.5. Publication. Each Party recognizes that the publication of papers regarding results of and other information regarding activities under this Agreement or the Work Plan, including oral presentations and abstracts, (collectively "**Publications**") may be beneficial to both Parties; provided that such publications are subject to reasonable controls to protect Confidential Information. Accordingly, each Party shall have the right to review and approve ([***]) any proposed Publication or paper proposed for publication by the other Party that includes Confidential Information of the other Party or Joint Arising IP. The publishing or presenting Party will provide the other Party with a draft of the publication or presentation at least [***] days prior to such publication or presentation for review and approval. Notwithstanding the foregoing, (i) if a Party requests approval to publish or publicly present any Confidential Information constituting Know-How arising from the Activities, the other Party shall consider such request in good faith, and (ii) the publishing or presenting Party shall (a) subject to clause (i) above, comply with the other Party's request to delete from any such paper or presentation any Confidential Information of the other Party the disclosure of which in such publication is not otherwise permitted under Section 8.1 or 8.2 and (b) withhold publication of any such paper or presentation for up to [***] days after such other Party's written request in order to permit the Parties to obtain patent protection if either Party deems it reasonably necessary; provided that, notwithstanding anything to the contrary, Foresight may use, publish, or disclose, in an aggregated format Know-How arising from the Activities that solely relates to the performance of the Foresight Assay if [***].

8.6. Return of Confidential Information. Upon expiration or termination of this Agreement or the Work Plan for any reason, either Party may request in writing and the non-requesting Party shall either, with respect to Confidential Information of the other Party to which

such non-requesting Party does not retain rights under the surviving provisions of this Agreement or the Work Plan: (i) promptly destroy all copies of such Confidential Information in the possession or control of the non-requesting Party and confirm such destruction in writing to the requesting Party; or (ii) promptly deliver to the requesting Party, at the requesting Party's sole cost and expense, all copies of such Confidential Information in the possession or control of the non-requesting Party. Notwithstanding the foregoing, the non-requesting Party shall be permitted to retain such Confidential Information (a) to the extent [***] for purposes of performing any continuing obligations or exercising any ongoing rights hereunder or under the Work Plan and, in any event, a single copy of such Confidential Information for archival purposes and (b) any computer records or files containing such Confidential Information that have been created solely by such non-requesting Party's automatic archiving and back-up procedures, to the extent created and retained in a manner consistent with such non-requesting Party's standard archiving and back-up procedures, but not for any other uses or purposes. All Confidential Information shall continue to be subject to the terms of this Agreement for the period set forth in Section 8.1.1.

ARTICLE 9
REPRESENTATIONS, WARRANTIES AND COVENANT

9.1. Mutual Representations, Warranties and Covenant. Each Party represents and warrants to the other Party as of the Effective Date that:

9.1.1. such Party is duly organized, validly existing, and in good standing under the Applicable Laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;

9.1.2. execution of this Agreement and the performance by such Party of its obligations hereunder have been duly authorized by all necessary corporate action of such Party;

9.1.3. this Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, binding obligation, enforceable against such Party in accordance with the terms hereof, subject to the effect of (a) applicable bankruptcy, insolvency, reorganization, moratorium, or similar Applicable Law relating to rights of creditors generally; and (b) rules of Applicable Law and equity governing specific performance, injunctive relief, and other equitable remedies;

9.1.4. the performance of this Agreement by such Party does not conflict with, or create a breach or default under, any other current or subsequent agreement to which it is or becomes a party, which conflict, breach or default would adversely affect such Party's performance, or the other Party's rights or performance, under this Agreement; and

9.1.5. no government authorization, consent, approval, license, exemption of, or filing or registration with any court or governmental department, commission, board, bureau, agency, or instrumentality, domestic or foreign, under any Applicable Law currently in effect, is necessary in connection with the execution and delivery of this Agreement, or for the performance by such Party of its obligations under this Agreement, except as may be required under the applicable Regulatory Approvals or Regulatory Filings related to the Development, Commercialization, or manufacture of compounds or products hereunder.

9.2. Additional Representations and Warranties of Foresight. Foresight hereby represents and warrants to Company that:

9.2.1. As of the Effective Date, (a) there is no pending litigation, or to the knowledge of Foresight threatened litigation, that alleges that [***], and (b) to its knowledge, [***];

9.2.2. Foresight, as of the Effective Date, has not employed and, to its knowledge, has not used a contractor or consultant that has employed, any individual or entity (a) debarred by the FDA (or subject to a similar sanction of any other applicable Regulatory Authority), (b) who is the subject of an FDA debarment investigation or proceeding (or similar proceeding of any other applicable Regulatory Authority), or (c) who has been charged with or convicted under United States law for conduct relating to the Development or approval, or otherwise relating to the regulation of any product under the Generic Drug Enforcement Act of 1992, in each case, in the conduct of its activities prior to the Effective Date; and will not employ or use any such individual or entity in its performance under this Agreement; and

9.2.3. Foresight will perform its obligations under this Agreement in accordance with Applicable Law.

9.3. Additional Representations and Warranties of Company. Company hereby represents and warrants to Foresight that:

9.3.1. As of the Effective Date, (a) there is no pending litigation, or to the knowledge of Company threatened litigation, that alleges that [***], and (b) to its knowledge, [***];

9.3.2. Company, as of the Effective Date, has not employed and, to its knowledge, has not used a contractor or consultant that has employed, any individual or entity (a) debarred by the FDA (or subject to a similar sanction of any other applicable Regulatory Authority), (b) who is the subject of an FDA debarment investigation or proceeding (or similar proceeding of any other applicable Regulatory Authority), or (c) who has been charged with or convicted under United States law for conduct relating to the Development or approval, or otherwise relating to the regulation of any product under the Generic Drug Enforcement Act of 1992, in each case, in the conduct of its activities prior to the Effective Date; and will not employ or use any such individual or entity in its performance under this Agreement; and

9.3.3. Company will perform its obligations under this Agreement in accordance with Applicable Law.

9.4. Human Materials and Privacy. Materials that have been or are to be collected, procured and/or used in the Activities (including those collected pursuant to the Clinical Studies) shall comply with Applicable Laws relating to the collection and/or use of the Materials and (ii) Company represents and warrants that it has obtained, or shall obtain, any approvals, consents, and/or authorizations required by Applicable Law for the collection, procurement, use and/or transfer of such Materials that it procures or provides as contemplated by this Agreement. Company shall provide documentation of such approvals and consents upon request. Company further represents and warrants that such Materials that it procures or provides may be used as contemplated in this Agreement without any obligations to the individuals or entities ("**Providers**") who contributed the Materials, including, without limitation, any obligations of compensation to such Providers or any other Third Party for the Intellectual Property associated with, use of, the Materials as contemplated by this Agreement.

