As confidentially submitted to the Securities and Exchange Commission on May 18, 2020
This Amendment No. 2 to the draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

Registration No. 333-

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

FORM S-1
REGISTRATION STATEMENT
Under
The Securities Act of 1933

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

Delaware	**2834**	**47-4515206**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification Number)**

Nkarta, Inc.
6000 Shoreline Court, Suite 102
South San Francisco, CA 94080
415-582-4923
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Paul J. Hastings
Nkarta, Inc.
6000 Shoreline Court, Suite 102
South San Francisco, CA 94080
415-582-4923
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Menlo Park, CA 94025-4110
(650) 838-3600

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box: ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Amount to be Registered**	**Proposed Maximum Offering Price Per Unit**	**Proposed Maximum Aggregate Offering Price(1)(2)**	**Amount of Registration Fee(3)**
Common stock, $**0.0001** par value per share	$	$	$	$

(1) Includes shares of common stock that may be purchased by the underwriters upon the exercise of their option to purchase additional shares, if any.

(2) Estimated solely for purposes of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

(3) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PROSPECTUS (Subject to Completion**)** **Dated , 2020**

Shares

Nkarta, Inc.

Common Stock

This is the initial public offering of shares of our common stock. We are offering shares of our common stock. Prior to this offering, there has not been a public market for our common stock. We will apply for listing of our common stock on the Nasdaq Global Market under the symbol "NKTX." We expect that the public offering price will be between $ and $ per share.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and will be subject to reduced public company reporting requirements for this prospectus and future filings. See "Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Our business and an investment in our common stock involve significant risks. These risks are described under the caption "Risk Factors" beginning on page 12 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	*Total*
Public offering price	**$**	**$**
Underwriting discount(1)	**$**	**$**
Proceeds, before expenses, to us	**$**	**$**

(1) See "Underwriting" beginning on page 165 for a description of the compensation payable to the underwriters.

The underwriters may also purchase up to an additional shares from us at the public offering price, less the underwriting discount, within 30 days from the date of this prospectus to cover overallotments.

The underwriters expect to deliver the shares against payment in New York, New York on , 2020.

Cowen **Evercore ISI** **Stifel** **Mizuho Securities**

, 2020

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Through and including , 2020 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

IMPORTANT INFORMATION ABOUT THIS PROSPECTUS

We and the underwriters have not authorized anyone to provide you with information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information appearing in this prospectus is accurate as of the date on the front cover of this prospectus only. Our business, financial condition, results of operations and growth prospects may have changed since that date.

For investors outside the United States: neither we nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus. It does not contain all of the information that may be important to you and your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including the matters set forth under the sections of this prospectus captioned "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

Unless the context otherwise requires, the terms "Company," "Nkarta, Inc.," "we," "us" or "our" in this prospectus refer to Nkarta, Inc. We currently do not have any subsidiaries.

NKARTA, INC.

Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of allogeneic, off-the-shelf engineered natural killer, or NK, cell therapies to treat cancer. Our approach for cellular immunotherapy involves chimeric antigen receptors, or CARs, on the surface of an NK cell that enable the cell to recognize specific proteins or antigens that are present on the surface of tumor cells. The concept of a CAR builds upon and enhances the normal biology of T cells and NK cells, whereby naturally occurring receptors serve to activate these cells when a foreign pathogen or cancerous cell is detected. Our NK cell engineering platform builds on prior experience and success with engineering T cells and includes proprietary technologies that enable us to generate an abundant supply of NK cells, improve the persistence of these cells for sustained activity in the body, engineer enhanced NK cell recognition of tumor targets and to freeze, store and thaw our engineered NK cells for off-the-shelf use for the treatment of cancer. All of our product candidates are designed to be allogeneic, meaning they are produced using cells from a different person than the patient treated, as well as off-the-shelf, meaning they are produced in quantity, then frozen and therefore available for treating patients without delay, unlike existing autologous cell therapies. Based on published data from a number of clinical trials of NK cell therapies, we believe that engineered NK cells can be well tolerated and avoid some of the toxicities observed with other cell therapies.

Our two co-lead product candidates are NKX101 and NKX019. NKX101 is designed to enhance the power of innate NK biology to detect and kill cancerous cells. The primary activating receptor for NK cells is known as NKG2D, which works through the detection of stress ligands displayed by cancerous cells. We have engineered NKX101 to increase the cancer cell killing ability of our engineered NK cells by raising levels of NKG2D at least ten-fold as compared to non-engineered NK cells and by adding a costimulatory domain, which is an additional signaling element for white blood cells. We are planning to initiate a broad clinical program for NKX101 for both blood cancers and solid tumors in . Our initial indications include acute myeloid leukemia, or AML, myelodysplastic syndromes, or MDS, liver cancer, a bile duct cancer known as cholangiocarcinoma, as well as surgically removed colon cancer cases where only liver metastases remain. NKX019 is based on the ability to treat a variety of B cell malignancies by targeting the CD19 antigen that is found on these types of cancerous cells, where both engineered NK cells and T cells as well as monoclonal antibodies have demonstrated clinical activity. The two approved CAR-T therapies target CD19 and have achieved complete remission rates ranging from 32% to 63% in three pivotal clinical trials. A recent academic publication described a cohort of patients treated with a CAR-NK therapy targeting CD19 where seven of 11 (64%) of these patients achieved a complete remission. We are planning to initiate clinical trials for NKX019 in .