9.5. DISCLAIMER OF WARRANTIES. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A

PARTICULAR PURPOSE OR NON-INFRINGEMENT OR VALIDITY OF ANY PATENTS ISSUED OR PENDING, OR WITH RESPECT TO THE OUTCOME OR RESULTS OF ANY ACTIVITIES TO BE PERFORMED PURSUANT TO THE COLLABORATION OR ANY OTHER ACTIVITIES UNDER THIS AGREEMENT.

ARTICLE 10
INDEMNITY

10.1. Indemnification of Company. Foresight shall indemnify, defend, and hold harmless Company and its Affiliates, and their respective officers, directors, employees, agents, licensors, contractors and their respective successors, heirs and assigns, and representatives (the "**Company Indemnitees**"), from and against any and all damages, losses, suits, liabilities, costs (including reasonable legal expenses, costs of litigation and reasonable attorney's fees), or judgments ("**Losses and Claims**") resulting from any Third Party claim or proceeding against a Company Indemnitee, to the extent that such claim or proceeding arises out of: (a) the negligence, recklessness, or wrongful intentional acts or omissions of Foresight, its Affiliates, or its (sub)licensees (excluding Company and any Company Affiliates) and its or their respective directors, officers, employees, and agents, in connection with Foresight's performance of its obligations or exercise of its rights under this Agreement; (b) [***]; and (c) any product liability to the extent arising from the Foresight Assay as a Companion Diagnostic with respect to any Company Product; except for Losses and Claims to the extent covered by Section 10.2 or [***] to any Company Indemnitee having committed an act or acts of negligence, recklessness, or willful misconduct.

10.2. Indemnification of Foresight. Company shall indemnify, defend, and hold harmless Foresight and its Affiliates, and their respective officers, directors, employees, agents, licensors, contractors and their respective successors, heirs and assigns, and representatives (the "**Foresight Indemnitees**"), from and against any and all Losses and Claims resulting from any Third Party claim or proceeding against a Foresight Indemnitee, to the extent that such claim or proceeding arises out of: (a) the negligence, recklessness, or wrongful intentional acts or omissions of Company, its Affiliates, or its (sub)licensees (excluding Foresight and any Foresight Affiliates) and its or their respective directors, officers, employees, and agents, in connection with Company's performance of its obligations or exercise of its rights under this Agreement; (b) [***]; and (c) any product liability to the extent arising from the Company Product; except for Losses and Claims to the extent covered by Section 10.1 or [***] to any Foresight Indemnitee having committed an act or acts of negligence, recklessness, or willful misconduct.

10.3. Indemnification Procedures. A claim to which indemnification applies under Section 10.1 or Section 10.2 shall be referred to herein as an "**Indemnification Claim**." If any Person or Persons (collectively, the "**Indemnitee**") intends to claim indemnification under this Article 10, the Indemnitee shall notify the other Party (the "**Indemnitor**") in writing promptly upon becoming aware of any claim that may be an Indemnification Claim (it being understood and agreed, however, that the failure or delay by an Indemnitee to give such notice shall not relieve the Indemnitor of its indemnification obligation under this Agreement except and only to the extent that the Indemnitor is actually prejudiced as a result of such failure or delay to give notice). The Indemnitor shall have the right to assume and control the defense of the Indemnification Claim at its own expense with counsel selected by the Indemnitor and to which the Indemnitee does not reasonably object. If the Indemnitor does not assume the defense of the Indemnification Claim as described in this Section 10.3, the Indemnitee may defend the Indemnification Claim but shall have no obligation to do so. The Indemnitee shall not settle or compromise the Indemnification Claim without the prior written consent of the Indemnitor, and the Indemnitor shall not settle or compromise the Indemnification Claim in any manner that would impose any obligation on the Indemnitee or otherwise have an adverse effect on the

Indemnitee's rights or interests, without the prior written consent of the Indemnitee, which consent, in each case, shall not be unreasonably withheld or delayed. The Indemnitee shall reasonably cooperate with the Indemnitor at the Indemnitor's reasonable expense and shall make available to the Indemnitor all pertinent information under the control of the Indemnitee, which information shall be subject to Article 8. Furthermore, Indemnitee shall have the right to its own counsel paid for by the indemnitor in the event there is a potential conflict of interest.

10.4. Limitations of Liability. Notwithstanding anything to the contrary in this Agreement, except (a) [***], or (b) [***], in no event shall, either Party, or any of its Affiliates, or any of their respective trustees, directors, officers, medical or professional staff, employees, researchers or agents, be liable to the other Party or any of its Affiliates for indirect, special, incidental or consequential damages of any kind to such Party or person arising in any way out of this Agreement or the rights granted hereunder, however caused and on any theory of liability, regardless of whether such Party shall be or have been advised, shall have reason to know or in fact shall know of the possibility of the foregoing. In addition, the maximum aggregate liability of either Party under this Agreement, including with respect to Losses and Claims, shall not exceed [***]. The limited remedies and liability limits herein will apply even if they cause a provision to fail of its essential purpose.

10.5. Insurance. Each of the Parties will, at its own respective expense, procure and maintain during the Term, insurance policies adequate to cover their obligations hereunder and consistent with the normal business practices of prudent pharmaceutical and diagnostic companies of similar size and scope, respectively (or reasonable self-insurance sufficient to provide materially the same level and type of protection). Such insurance will not create a limit to a Party's liability hereunder.

ARTICLE 11
TERM AND TERMINATION

11.1. Term. The term of this Agreement (the "**Term**") commences on the Effective Date and continues until the Activities in the Work Plan are completed or until this Agreement is terminated in accordance with Section 11.2.

11.2. Termination of this Agreement.

11.2.1. Material Breach. Without limiting its other rights or remedies under this Agreement, either Party (in such capacity, the "**Non-Breaching Party**") may terminate this Agreement immediately upon written notice to the other Party in the event the other Party (in such capacity, the "**Breaching Party**") (i) has breached any of its material obligations under this Agreement and (ii) has failed to cure such breach within [***] following receipt of written notice from the Non-Breaching Party of such breach (such period of time, the "**Notice Period**" and such written notice, with respect to any material breach under this Section 11.2.1, a "**Breach Notice**"); provided that such Notice Period shall be [***] in the event of a failure to make any undisputed payment when due ("**Payment Breach**") and provided further that, except for Payment Breaches, the Notice Period will automatically be extended for a period of time, not to exceed [***] following delivery of the Breach Notice, in the event that (a) such breach cannot be cured within the Notice Period and (b) the Breaching Party commences actions to cure such breach within the Notice Period and thereafter diligently continues such actions.

11.2.2. Mutual Agreement. The Parties may terminate this Agreement at any time by mutual written agreement, including but not limited to, in the event of the [***].

11.2.3. Insolvency. If either Party: (i) files for protection under bankruptcy or insolvency laws; (ii) makes an assignment for the benefit of creditors; (iii) appoints or suffers

appointment of a receiver or trustee over substantially all of its property that is not discharged within [***] days after such filing; (iv) proposes a written agreement of composition or extension of its debts: (v) proposes or is a party to any dissolution or liquidation; (vi) files a petition under any bankruptcy or insolvency act or has any such petition filed against it that is not discharged within [***] days of the filing thereof; or (vii) admits in writing its inability generally to meet its obligations as they fall due in the general course, then the other Party may terminate this Agreement effective immediately upon written notice to such Party.

11.2.4. Inability to Obtain Regulatory Approval for a Foresight Assay. In the event that an applicable Regulatory Authority provides written notice of its determination that such Regulatory Authority will not grant a Regulatory Approval for a Foresight Assay for use with an applicable Company Product, then, following receipt of such notice, either Party may terminate this Agreement with respect to the applicable Program by providing [***] days' prior written notice to the other Party.

11.2.5. Inability to Obtain Regulatory Approval for a Company Product. In the event that an applicable Regulatory Authority provides written notice of its determination that such Regulatory Authority will not grant a Regulatory Approval for a Company Product for an applicable Market and Indication, then, following receipt of such notice, either Party may terminate this Agreement with respect to the applicable Program by providing [***] days' prior written notice to the other Party.

11.2.6. Company Right to Terminate for Convenience. The Company may terminate this Agreement upon (a) [***] days prior written notice to Foresight, and (b) payment of the Company Termination Fee prior to the expiration of such notice period.

11.3. Force Majeure. In accordance with Section 12.1.

11.4. Rights in Bankruptcy. All rights and licenses granted under or pursuant to this Agreement (including the Work Plan) by Company or Foresight are and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction, licenses of rights to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. Each Party agrees that the Parties, as licensees of such rights under this Agreement, shall retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction.

11.5. Certain Consequences of Termination.

11.5.1. Generally. Upon expiration or termination of this Agreement, all rights and obligations of the Parties hereunder shall automatically terminate, except as expressly provided in this Section 11.5. For the avoidance of doubt, Company shall remain responsible for any and all accrued and unpaid payment obligations at the time of such termination.

11.5.2. Return of Confidential Information. Promptly after the termination or expiration of this Agreement for any reason, unless otherwise agreed by the Parties in writing, each Party shall fulfill its obligations under Section 8.6.

11.5.3. Termination for Convenience Fee. If Company terminates this Agreement under Section 11.2.6, Company shall pay Foresight [***] not yet paid to Foresight (the "**Termination Fee**"). [***].

11.5.4. Effect of Termination for Convenience. Upon receipt of written notice of termination for convenience, Foresight shall cease work on the Activities, cooperate with

Company in winding down the Activities, and provide any outstanding Deliverables under the Work Plan to the extent agreed upon by the JSC.

11.5.5. Survival. Termination of this Agreement for any reason shall be without prejudice to any rights that shall have accrued to the benefit of a Party prior to such termination, including, for clarity, any payments owed to Foresight in relation to the period prior to such termination. Such termination shall not relieve a Party from obligations that are expressly indicated to survive the termination or expiration of this Agreement. Without limiting the foregoing, the following provisions shall survive termination or expiration of this Agreement in its entirety: Article 1, Article 5 (to the extent that any amounts are accrued but unpaid as of expiration or the effective date of termination), Article 6, Article 7, Article 8 (for the term set forth in Section 8.1.1), Sections 3.4.3(i) (to the extent necessary to comply with a Regulatory Approval of the Foresight Assay as a Companion Diagnostic), 3.4.3(ii) (to the extent necessary to comply with a Regulatory Approval of the Foresight Assay as a Companion Diagnostic), 9.5, 10.1-10.4, 11.5, 11.6, 12.1-12.3, and 12.5-12.15.

11.6. Remedies. Except as otherwise expressly provided herein, termination of this Agreement in accordance with the provisions hereof shall not limit remedies that may otherwise be available in law or equity.

ARTICLE 12
MISCELLANEOUS

12.1. Force Majeure. Each Party shall be excused from the performance of its obligations under this Agreement to the extent that such performance is prevented by force majeure and the nonperforming Party promptly provides notice of the prevention to the other Party. Such excuse shall be continued so long as the condition constituting force majeure continues and the nonperforming Party takes reasonable efforts to remove the condition. For purposes of this Agreement, "force majeure" means conditions beyond the control of the affected Party, including an act of God, war, civil commotion, terrorist act, labor strike or other lock-out, epidemic, pandemic, destruction of production facilities or materials by fire, earthquake, storm or like catastrophe. However, a Party shall not be excused from making payments owed hereunder because of a force majeure affecting such Party. If a Party is subject to a force majeure which substantially interferes with the performance of its obligations hereunder and which extends for a period of [***] or more, the other Party may elect to terminate this Agreement in accordance with Article 11 upon notice to the Party affected by such event.

12.2. Export Control. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States or other countries that may be imposed on the Parties from time to time. Each Party agrees that it will not export, directly or indirectly, any technical information acquired from the other Party under this Agreement or any products using such technical information to a location or in a manner that at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the appropriate agency or other governmental entity in accordance with Applicable Law.

12.3. Assignment; Affiliates. Neither this Agreement nor any rights or obligations hereunder shall be assignable or otherwise transferable, in whole or in part, by a Party without the prior written consent of the other Party, except that each Party shall have the right, without such consent, to effect such assignment or transfer, in whole but not in part: (i) to any of its Affiliates (provided, however, that under this clause (i) the assigning Party shall remain responsible to the other Party for the performance of any such assigned or transferred obligations), or (ii) to any successor in interest (whether by merger, acquisition or asset purchase) to all or substantially all of the business to which this Agreement relates including, for

clarity, in the case of Foresight, to any successor in interest to its business with respect to the Foresight Assay(s) intended for use with any Company Product; provided that as to clauses (i) and (ii) such Affiliate or successor in interest assumes all obligations under this Agreement; and, the assigning or transferring Party shall provide written notice to the other Party within [***] after such assignment or transfer. All validly assigned or transferred rights or obligations of a Party shall inure to the benefit of and be enforceable by, or be binding on and be enforceable against, as applicable, the permitted successors and assigns of such Party. Any attempted assignment or other transfer in violation of this Section 12.3 shall be void and of no effect.

12.4. Dispute Resolution.

12.4.1. Referral to Senior Officers. Except as provided in Section 12.8, if a dispute arises between the Parties in connection with or relating to this Agreement (including the Work Plan), or any document or instrument delivered in connection herewith (each, a "**Dispute**"), then either Party shall have the right to refer such Dispute to the Senior Officers for attempted resolution by good faith negotiations during a period of [***]. For clarity, matters that are subject to the provisions of Section 12.9 shall not be referred to Senior Officers for resolution.