We have an intensive focus on manufacturing capabilities and technology, and we are building a 2,700-square foot current good manufacturing practice, or cGMP, facility on-site at our primary corporate location in South San Francisco, California. We currently expect to complete the construction of the first phase of this facility in and estimate the total expense to complete the construction, including laboratory and manufacturing equipment, will be approximately $6.0 million. By , after qualification including several test manufacturing runs, we expect to manufacture NKX019 at this cGMP facility. Starting in 2021, after completing a smaller, final phase of this buildout, we plan to manufacture the proprietary, engineered K562 cells and g-retrovirus as well as NKX101 at this facility. We believe this clinical cGMP facility will be capable of manufacturing approximately 24 batches per year and supply our anticipated non-pivotal clinical trial needs. We are also in the early stages of designing a separate, larger commercial cGMP manufacturing facility for manufacturing engineered NK cells for pivotal clinical trials as well as for eventual commercial supply. We believe that we can achieve a cost of manufacturing for commercial NKX101 and NKX019 at peak capacity of approximately $2,000 per dose, based on achieving 500 doses per manufacturing run at our highest planned Phase 1 dose of one billion CAR-NK cells per dose and our current estimates for the costs of raw materials, consumables, rent, construction, equipment, labor and overhead.

Our NK Cell Engineering Platform

Our NK cell engineering platform is designed to address the limitations and challenges of current technologies for engineering T cells and NK cells and is a result of our internal expertise and deep understanding of NK cell biology. Our platform includes proprietary technologies for NK cell expansion, persistence, targeting and cryopreservation. This enables us to generate an abundant supply of NK cells, engineer enhanced NK cell recognition of tumor targets, improve the persistence of these cells for sustained activity in the body, and to freeze, transport and store our engineered NK cells for off-the-shelf use for the treatment of cancer.

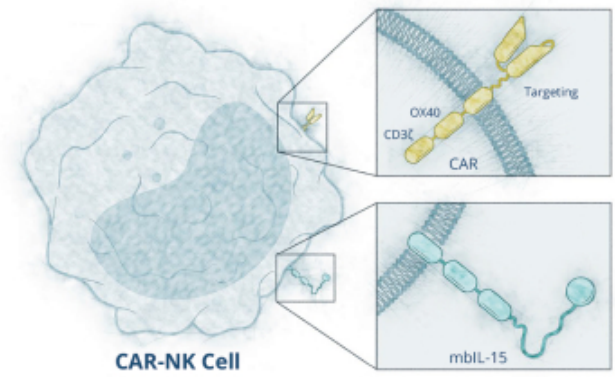
We have chosen to use healthy adult donors as our source for NK cells. We believe this offers a number of advantages, including a large number of NK cells to begin each manufacturing run, as compared to other potential sources of NK cells, the ability to select donors with consistent and favorable NK cell characteristics, thereby avoiding challenges with patient-derived or other cell sources, and a diverse repertoire of NK cells. Different NK sub-populations have different characteristics, and by utilizing the entire natural gamut of NK cells as our cell source, we can capitalize on the inherent diversity of the innate immune system.

Below are the four core technologies that comprise our proprietary platform:

Our Proprietary NK Cell Engineering Platform

Our engineered CAR-NK cells generally consist of an NK cell engineered with a targeting receptor, OX40 costimulatory domain, CD3z signaling moiety, and mbIL-15. This platform is modular, which enables extensive optimization of different ways to enhance the natural signaling of engineered cells, as well as the ability to attach and optimize new targeting receptors. We believe these attributes will allow us to bring several novel NK cell therapies into clinical development for potential treatment of a variety of cancers in the coming years.

Key Components of our Engineered CAR-NK cells



Our Product Candidates and Discovery Programs

All of our product candidates and discovery programs incorporate each of the four components of our technology platform, which we believe provides the best opportunity for achieving clinically meaningful results in our development program. Our current pipeline of product candidates and discovery programs is shown below.

					NEXT ANTICIPATED MILESTONE(S)	
	DISCOVERY / PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	FILE IND	FIRST SUBJECT TREATED
NKX101 (NKG2D)	AML and higher-risk MDS (systemic i.v.)					
	HCC/mCRC/ICC (locoregional i.a.)					
NKX019 (CD19)	B-cell malignancies					
PROGRAM 3	Oncology					
NK + T	Oncology					

i.v.: intravenous administration. i.a.: intraarterial administration through the hepatic artery. IND: Investigational New Drug application.

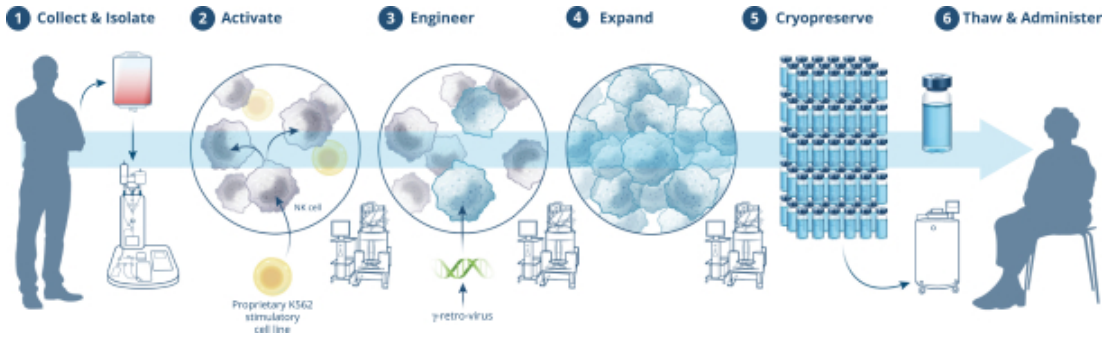
Manufacturing

Our process for the generation of an allogeneic, off-the-shelf NK cell therapy requires a number of steps. To achieve a commercially viable product, we believe that each of these steps must be scalable, reproducible and cost-effective and must provide consistent cancer cell killing potency of our CAR-NK

cells once these cells are frozen and then thawed. Therefore, we have focused on developing a manufacturing process that incorporates the following elements:

- a cell source which provides high numbers of easily characterized NK cells;
- expansion technology which increases the number of NK cells by orders of magnitude, without creating exhaustion;
- techniques for genetic engineering of NK cells which are cost-effective and which introduce a controlled and specified range of the number of copies of the gene into each cell;
- cryopreservation techniques that permit bulk CAR-NK cells to be frozen in individual doses; and
- techniques for thawing the frozen NK cell product that are easy to adopt in different clinical settings, and that provide consistent CAR-NK cell recovery, viability and potency.

Our overall manufacturing scheme is shown in the diagram below.



Our Strategy

Key elements of our strategy include:

- Develop NKX101 for blood cancers and solid tumors.
- Develop NKX019 for B cell malignancies.
- Apply our NK cell engineering platform to build a broad pipeline of product candidates and discovery programs incorporating engineered NK cells.
- Continue to build proprietary manufacturing capabilities to enable speed, control, flexibility, scalability, and cost efficiency.
- Continue to opportunistically evaluate enabling, adjacent or potential competing technologies to advance our platform.

Recent Developments

On March 11, 2020, the World Health Organization declared the outbreak of a novel strain of coronavirus, COVID-19, as a global pandemic, which continues to spread throughout the United States and around the world. Our headquarters are located in the San Francisco Bay Area, which is subject to executive orders directing that all individuals living in the State of California and the County of San Mateo stay at home or their place of residence for an indefinite period of time (subject to certain exceptions to facilitate authorized necessary activities) to mitigate the impact of the COVID-19 pandemic. As we continue to actively advance all of our discovery and clinical programs, we are in

close contact with our principal investigators and clinical sites, which are primarily located in Colorado, Ohio, and Ontario, and are assessing the impact of COVID-19 on our clinical trials, expected timelines and costs on an ongoing basis. In light of recent developments relating to the COVID-19 pandemic, the primary focus of healthcare providers and hospitals is currently on fighting the virus. In addition, in response to these executive orders, we have implemented work-from-home policies for employees and temporarily scaled back our operations. This partial disruption, even if temporary, may severely impact our operations and overall business by delaying the progress of our research and development programs, including our planned preclinical studies and clinical trials, or by limiting our ability to recruit physicians or clinicians to run our clinical trials, enroll patients or conduct follow-up assessments in our clinical trials. See "*Risk Factors—Our business and the business or operations of our research partners and other third parties with whom we conduct business could be adversely affected by the effects of health epidemics, including the recent COVID-19 pandemic, in regions where we or third parties on which we rely have business operations.*" for more information regarding the potential impact of COVID-19 on our business and operations. We will continue to evaluate the impact of the COVID-19 pandemic on our business and expect to reevaluate the timing of our anticipated preclinical and clinical milestones as we learn more and the impact of COVID-19 on our industry becomes more clear.

Risks Associated with Our Business

Our business and our ability to execute our strategy are subject to many risks. Before making a decision to invest in our common stock, you should carefully consider all of the risks and uncertainties described in the section of this prospectus captioned "Risk Factors" immediately following this Prospectus Summary and all of the other information in this prospectus. These risks include, but are not limited to the following:

- We have a limited operating history and do not have any product approved for sale.
- We have incurred significant losses since our inception and we expect to incur significant losses for the foreseeable future, which raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient additional funding to finance our operations.
- We will require additional capital, which, if available, may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our product candidates.
- Our business and the business or operations of our research partners and other third parties with whom we conduct business could be adversely affected by the effects of health epidemics, including the recent COVID-19 pandemic, in regions where we or third parties on which we rely have business operations.
- Our business depends upon the success of our CAR-NK cell technology platform.
- Utilizing CAR-NK cells represents a novel approach to immuno-oncology treatment of cancer, and we must overcome significant challenges in order to successfully develop, manufacture, and commercialize our product candidates.
- Clinical development involves a lengthy and expensive process with an uncertain outcome, and we may encounter substantial delays due to a variety of reasons outside our control.
- Our manufacturing process is complex and we may encounter difficulties in production, which would delay or prevent our ability to provide a sufficient supply of our product candidates for clinical trials or our products for patients, if approved.
- If our license agreement with National University of Singapore and St. Jude's Children's Research Hospital, Inc. is terminated, we could lose our rights to key components enabling our NK cell engineering platform.
- If any patent protection we obtain is not sufficiently robust, our competitors could develop and commercialize products and technology similar or identical to ours.