12.4.2. Resolution. Any final decision mutually agreed to in writing by the Senior Officers shall be conclusive and binding on the Parties. If the Senior Officers are unable to resolve any such Dispute within the period set forth in Section 12.4.1, then either Party shall be free to exercise any right of such Party to institute litigation in accordance with Section 12.6.

12.4.3. Interim Relief. Notwithstanding anything herein to the contrary, nothing contained in this Section 12.4 shall preclude either Party from seeking interim or provisional relief, including a temporary restraining order, preliminary injunction or other interim equitable relief, including concerning a Dispute, if reasonably necessary to protect the interests of such Party. This Section 12.4.3 shall be specifically enforceable.

12.5. Governing Law, Jurisdiction and Service. This Agreement shall be governed by and construed in accordance with the laws of the [***], excluding any conflicts or choice of law rules or principles that might otherwise refer construction or interpretation of this Agreement to the substantive law of another jurisdiction. The Parties agree to exclude the application to this Agreement of the United Nations Convention on Contracts for the International Sale of Goods.

12.6. Litigation. For Disputes to be settled by litigation under Section 12.4, the Parties hereby irrevocably and unconditionally consent to the exclusive jurisdiction of the federal courts located in [***] for any action, suit or proceeding (including appeals therefrom) arising out of or relating to this Agreement and agree to not commence any action, suit or proceeding (including appeals therefrom) related thereto except in such courts. Each Party further agrees that service of any process, summons, notice or document by registered mail to its address set forth in Section 12.6 shall be effective service of process for any action, suit or proceeding brought against it under this Agreement in any such court.

12.7. Notices. Any notice, request, demand, waiver, consent, approval or other communication permitted or required under this Agreement shall be in writing, shall reference this Agreement and shall be deemed given only if delivered by hand or by a recognized overnight delivery service that maintains records of delivery, addressed to a Party at its respective address specified below or to such other address as the Party to whom notice is to be given may have provided to the other Party in accordance with this Section 12.7. Such notice shall be deemed to have been given as of the date delivered by hand or on the [***] business day (at the place of delivery) after deposit with a recognized overnight delivery service. A courtesy notice shall be provided via email, which shall not constitute notice under this Section 12.7. This

Section 12.7 is not intended to govern the day-to-day business communications between the Parties in performing their obligations under the terms of this Agreement or the Work Plan.

If to Company, to: 210 East Grand Avenue South San Francisco, California 94080 Attention: General Counsel Email: [***]	If to Foresight, to: 2865 Wilderness Place Boulder, Colorado 80301 Attention: [***] Email: [***] With a copy to: 1881 9th St Suite 110 Boulder, CO 80302 Attention: [***] Email: [***]

12.8. Entire Agreement; Amendments. This Agreement, together with the Work Plan executed hereunder and incorporated herein, and any Exhibit, Appendix, Attachment, Annex or Schedule hereto or thereto, sets forth and constitutes the entire agreement and understanding between the Parties with respect to the subject matter hereof, and all prior agreements, understandings, promises and representations, whether written or oral, with respect thereto, including the Letter Agreement (including the CDA), are superseded hereby. Each Party confirms that it is not relying on any representations or warranties of the other Party except as specifically set forth in this Agreement. No amendment, modification, release or discharge with respect to this Agreement (including the Work Plan) shall be binding upon the Parties unless in writing and duly executed by an authorized representative of each Party. Subject to Section 2.1, in the event of any inconsistencies between this Agreement and any schedules or other attachments hereto (including the Work Plan), the terms of this Agreement shall control.

12.9. Equitable Relief. Each Party acknowledges and agrees that the restrictions set forth in Section 7.1, Section 7.8 and Article 8 are reasonable and necessary to protect the legitimate interests of the other Party and that such other Party would not have entered into this Agreement in the absence of such restrictions and that any breach or threatened breach thereof may result in irreparable injury to such other Party for which there will be no adequate remedy at law. In the event of a breach or threatened breach thereof, the non-breaching Party shall be entitled to seek from any court of competent jurisdiction injunctive relief, whether preliminary or permanent and specific performance, which rights shall be cumulative and in addition to any other rights or remedies to which such non-breaching Party may be entitled in law or equity. Each Party agrees to waive any requirement that the other Party (a) post a bond or other security as a condition for obtaining any such relief or (b) show irreparable harm, balancing of harms, consideration of the public interest or inadequacy of monetary damages as a remedy. Nothing in this Section 12.9 is intended or should be construed, to limit either Party's right to equitable relief or any other remedy for a breach of any other provision of this Agreement.

12.10. Waiver and Non-Exclusion of Remedies. Any term or condition of this Agreement (including the Work Plan) may be waived at any time by the Party that is entitled to the benefit thereof, but no such waiver shall be effective unless set forth in a written instrument duly executed by or on behalf of the Party waiving such term or condition. The waiver by either Party of any right under this Agreement, or of the failure to perform or of a breach by the other

Party, shall not be deemed a waiver of any other right under this Agreement or of any other breach or failure by such other Party whether of a similar nature or otherwise. The rights and remedies provided herein are cumulative and do not exclude any other right or remedy provided by Applicable Law or otherwise available except as expressly set forth herein.

12.11. No Benefit to Third Parties. Except as specifically provided in Sections 10.1 and 10.2, the covenants and agreements set forth in this Agreement are for the sole benefit of the Parties and their successors and permitted assigns and they shall not be construed as conferring any rights on any other Persons.

12.12. Further Assurance. Each Party shall duly execute and deliver or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including the filing of such assignments, agreements, documents and instruments, as may be reasonably necessary or as the other Party may reasonably request in connection with this Agreement or to carry out more effectively the provisions and purposes hereof or to better assure and confirm unto such other Party its rights and remedies under this Agreement.

12.13. Relationship of the Parties. It is expressly agreed that Foresight and Company shall be independent contractors and that the relationship between the Parties under this Agreement and the Work Plan shall not constitute a partnership, joint venture or agency. Neither Foresight nor Company shall have the authority to make any statements, representations or commitments of any kind, or to take any action that will be binding on the other, without the prior written consent of the other Party to do so. All persons employed by a Party shall be employees of such Party and not of the other Party, and all costs and obligations incurred by reason of any such employment shall be for the account and expense of such first Party.

12.14. Severability. If any one or more provisions of this Agreement shall be found to be illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby, provided the surviving agreement materially comports with the Parties' original intent. The Parties agree that any such illegal or unenforceable provisions will be deemed replaced with valid and enforceable provisions that achieve, to the extent possible, the business purposes and intent of such invalid and unenforceable provisions.

12.15. Counterparts; Electronic Signatures. This Agreement may be executed in counterparts, each of which shall be deemed an original, and together shall constitute one and the same instrument. This Agreement shall be executed by and transmitted via DocuSign or Adobe Sign.