- If any of our product candidates are approved for marketing and commercialization and we have not developed or secured third-party marketing, sales and distribution capabilities, we will be unable to successfully commercialize any such products and may not be able to generate product revenue.

Our independent registered public accounting firm included an explanatory paragraph in their audit report on the financial statements as of and for the years ended December 31, 2018 and 2019 stating that our recurring losses from operations and negative cash flows since inception and our need to raise additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern.

Corporate Information and History

We were incorporated in Delaware in July 2015. Our principal executive offices are located at 6000 Shoreline Court, Suite 102, South San Francisco, CA 94080, and our telephone number at this address is 415-582-4923. Our website is www.nkartatx.com. Information contained in, or accessible through, our website is not a part of, and is not incorporated into, this prospectus.

"NKARTA" is a trademark of Nkarta, Inc. in the United States and certain other countries. All trademarks or trade names referred to in this prospectus are the property of their respective owners.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We are an "emerging growth company" as defined in Section 2(a)(19) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we are eligible and may choose to take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies, including:

- a requirement to have only two years of audited financial statements and only two years of related selected financial data and management's discussion and analysis of financial condition and results of operations disclosure;
- an exemption from the auditor attestation requirements with respect to internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley Act;
- exemption from say-on-pay, say-on-frequency and say-on-golden parachute voting requirements;
- reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and
- an extended transition period for complying with new or revised accounting standards until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act.

However, we are choosing to "opt out" of such extended transition period and, as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

Following this offering, we will continue to be an emerging growth company until the earliest to occur of (i) the last day of the fiscal year during which we had total annual gross revenues of at least $1.07 billion (as indexed for inflation), (ii) the last day of the fiscal year following the fifth anniversary of

the date of the first sale of common stock under this registration statement, (iii) the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt or (iv) the date on which we are deemed to be a "large accelerated filer," as defined under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

We are also a "smaller reporting company," meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue is less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue is less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million. Even after we no longer qualify as an emerging growth company, we may still qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and in our periodic reports and proxy statements.

Because we have taken advantage of certain reduced reporting requirements, the information contained herein may be different from the information you receive from other public companies in which you hold stock. See the section entitled "Risk Factors—Risks Related to Our Common Stock and This Offering—We are an "emerging growth company" under the JOBS Act and a "smaller reporting company," and we are permitted to, and intend to, rely on exemptions from certain disclosure requirements. As a result of the reduced disclosure and governance requirements applicable to emerging growth companies or smaller reporting companies, our common stock may be less attractive to investors" for certain risks related to our status as an emerging growth company and a smaller reporting company.

THE OFFERING

Common stock offered by us	shares.
Common stock to be outstanding after this offering	shares (or shares, if the underwriters exercise their over-allotment option in full).
Over-allotment option offered by us	shares.
Use of proceeds	We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $ million (or $ million if the underwriters exercise their over-allotment option in full), based on the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus. We currently expect to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows: ▪ Approximately to fund the development of NKX101 through ; ▪ Approximately to fund the development of NKX019 through ; ▪ Approximately to fund the development of Program 3 through ; ▪ Approximately to fund the development of our NK+T program through ; ▪ Approximately to fund the initial buildout and qualification of our commercial cGMP manufacturing facility; and ▪ The remainder for our other pipeline candidates and general corporate purposes. Pending the specific use of net proceeds as described in this prospectus, we intend to invest the net proceeds to us from this offering in short- and intermediate-term investment grade instruments, certificates of deposit or guaranteed obligations of the U.S. government. See “Use of Proceeds.”
Proposed Nasdaq Global Market symbol	“NKTX”

Risk factors	See “Risk Factors” and other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.

The number of shares of common stock that will be outstanding after this offering is based on 33,715,795 shares of our common stock (including shares of our convertible preferred stock on an as-converted basis and unvested shares issued pursuant to the early exercise of stock options which are subject to potential forfeiture) outstanding as of March 31, 2020, and excludes:

- 9,204,950 shares of common stock issuable upon the exercise of outstanding stock options under our 2015 Equity Incentive Plan, at a weighted-average exercise price of $0.98 per share, as of March 31, 2020;
- 933,031 shares of our common stock reserved for future issuance pursuant to our 2015 Equity Incentive Plan, as of March 31, 2020 (no new awards will be granted under the 2015 Equity Incentive Plan after this offering);
- shares of our common stock reserved for future issuance under our 2020 Performance Incentive Plan, which will become effective prior to the completion of this offering; and
- shares of common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, or ESPP, which will become effective prior to the completion of this offering.

Our 2020 Performance Incentive Plan and ESPP each provide for annual automatic increases in the number of shares reserved thereunder, as more fully described in the section titled “Executive Compensation—Equity Incentive Plans.”

Unless we specifically state otherwise or the context otherwise requires, all information in this prospectus assumes:

- the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,283,973 shares of our common stock, the conversion of which will occur immediately prior to the completion of this offering;
- the filing and effectiveness of our amended and restated certificate of incorporation in Delaware and the effectiveness of our amended and restated bylaws, each of which will occur immediately prior to the completion of this offering;
- a -for- reverse stock split to be effected immediately prior to the effectiveness of the registration statement of which this prospectus is a part;
- no exercise of outstanding stock options subsequent to March 31, 2020;
- no exercise by the underwriters of their over-allotment option;
- the issuance of the second tranche of Series B preferred stock prior to the completion of this offering; and
- no forfeiture of unvested shares of common stock issued pursuant to the early exercise of stock options.

SUMMARY FINANCIAL DATA

Summary Financial Data

The summary statements of operations data for the years ended December 31, 2018 and 2019 and the selected balance sheet data as of December 31, 2018 and 2019 presented below are derived from our audited financial statements included elsewhere in this prospectus. The summary statements of operations data for the three months ended March 31, 2019 and 2020 and the selected balance sheet data as of March 31, 2020 are derived from our unaudited financial statements and related notes included elsewhere in this prospectus. We have prepared the unaudited interim financial statements on a basis consistent with our audited financial statements and, in the opinion of management, such unaudited interim financial statements reflect all adjustments, consisting only of normal recurring adjustments, that are necessary for the fair presentation of our unaudited interim financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and the results for the three months ended March 31, 2020 are not necessarily indicative of the results to be expected for the full year or any other period. The following summary financial data should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

Statements of Operations Data

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
			(Unaudited)	
Statement of Operations Data:				
Collaboration revenue	$ 6,550,000	$ 115,385	$ 113,077	$ –
Operating expenses:				
Research and development	4,252,210	17,216,955	2,294,117	7,259,838
General and administrative	2,654,239	5,246,960	939,838	2,148,421
Total operating expenses	6,906,449	22,463,915	3,233,955	9,408,259
Loss from operations	(356,449)	(22,348,530)	(3,120,878)	(9,408,259)
Other income (expense):				
Change in fair value of preferred stock purchase right liability	–	1,317,582	–	577,645
Change in fair value of derivative liability	–	858,331	–	–
Loss from extinguishment of debt	–	(752,167)	–	–
Interest expense	–	(472,819)	–	–
Interest income	81,946	304,106	37,899	124,611
Other income, net	–	17,662	–	–
Total other income (expense)	81,946	1,272,695	37,899	702,256
Net loss	$ (274,503)	$ (21,075,835)	$ (3,082,979)	$ (8,706,003)
Comprehensive loss:				
Net loss	$ (274,503)	$ (21,075,835)	$ (3,082,979)	$ (8,706,003)
Other comprehensive loss	–	(2,139)	–	(1,403)
Comprehensive loss	$ (274,503)	$ (21,077,974)	$ (3,082,979)	$ (8,707,406)
Net loss per share, basic and diluted	$ (0.07)	$ (3.89)	$ (0.64)	$ (1.46)
Weighted average shares outstanding, basic and diluted[1][2]	3,940,474	5,411,362	4,838,626	5,954,041
Pro forma net loss per share, basic and diluted (unaudited)[1][2]		$ (1.13)		$ (0.26)
Pro forma weighted average shares outstanding, basic and diluted (unaudited)[1][2]		18,599,999		33,225,398

(1) See Note 16 to our audited financial statements for an explanation of the method used to calculate historical and pro forma basic and diluted net loss per share for the years ended December 31, 2018 and 2019 and Note 3 of the unaudited financial statements for the three-month periods ended March 31, 2019 and 2020.

(2) Reflects a for reverse stock split of our common stock that occurred on , 2020.

	As of March 31, 2020		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(Unaudited)	
Balance Sheet Data:			
Cash and cash equivalents	$ 16,507,860	$ 16,507,860	
Working capital(4)	17,095,932	17,095,932	
Total assets	41,122,966	41,122,966	
Total liabilities	15,001,950	15,001,950	
Convertible preferred stock	59,814,882	—	$ —
Accumulated deficit	(35,365,745)	(35,365,745)	
Total stockholders' (deficit) equity	$(33,693,866)	$ 26,121,016	

(1) The pro forma information in the table gives effect to (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,283,973 shares of common stock upon the completion of this initial public offering, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware, as if such conversion, reclassification and effectiveness had occurred on March 31, 2020.

(2) The pro forma as adjusted information in the table gives further effect to the pro forma adjustments set forth above and the sale and issuance by us of shares of our common stock in this offering, based upon the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming an initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(4) We define working capital as current assets less current liabilities.

RISK FACTORS

An investment in shares of our common stock involves a high degree of risk. You should carefully consider the following risk factors, as well as all of the other information contained in this prospectus, before making an investment decision. The risks described below are not the only ones facing us. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could significantly harm affect our business, financial condition, results of operations and growth prospects. In such case, the trading price of shares of our common stock could decline, and you may lose part or all of your investment.

RISKS RELATED TO OUR FINANCIAL POSITION

We have a limited operating history and do not have any product approved for sale.