SIGNATURE PAGE FOLLOWS.The Parties have caused this Agreement to be executed on the Effective Date by their duly authorized representatives.

FORESIGHT DIAGNOSTICS, INC.	ALLOGENE THERAPEUTICS, INC.
By: /s/ Jake Chabon	By: /s/ David Chang
Name: Jake Chabon	Name: David Chang
Title: CEO	Title: CEO

COMPANION DIAGNOSTIC PROPOSAL / Work Plan

EXHIBIT A

[***]

[***]

I. [***]

A) [***]

a. [***]

b. [***]

i. [***]

ii. [***]

iii. [***]

iv. [***]

B) [***]

a. [***]

i. Note: [***]

b. [***]

c. [***]

d. [***]

C) [***]

D) [***]

E) [***]

F) [***]

G) [***]

a. [***]

b. [***]

i. [***]

ii. [***]

iii. [***]

iv. [***]

v. [***]

c. [***]

d. [***]

e. [***]

f. [***]

g. [***]

h. [***]

H) [***]

I) [***]

a. [***]

b. [***]

c. [***]

d. [***]

e. [***]

f. [***]

J) [***]

a. [***]

b. [***]

c. [***]

d. [***]

K) [***]

L) [***]

M) [***]

a. [***]

b. [***]

c. [***]

d. [***]

N) [***]

a. [***]

b. [***]

O) [***]

a. [***]

b. [***]

c. [***]

d. [***]

P) [***]

a. [***]

b. [***]

c. [***]

[***]

[***]

II. [***]

A) [***]

B) [***]

a. [***]

i. [***]

ii. [***]

iii. [***]

b. [***]

i. [***]

ii. [***]

iii. [***]

III. [***]

[***]

A) [***]

a. [***]

b. [***]

c. [***]

B) [***]

a. [***]

EXHIBIT B

PAYMENT

I. [***]

A) [***]

B) [***]

C) [***]

D) [***]

a. [***]

b. [***]

c. [***]

[***]

E) [***]

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G) [***]

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K) [***]

L) [***]

II. [***]

[***]

III. Pricing of Activities (Assays and Total Program):

[***]

Grand Total Program Budget	$26,173,500

[***]

IV. Payment Term

[***]

EXHIBIT C
PRESS RELEASE

Allogene Therapeutics and Foresight Diagnostics Announce Partnership to Develop MRD-based In-Vitro Diagnostic for Use in ALPHA3, the First Pivotal Trial for Frontline Consolidation in Large B-Cell Lymphoma (LBCL)

- Partnership Will Utilize Foresight's Ultra-Sensitive MRD Technology to Identify Patients for Enrollment in Allogene's ALPHA3 Trial

San Francisco, CA and Boulder, CO, January 4, 2024 – Allogene Therapeutics Inc. (Nasdaq: ALLO), a clinical-stage biotechnology company pioneering the development of allogeneic CAR T (AlloCAR T™) products, and Foresight Diagnostics (Foresight), the leader in the development of ultra-sensitive liquid biopsy circulating tumor DNA (ctDNA) detection today announced a strategic partnership to develop a minimal residual disease (MRD) in-vitro diagnostic (IVD) to determine eligibility in ALPHA3, the first pivotal trial for first line (1L) consolidation treatment of large B-cell lymphoma (LBCL)

The ALPHA3 trial uses Foresight's investigational PhasED-Seq™ ctDNA-MRD platform to identify patients with MRD after 1L treatment for LBCL. The study will evaluate whether such patients benefit from consolidation with cemacabtagene ansegedleucel, or cema-cel (previously known as ALLO-501A). If successful, cema-cel could become part of the 1L treatment plan for newly diagnosed LBCL patients who are at a high risk for recurrence. Start-up activities for the ALPHA3 trial have been initiated.

"We knew that an ultra-sensitive ctDNA-based biomarker would be crucial to accurately identify patients with minimum residual disease whose cancer will likely recur. Foresight was the partner we were waiting for due to PhasEd-Seq's robust evidence and reputation as the most reliable and sensitive MRD assay in development for LBCL," said David Chang, M.D., Ph.D., President, Chief Executive Officer and Co-Founder of Allogene. "The combination of rapid, blood-based testing and an off-the-shelf allogeneic CAR T creates a unique opportunity to deliver consolidation therapy before cancer relapses. This will also allow us to aim for broader patient access to this powerful modality by making enrollment available in community centers where the infrastructure to administer autologous therapies may not be readily available."

Although 1L R-CHOP is curative for many with LBCL, approximately 30% of patients who initially respond will relapse[1]. The standard of care after 1L treatment has been simply to "watch and wait" for the disease to relapse. The reliance on radiographic imaging, the current clinical standard for relapse detection, does not allow effective consolidation approaches due to its limited accuracy[2]. PhasED-Seq is an ultra-sensitive and specific, plasma-based liquid biopsy that will enable cema-cel's 1L consolidation approach in ALPHA3 through early and accurate MRD assessment beyond current radiographic imaging-based disease assessment.[3]

Growing evidence also suggests improved outcomes and safety for patients who are treated with CAR T when tumor burden is low[4]. Cema-cel's Phase 1 safety profile, with low rates of cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS), already permits its use in the outpatient setting in relapsed/refractory patients and may further improve in patients with no radiological evidence of disease.

"Although CAR T therapy has shown promise in multiple cancer indications, it has been relegated to later lines of treatment. The combination of cema-cel's speed to treatment, its favorable efficacy and safety profile from the Phase 1 trial in later lines, and the ability to pair it with an accurate biomarker has provided the pathway to introduce CAR T into the first line LBCL treatment setting. Importantly, it may allow cema-cel to consolidate response in patients at high risk of relapse and in the community setting where most first line patients are managed," said Zachary Roberts, M.D., Ph.D., Executive Vice President of Research & Development and Chief Medical Officer of Allogene Therapeutics. "The partnership between Allogene and Foresight Diagnostics brings all the necessary components together for the first time. If successful, the combination of cema-cel and Foresight's IVD could mark a paradigm shift in how LBCL patients are managed in the clinic."

"We commend Allogene for pioneering ctDNA biomarkers and leading the way toward personalized medicine. The ALPHA3 study showcases their commitment to advancing patient care," said Jake Chabon, PhD, founding Chief Executive Officer of Foresight Diagnostics. "Foresight is proud to deliver a technology that stands singular in performance. We look forward to working alongside Allogene to improve outcomes for patients with LBCL."