We are a development-stage biopharmaceutical company without any products approved for commercial sale, and have not generated any revenue from product sales. We are focused on developing genetically-engineered human cells as therapeutics and our technologies are new and largely unproven. Since our inception in 2015, we have invested most of our resources in developing our product candidates, building our intellectual property portfolio, developing our supply chain, conducting business planning, raising capital and providing general and administrative support for these operations. Consequently, we have no meaningful operations upon which to evaluate our business, and predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing drug products. We have not yet demonstrated an ability to overcome many of the risks and uncertainties frequently encountered by companies in the rapidly evolving biotechnology industry. If we do not address these risks, our business, financial condition, results of operations and growth prospects will be materially adversely affected.

We have incurred significant losses since our inception and we expect to incur significant losses for the foreseeable future, which raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient additional funding to finance our operations.

Since our inception in 2015, we have incurred significant operating losses. Our net losses were $0.3 million, $21.1 million, $3.1 million, and $8.7 million for the years ended December 31, 2018 and 2019 and for the three months ended March 31, 2019 and 2020, respectively. Our accumulated deficit was $35.4 million as of March 31, 2020. We expect to continue to incur increasing operating losses for the foreseeable future as we continue to develop our product candidates. In addition, we anticipate that our expenses will increase substantially if, and as, we:

- initiate clinical development of NKX101;
- advance additional product candidates to clinical trials, including NKX019;
- seek to discover and develop additional product candidates;
- establish and validate our own clinical- and commercial-scale current good manufacturing practices, or cGMP, manufacturing facilities;
- submit a biologics license application, or BLA, or marketing authorization application, or MAA, for NKX101 and/or NKX019 and/or seek marketing approvals for any of our other product candidates that successfully complete clinical trials;
- maintain, expand and protect our intellectual property portfolio;
- acquire or in-license other product candidates and technologies;
- incur additional costs associated with operating as a public company; and
- increase our employee headcount and related expenses to support these activities.

We may never succeed in any or all of these activities and, even if we do, we may never generate revenues that are significant or large enough to achieve profitability. Our independent registered public

accounting firm included an explanatory paragraph in their audit report on the financial statements as of and for the years ended December 31, 2018 and 2019 stating that our recurring losses from operations and negative cash flows since inception and our need to raise additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern. Our ability to continue as a going concern depends on our ability to raise additional capital. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to us on commercially reasonable terms or at all. Further, if we cannot continue as a going concern, we may be forced to discontinue operations and liquidate our assets and may receive less than the value at which those assets are carried on our audited financial statements, which would cause our shareholders to lose all or a part of their investment.

We have never generated revenue from product sales and may never achieve or maintain profitability.

We continue to incur significant research and development and other expenses related to ongoing operations and the development of our co-lead product candidates, NKX101 and NKX019. All of our product candidates will require substantial additional development time and resources before we would be able to apply for or receive regulatory approvals and begin generating revenue from product sales. We do not anticipate generating revenues from product sales unless and until such time as NKX101 or NKX019 may be approved by the U.S. Food and Drug Administration, or the FDA, or other regulatory authorities, and we are able to successfully market and sell a product candidate. Our ability to generate revenues from product sales depends on our, or potential future collaborators', success in:

- completing clinical development of our product candidates;
- seeking and obtaining regulatory approvals for product candidates for which we successfully complete clinical trials, if any;
- launching and commercializing product candidates, by establishing a sales force, marketing and distribution infrastructure or, alternatively, collaborating with a commercialization partner;
- qualifying for adequate coverage and reimbursement by government and third-party payors for our product candidates;
- establishing, maintaining and enhancing a sustainable, scalable, reproducible and transferable manufacturing process for our cell therapy product candidates;
- establishing and maintaining supply and manufacturing relationships with third parties that can provide adequate products and services, in both amount and quality, to support clinical development and the market demand for our product candidates, if approved;
- obtaining market acceptance of our product candidates as a viable treatment option;
- addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets, know-how, and trademarks;
- avoiding and defending against third-party interference or infringement claims; and
- attracting, hiring and retaining qualified personnel.

We anticipate incurring significant costs associated with commercializing any approved product candidate. Our expenses could increase beyond our current expectations if we are required by the FDA or other global regulatory authorities to perform clinical trials and other preclinical studies in addition to those that we currently anticipate.

Even if we are able to generate revenues from the sale of any approved products, we may not become profitable or be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable could decrease the value of our company and impair our ability to raise capital, thereby limiting our research and development programs and efforts to expand our business or continue our operations.

We will require additional capital, which, if available, may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our product candidates.

We have financed our operations primarily through private placements of our preferred stock and with proceeds from our previous collaboration with GlaxoSmithKline, or GSK. We intend to use the proceeds from this offering to, among other uses, advance NKX101 and NKX019 through clinical development. Developing pharmaceutical products and conducting preclinical studies and clinical trials is expensive. As of March 31, 2020, the Company had cash, cash equivalents, restricted cash and investments of $26.0 million. Our research and development expenses increased from $4.3 million for the year ended December 31, 2018 to $17.2 million for the year ended December 31, 2019 and from $2.3 million in the three months ended March 31, 2019 to $7.3 million in the three months ended March 31, 2020. The Company will require additional cash funding to continue to execute its strategic plan and fund operations beyond October 2020.