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[1] Tilly H, Morschhauser F, Sehn LH, Friedberg JW, et al. Polatuzumab Vedotin in Previously Untreated Diffuse Large B-Cell Lymphoma. N Engl J Med. 2022;386(4):351-363

[2] Kurtz, D.M., Soo, J., Co Ting Keh, L. et al. Enhanced detection of minimal residual disease by targeted sequencing of phasevariants in circulating tumor DNA. Nat Biotechnol 39, 1537–1547 (2021). https://doi.org/10.1038/s41587-021-00981-w

[3] Kurtz, D.M., Soo, J., Co Ting Keh, L. et al. Enhanced detection of minimal residual disease by targeted sequencing of phased variants in circulating tumor DNA. Nat Biotechnol 39, 1537–1547 (2021). https://doi.org/10.1038/s41587-021-00981-w

[4] Park JH, Rivière I, Gonen M, Wang X, Sénéchal B, Curran KJ, Sauter C, Wang Y, Santomasso B, Mead E, Roshal M, Maslak P, Davila M, Brentjens RJ, Sadelain M. Long-Term Follow-up of CD19 CAR Therapy in Acute Lymphoblastic Leukemia. N Engl J Med. 2018 Feb 1;378(5):449-459. doi: 10.1056/NEJMoa1709919. PMID: 29385376; PMCID: PMC6637939

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About Foresight Diagnostics
Foresight Diagnostics is a privately held cancer diagnostics company and CLIA-registered laboratory. The company has developed a novel liquid biopsy testing platform for the measurement of minimal residual disease (MRD) that is significantly more sensitive than existing tests (with a detection limit below 0.0001%, or one part-per-million). The improved sensitivity of the Foresight's MRD assays can provide actionable information to physicians and biopharmaceutical companies to enable more personalized treatment approaches for patients with solid tumors and hematologic malignancies. For more information, please visit foresight-dx.com and follow us on Twitter and LinkedIn.

About PhasED-Seq
The Foresight MRD platform is based on the Phased variant Enrichment and Detection by Sequencing (PhasED-Seq™) technology. PhasED-Seq lowers the error profile of mutation detection in sequencing data by requiring the concordant detection of two separate non-reference events in an individual DNA molecule. By detecting more than one mutation, PhasED-Seq can more accurately distinguish tumor-derived cell free DNA (i.e., ctDNA) from healthy cell free DNA – enabling detection of ctDNA at levels below one part-per-million (<0.0001%). PhasED-Seq has been extensively tested in thousands of patient samples.

About Allogene Therapeutics
Allogene Therapeutics, with headquarters in South San Francisco, is a clinical-stage biotechnology company pioneering the development of allogeneic chimeric antigen receptor T cell (AlloCAR T™) products for cancer and autoimmune disease. Led by a management team with significant experience in cell therapy, Allogene is developing a pipeline of "off-the-shelf" CAR T cell product candidates with the goal of delivering readily available cell therapy on-demand, more reliably, and at greater scale to more patients. For more information, please visit www.allogene.com, and follow @AllogeneTx on X (formerly Twitter) and LinkedIn.

About Cemacabtagene Ansegedleucel (Previously Known as ALLO-501A)
Cemacabtagene ansegedleucel, or cema-cel is a next generation anti-CD19 AlloCAR T™ investigational product for the treatment of large B cell lymphoma (LBCL). This product candidate is currently being studied in an ongoing potentially pivotal Phase 2 trial in relapsed/refractory (r/r) LBCL. The ALPHA3 pivotal Phase 2 trial in first line (1L) consolidation for the treatment of LBCL is expected to begin mid-2024. In June 2022, the U.S. Food and Drug Administration granted Regenerative Medicine Advanced Therapy (RMAT) designation to cema-cel in third line (3L) r/r LBCL.

Cautionary Note on Forward-Looking Statements for Allogene
This press release contains forward-looking statements for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The press release may, in some cases, use terms such as "predicts," "projects," "believes," "potential," "proposed," "continue," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "would," "suggests," "might," "will," "should" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements include statements regarding intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: ALPHA3 being a pivotal trial; the pace, timing and extent to which Allogene may enroll patients in its clinical trials or release data from such trials; the timing and ability to progress the ALPHA3 trial; the potential for Allogene's product candidates to be approved; the potential benefits of AlloCAR T products; the ability of our product candidates to treat various stages and types of cancers; Allogene's ability to broaden patient access to CAR T therapy; the incidence, severity and manageability of side effects of allogeneic CAR T products; the extent to which our clinical trials will support regulatory approval of our product candidates; the potential for off-the-shelf CAR T products; our ability to deliver cell therapy on-demand, more reliably, and at greater scale to more patients. Various factors may cause material

differences between Allogene's expectations and actual results, including, risks and uncertainties related to: our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of product candidate development and obtaining regulatory approval; the extent to which the Food and Drug Administration disagrees with our clinical or regulatory plans or the import of our clinical results, which could cause future delays to our clinical trials or require additional clinical trials; we may encounter difficulties enrolling patients in our clinical trials; we may not be able to demonstrate the safety and efficacy of our product candidates in our clinical trials, which could prevent or delay regulatory approval and commercialization; and challenges with manufacturing or optimizing manufacturing of our product candidates. These and other risks are discussed in greater detail in Allogene's filings with the SEC, including without limitation under the "Risk Factors" heading in its Annual Report on Form 10-K for the year ended December 31, 2022, and in its Quarterly Report on Form 10-Q for the quarter ended September 30, 2023. Any forward-looking statements that are made in this press release speak only as of the date of this press release. Allogene assumes no obligation to update the forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

Allogene's investigational oncology products utilize TALEN® gene-editing technology pioneered and owned by Cellectis. ALLO-501 and cemacabtagene ansegedleucel (previously known as ALLO-501A) are anti-CD19 AlloCAR T™ investigational products being developed under a collaboration agreement between Servier and Allogene based on an exclusive license granted by Cellectis to Servier. Servier grants to Allogene exclusive rights to ALLO-501 and cemacabtagene ansedgedleucel in the U.S.

AlloCAR T™ is a trademark of Allogene Therapeutics, Inc. PhasED-Seq™ is a trademark of Foresight Diagnostics.

Foresight Contact:
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Madeleine Goldstein
Madeleine.Goldstein@allogene.com

EXHIBIT D

Security Requirements

I. [***]

[***]

1. [***]

(A) [***]

(B) [***]

(C) [***]

(D) [***]

(E) [***]

2. [***]

[***]

(A) [***]

i. [***]

ii. [***]

(a) [***]

(b) [***]

(B) [***]

i. [***]

ii. [***]

(C) [***]

i. [***]

ii. [***]

iii. [***]

iv. [***]

v. [***]

(D) [***]

[***]

i. [***]

ii. [***]

3. [***]

(A) [***]

i. [***]

ii. [***]

(a) [***]

(b) [***]

(c) [***]

(d) [***]

(B) [***]

i. [***]

ii. [***]

(C) [***]

4. [***]

(A) [***]

(B) [***]

(C) [***]

(D) [***]

(E) [***]

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statements (Forms S-8 Nos. 333-227965, 333-230164, 333-236701, 333-253530, 333-262923 and 333-270098) pertaining to the Amended and Restated 2018 Equity Incentive Plan and 2018 Employee Stock Purchase Plan of Allogene Therapeutics, Inc., and

(2) Registration Statement (Form S-3 No. 333-268117) of Allogene Therapeutics, Inc.;

of our report dated March 14, 2024, with respect to the consolidated financial statements of Allogene Therapeutics, Inc. included in this Annual Report (Form 10-K) of Allogene Therapeutics, Inc. for the year ended December 31, 2023.