Until and unless we can generate substantial product revenue, we expect to finance our cash needs through the proceeds from this offering, a combination of equity offerings and debt financings, and potentially through additional license and development agreements or strategic partnerships with third parties. Financing may not be available in sufficient amounts or on reasonable terms. In addition, market volatility resulting from the COVID-19 pandemic or other factors could adversely impact our ability to access capital as and when needed. We have no commitments for any additional financing, and will likely be required to raise such financing through the sale of additional securities, which, in the case of equity securities, may occur at prices lower than the offering price of our common stock in this offering. If we sell equity or equity-linked securities, our current stockholders, including investors in this offering, may be diluted, and the terms may include liquidation or other preferences that are senior to or otherwise adversely affect the rights of our stockholders. Moreover, if we issue debt, we may need to dedicate a substantial portion of our operating cash flow to paying principal and interest on such debt and we may need to comply with operating restrictions, such as limitations on incurring additional debt, which could impair our ability to acquire, sell or license intellectual property rights which could impede our ability to conduct our business. Furthermore, the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our common stock to decline.

If we raise additional funds through licensing or collaboration arrangements with third parties, we may have to relinquish valuable rights to our product candidates, or grant licenses on terms that are not favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Attempting to secure additional financing may also divert our management from our day-to-day activities, which may impair or delay our ability to develop our product candidates. In addition, demands on our cash resources may change as a result of many factors currently unknown to us including, but not limited to, any unforeseen costs we may incur as a result of preclinical study or clinical trial delays due to the COVID-19 pandemic or other causes, and we may need to seek additional funds sooner than planned. If we are unable to obtain funding on a timely basis or at all, we may be required to significantly curtail or stop one or more of our research or development programs.

Any acquisitions or strategic collaborations may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities or subject us to other risks.

From time to time, we may evaluate various acquisitions and strategic collaborations, including licensing or acquiring complementary drugs, intellectual property rights, technologies or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including, but not limited to:

- increased operating expenses and cash requirements;
- the assumption of indebtedness or contingent or unknown liabilities;
- assimilation of operations, intellectual property and drugs of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management’s attention from our existing drug programs and initiatives in pursuing such a strategic partnership, merger or acquisition;

- retention of key employees, the loss of key personnel, and uncertainties about our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing drugs or product candidates and regulatory approvals; and
- our inability to generate revenue from acquired drugs, intellectual property rights, technologies, and/or businesses sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

In addition, if we engage in acquisitions or strategic partnerships, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses or acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities, and this inability could impair our growth or limit access to technology or drugs that may be important to the development of our business.

Our business and the business or operations of our research partners and other third parties with whom we conduct business could be adversely affected by the effects of health epidemics, including the recent COVID-19 pandemic, in regions where we or third parties on which we rely have business operations.

The COVID-19 pandemic has disrupted economic activity and business operations worldwide. Our headquarters are located in the San Francisco Bay Area, which is subject to executive orders directing that all individuals living in the State of California and the County of San Mateo stay at home or their place of residence for an indefinite period of time (subject to certain exceptions to facilitate essential services) to mitigate the impact of the COVID-19 pandemic.

In response to these executive orders, we have implemented work-from-home policies for employees and temporarily scaled back our operations. The effects of quarantines, stay-at-home, executive and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations could occur, in the United States and other countries, could negatively impact our operations and the operations of third parties we rely on, such as our contract manufacturing sites in Colorado, Ohio, and Ontario, disrupt or delay the enrollment of patients in these sites. Furthermore, these restrictions may delay any regulatory reviews by the FDA or other health authorities, including related to the IND submission for our NKX101 and NKX019 product candidates, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course. Even if the current restrictions are lifted in the state of California or the County of San Mateo, similar or additional restrictions could be imposed again later.

In addition, the COVID-19 pandemic has significantly disrupted global financial markets and could continue to restrict the level of economic activity, and may limit our ability to access capital, which could in the future negatively affect our liquidity now or in the future. A recession or market correction resulting from the spread of COVID-19 could materially affect our business and the value of our common stock.

As a result of the COVID-19 pandemic or other pandemic, epidemic or outbreak of an infectious disease, we may experience disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site data monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial subject visits and study procedures, which may impact the integrity of subject data and clinical study endpoints;

- interruption or delays in the operations of the FDA or other regulatory authorities, which may impact review and approval timelines;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems;
- interruptions in preclinical studies due to restricted or limited operations at our laboratory facility;
- limitations on employee resources that would otherwise be focused on the conduct of our preclinical studies and clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people; and
- interruption or delays to our discovery and clinical activities.

The ultimate impact of the COVID-19 outbreak or a similar health epidemic is highly uncertain. We do not yet know the full extent of potential delays or impacts on our business, our clinical trials, healthcare systems or the global economy as a whole, but these delays could have a material impact on our operations.

Risks Related to Our Business and Industry

Our business depends upon the success of our CAR-NK cell technology platform.

Our success depends on our ability to utilize our CAR-NK technology platform to generate product candidates, to obtain regulatory approval for product candidates derived from it, and to then commercialize our product candidates addressing one or more indications. Our CAR-NK platform and our product candidates have not yet been evaluated in humans and may never become commercialized. All of our product candidates developed from our technology platform will require significant additional clinical and non-clinical development, review and approval by the FDA or other regulatory authorities in one or more jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before they can be successfully commercialized. If any of our product candidates encounter safety or efficacy problems, developmental delays or regulatory issues or other problems, such problems could impact the development plans for our other product candidates because all of our product candidates are based on the same core CAR-NK engineering technology.