/s/ Ernst & Young LLP

San Mateo, California
March 14, 2024

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, David Chang, M.D., Ph.D., certify that:

1. I have reviewed this Annual Report on Form 10-K of Allogene Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 14, 2024

By: /s/ David Chang, M.D., Ph.D.
David Chang, M.D., Ph.D.
President and Chief Executive Officer
(Principal 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, Geoffrey Parker, certify that:

1. I have reviewed this Annual Report on Form 10-K of Allogene Therapeutics;

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 14, 2024

By: /s/ Geoffrey Parker
Geoffrey Parker
Chief Financial Officer
(Principal Financial and Accounting 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 Allogene Therapeutics, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2023, to which this Certification is attached as Exhibit 32.1, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David Chang, M.D., Ph.D., President and Chief Executive Officer of the Company 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 Section 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 14, 2024 By: /s/ David Chang, M.D., Ph.D.

David Chang, M.D., Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Allogene Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

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 Allogene Therapeutics, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2023, to which this Certification is attached as Exhibit 32.2, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Geoffrey Parker, Chief Financial Officer of the Company, 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 Section 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 14, 2024 By: /s/ Geoffrey Parker

Geoffrey Parker
Chief Financial Officer
(Principal Financial and Accounting Officer)

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Allogene Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

ALLOGENE THERAPEUTICS, INC.

Incentive Compensation Recoupment Policy

(Adopted: November 17, 2023)

1. Introduction

The Compensation Committee (the "***Compensation Committee***") of the Board of Directors (the "***Board***") of **Allogene Therapeutics, Inc.**, a Delaware corporation (the "***Company***"), has determined that it is in the best interests of the Company and its stockholders to adopt this Incentive Compensation Recoupment Policy (this "***Policy***") providing for the Company's recoupment of Recoverable Incentive Compensation that is received by Covered Officers of the Company under certain circumstances. Certain capitalized terms used in this Policy have the meanings given to such terms in Section 3 below.

This Policy is designed to comply with, and shall be interpreted to be consistent with, Section 10D of the Exchange Act, Rule 10D-1 promulgated thereunder ("***Rule 10D-1***") and Nasdaq Listing Rule 5608 (the "***Listing Standards***").

2. Effective Date

This Policy shall apply to all Incentive Compensation that is received by a Covered Officer on or after October 2, 2023 (the "***Effective Date***"). Incentive Compensation is deemed "***received***" in the Company's fiscal period in which the Financial Reporting Measure specified in the Incentive Compensation award is attained, even if the payment or grant of such Incentive Compensation occurs after the end of that period.

3. Definitions

"***Accounting Restatement***" means an accounting restatement that the Company is required to prepare due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

"***Accounting Restatement Date***" means the earlier to occur of (a) the date that the Board, a committee of the Board authorized to take such action, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement, or (b) the date that a court, regulator or other legally authorized body directs the Company to prepare an Accounting Restatement.

"***Administrator***" means the Compensation Committee or, in the absence of such committee, the Board.

"***Code***" means the U.S. Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

"***Covered Officer***" means each current, future, and former Executive Officer.

"***Exchange***" means the Nasdaq Stock Market.

"***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended.

"***Executive Officer***" means the Company's president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person who performs

similar policy-making functions for the Company. Executive officers of the Company's parent(s) or subsidiaries are deemed executive officers of the Company if they perform such policy-making functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant. Identification of an executive officer for purposes of this Policy would include at a minimum executive officers identified pursuant to Item 401(b) of Regulation S-K promulgated under the Exchange Act.

"***Financial Reporting Measures***" means measures that are determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measures derived wholly or in part from such measures, including Company stock price and total stockholder return ("***TSR***"). A measure need not be presented in the Company's financial statements or included in a filing with the SEC in order to be a Financial Reporting Measure.

"***Incentive Compensation***" means any compensation that is granted, earned or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

"***Lookback Period***" means the three completed fiscal years immediately preceding the Accounting Restatement Date, as well as any transition period (resulting from a change in the Company's fiscal year) within or immediately following those three completed fiscal years (except that a transition period of at least nine months shall count as a completed fiscal year). Notwithstanding the foregoing, the Lookback Period shall not include fiscal years completed prior to the Effective Date.

"***Recoverable Incentive Compensation***" means Incentive Compensation received by a Covered Officer during the Lookback Period that exceeds the amount of Incentive Compensation that would have been received had such amount been determined based on the Accounting Restatement, computed without regard to any taxes paid (*i.e.*, on a gross basis without regarding to tax withholdings and other deductions). For any compensation plans or programs that take into account Incentive Compensation, the amount of Recoverable Incentive Compensation for purposes of this Policy shall include, without limitation, the amount contributed to any notional account based on Recoverable Incentive Compensation and any earnings to date on that notional amount. For any Incentive Compensation that is based on stock price or TSR, where the Recoverable Incentive Compensation is not subject to mathematical recalculation directly from the information in an Accounting Restatement, the Administrator will determine the amount of Recoverable Incentive Compensation based on a reasonable estimate of the effect of the Accounting Restatement on the stock price or TSR upon which the Incentive Compensation was received. The Company shall maintain documentation of the determination of that reasonable estimate and provide such documentation to the Exchange in accordance with the Listing Standards.

"***SEC***" means the U.S. Securities and Exchange Commission.

4. Recoupment

(a) Applicability of Policy. This Policy applies to Incentive Compensation received by a Covered Officer (i) after beginning services as an Executive Officer, (ii) who served as an Executive Officer at any time during the performance period for such Incentive Compensation, (iii) while the Company had a class of securities listed on a national securities exchange or a national securities association, and (iv) during the Lookback Period.

(b) Recoupment Generally. Pursuant to the provisions of this Policy, if there is an Accounting Restatement, the Company must reasonably promptly recoup the full amount of the Recoverable Incentive Compensation, unless the conditions of one or more subsections of Section 4(c) of this Policy are met and the Compensation Committee, or, if such committee does not consist solely of independent directors, a majority of the independent directors serving on the Board, has made a determination that recoupment would be impracticable. Recoupment is required regardless of whether the Covered Officer engaged in any misconduct and regardless of fault, and the Company's obligation to recoup Recoverable Incentive Compensation is not dependent on whether or when any restated financial statements are filed.

(c) Impracticability of Recovery. Recoupment may be determined to be impracticable if, and only if:

(i) the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount of the applicable Recoverable Incentive Compensation; provided that, before concluding that it would be impracticable to recover any amount of Recoverable Incentive Compensation based on expense of enforcement, the Company shall make a reasonable attempt to recover such Recoverable Incentive Compensation, document such reasonable attempt(s) to recover, and provide that documentation to the Exchange in accordance with the Listing Standards; or

(ii) recoupment of the applicable Recoverable Incentive Compensation would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of Code Section 401(a)(13) or Code Section 411(a) and regulations thereunder.

(d) Sources of Recoupment. To the extent permitted by applicable law, the Administrator shall, in its sole discretion, determine the timing and method for recouping Recoverable Incentive Compensation hereunder, provided that such recoupment is undertaken reasonably promptly. The Administrator may, in its discretion, seek recoupment from a Covered Officer from any of the following sources or a combination thereof, whether the applicable compensation was approved, awarded, granted, payable or paid to the Covered Officer prior to, on or after the Effective Date: (i) direct repayment of Recoverable Incentive Compensation previously paid to the Covered Officer; (ii) cancelling prior cash or equity-based awards (whether vested or unvested and whether paid or unpaid); (iii) cancelling or offsetting against any planned future cash or equity-based awards; (iv) forfeiture of deferred compensation, subject to compliance with Code Section 409A; and (v) any other method authorized by applicable law or contract. Subject to compliance with any applicable law, the Administrator may effectuate recoupment under this Policy from any amount otherwise payable to the Covered Officer, including amounts payable to such individual under any otherwise applicable Company plan or program, *e.g.*, base salary, bonuses or commissions and compensation previously deferred by the Covered Officer. The Administrator need not utilize the same method of recovery for all Covered Officers or with respect to all types of Recoverable Incentive Compensation.

(e) No Indemnification of Covered Officers. Notwithstanding any indemnification agreement, applicable insurance policy or any other agreement or provision of the Company's certificate of incorporation or bylaws to the contrary, no Covered Officer shall be entitled to indemnification or advancement of expenses in connection with any enforcement of this Policy by the Company, including paying or reimbursing such Covered Officer for insurance premiums to cover potential obligations to the Company under this Policy.

(f) Indemnification of Administrator. Any members of the Administrator, and any other members of the Board who assist in the administration of this Policy, and any officer or employee of the Company acting pursuant to the Administrator's authorization or empowerment under to Section 5 below, shall not be personally liable for any action, determination or interpretation made with respect to this Policy and shall be indemnified by the Company to the fullest extent under applicable law and Company policy with respect to any such action, determination or interpretation. The foregoing sentence shall not limit any other rights to indemnification of the members of the Board or an officer acting on their behalf under applicable law, any indemnification agreement, or Company policy.

(g) No "Good Reason" for Covered Officers. The implementation of this Policy and any action by the Company to recoup or any recoupment of Recoverable Incentive Compensation under this Policy from a Covered Officer shall not be deemed (i) "good reason" for resignation or to serve as a basis for a claim of constructive termination under any benefits or compensation arrangement applicable to such Covered Officer, or (ii) to constitute a breach of a contract or other arrangement to which such Covered Officer is party.

5. Administration

Except as specifically set forth herein, this Policy shall be administered by the Administrator. The Administrator shall have full and final authority to make any and all determinations required under this Policy. Any determination by the Administrator with respect to this Policy shall be final, conclusive and binding on all interested parties and need not be uniform with respect to each individual covered by this

Policy. In carrying out the administration of this Policy, the Administrator is authorized and directed to consult with the full Board or such other committees of the Board as may be necessary or appropriate as to matters within the scope of such other committee's responsibility and authority. Subject to applicable law, the Administrator may authorize and empower any officer or employee of the Company to take any and all actions that the Administrator, in its sole discretion, deems necessary or appropriate to carry out the purpose and intent of this Policy (other than with respect to any recovery under this Policy involving such officer or employee).

6. Severability

If any provision of this Policy or the application of any such provision to a Covered Officer shall be adjudicated to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Policy, and the invalid, illegal or unenforceable provisions shall be deemed amended to the minimum extent necessary to render any such provision or application enforceable.

7. No Impairment of Other Remedies

Nothing contained in this Policy, and no recoupment or recovery as contemplated herein, shall limit any claims, damages or other legal remedies the Company or any of its affiliates may have against a Covered Officer arising out of or resulting from any actions or omissions by the Covered Officer. This Policy does not preclude the Company from taking any other action to enforce a Covered Officer's obligations to the Company, including, without limitation, termination of employment and/or institution of civil proceedings. This Policy is in addition to the requirements of Section 304 of the Sarbanes-Oxley Act of 2002 ("***SOX 304***") that are applicable to the Company's Chief Executive Officer and Chief Financial Officer and to any other compensation recoupment policy and/or similar provisions in any employment, equity plan, equity award, or other individual agreement, to which the Company is a party or which the Company has adopted or may adopt and maintain from time to time; provided, however, that compensation recouped pursuant to this policy shall not be duplicative of compensation recouped pursuant to SOX 304 or any such compensation recoupment policy and/or similar provisions in any such employment, equity plan, equity award, or other individual agreement except as may be required by law.

8. Amendment; Termination

The Administrator may amend, terminate or replace this Policy or any portion of this Policy at any time and from time to time in its sole discretion. The Administrator shall amend this Policy as it deems necessary to comply with applicable law or any Listing Standard.

9. Successors

This Policy shall be binding and enforceable against all Covered Officers and, to the extent required by Rule 10D-1 and/or the applicable Listing Standards, their beneficiaries, heirs, executors, administrators or other legal representatives.

10. Required Filings

The Company shall make any disclosures and filings with respect to this Policy that are required by law, including as required by the SEC.

* * * * *

Allogene Therapeutics, Inc.

Incentive Compensation Recoupment Policy

Form of Executive Acknowledgment

I, the undersigned, agree and acknowledge that I am bound by, and subject to, the Allogene Therapeutics, Inc. Incentive Compensation Recoupment Policy, as may be amended, restated, supplemented or

otherwise modified from time to time (the "***Policy***"). In the event of any inconsistency between the Policy and the terms of any employment agreement, offer letter or other individual agreement with Allogene Therapeutics, Inc. (the "***Company***") to which I am a party, or the terms of any compensation plan, program or agreement, whether or not written, under which any compensation has been granted, awarded, earned or paid to me, the terms of the Policy shall govern.

In the event that the Administrator (as defined in the Policy) determines that any compensation granted, awarded, earned or paid to me must be forfeited or reimbursed to the Company pursuant to the Policy, I will promptly take any action necessary to effectuate such forfeiture and/or reimbursement. I further agree and acknowledge that I am not entitled to indemnification, and hereby waive any right to advancement of expenses, in connection with the Company's enforcement of the Policy against me.

Agreed and Acknowledged:

__

Name: __

Title: __

Date: __