Utilizing CAR-NK cells represents a novel approach to immuno-oncology treatment of cancer, and we must overcome significant challenges in order to develop, commercialize and manufacture our product candidates.

We have concentrated our research and development efforts on utilizing CAR-NK cells as an immuno-oncology therapy. To date, the FDA has approved only a few cell-based therapies for commercialization and no NK-based cell therapy has been approved for commercial use by any regulatory authority. The processes and requirements imposed by the FDA or other applicable regulatory authorities may cause delays and additional costs in obtaining approvals for marketing authorization for our product candidates. Because our CAR-NK platform product is novel, and cell-based therapies are relatively new, regulatory agencies may lack experience in evaluating product candidates like our CAR-NK product candidates. This novelty may lengthen the regulatory review process, including the time it takes for the FDA to review our IND applications if and when submitted, increase our development costs and delay or prevent commercialization of our CAR-NK platform products. Additionally, advancing novel immuno-oncology therapies creates significant challenges for us, including:

- educating medical personnel regarding the potential side-effect profile of our cells and, as the clinical program progresses, on observed side effects with the therapy;
- training a sufficient number of medical personnel on how to properly thaw and administer our cells, especially in our planned solid tumor trial wherein the cells are given through a procedure by trained medical doctors;
- enrolling sufficient numbers of patients in clinical trials;

- developing a reliable and safe and an effective means of genetically modifying our cells;
- manufacturing our cells on a large scale and in a cost-effective manner;
- sourcing starting material suitable for clinical and commercial manufacturing; and
- establishing sales and marketing capabilities, as well as developing a manufacturing process and distribution network to support the commercialization of any approved products.

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

Certain aspects of the function and production of CAR-NK cells are currently unknown or poorly understood, and may only become known through further preclinical testing and clinical trials. Any potential re-engineering required may result in delays and additional expenses.

Current clinical experience with NK cell therapy is predominantly based on cells from haplomatched, related donors. Haplomatched, related donors are those with at least half of the major human leukocyte antigen, or HLA, types matched and obtained from a relative of the patient. Our clinical development plan for NKX101 will seek to establish what degree of HLA matching, if any, is required for NKX101 to exhibit necessary levels of clinical activity and duration of response. While we believe that a high degree of HLA matching will not be required for clinically meaningful activity and durability of response, if it becomes apparent through preclinical testing or clinical trials that such matching is required, the production of NKX101 as standardized product for all patients will not be achievable. Instead, we would need to establish a bank of engineered CAR-NK cells for each of our product candidates where dozens of different donors will be required to achieve coverage of a large fraction of the addressable patient population.

Furthermore, the killer immunoglobulin-like receptor, or KIR, is found on the surface of NK cells and recognizes certain HLA types. If there is a match between KIR and the HLA type, KIR acts as a natural inhibitor of NK activity, thereby serving to prevent immune reactions against an individual's own cells. If we discover that a KIR mismatch is required to achieve clinically meaningful activity and durability of response, we will need to develop a more complex set of donor selection criteria and a clinical development plan that allows us to ensure the product derived from a KIR mismatched donor for patients enrolled in our clinical trials.

In addition, tumors are sometimes able to evade detection by naturally occurring NK cells by shedding the NKG2D ligands found on malignant cells. While NKX101 has been engineered to overcome this shedding mechanism, there can be no guarantee that tumor cells will not retain or regain the ability to shed NKG2D ligand completely despite the presence of NKX101, which would give such tumors a degree of resistance against NKX101. If we discover that tumors develop a resistance to NKX101 as a result of such NKG2D ligand shedding, we will need to reengineer NKX101 to counteract this effect, or we may need to change or abandon our development efforts for NKX101.

The foregoing processes would require us to redesign the clinical protocols and clinical trials for our product candidates, and could require significant additional time and resources to complete and the participation of a significant number of additional clinical trial participants and donors, any of which would delay the clinical development of our product candidates and their eventual commercialization.

Clinical development involves a lengthy and expensive process with an uncertain outcome, and we may encounter substantial delays due to a variety of reasons outside our control.

Clinical trials are expensive, time consuming and subject to substantial uncertainty. Failure can occur at any time during the clinical trial process, due to scientific feasibility, safety, efficacy, changing standards of medical care and other variables. The results from preclinical testing or early clinical trials of a product candidate may not predict the results that will be obtained in later phase clinical trials of the

product candidate. We, the FDA, or other applicable regulatory authorities may suspend or terminate clinical trials of a product candidate at any time for various reasons, including, but not limited to, a belief that subjects participating in such trials are being exposed to unacceptable health risks or adverse side effects, or other adverse initial experiences or findings. The FDA, or other applicable regulatory authorities may also require us to conduct additional preclinical studies or clinical trials due to negative or inconclusive results or other reasons, fail to approve the raw materials, manufacturing processes or facilities of third-party manufacturers upon which we rely, find deficiencies in the manufacturing processes or facilities upon which we rely, and change their approval policies or regulations or their prior guidance to us during clinical development in a manner rendering our clinical data insufficient for approval. In addition, data collected from clinical trials may not be sufficient to support the submission of a BLA or other applicable regulatory filing. We cannot guarantee that any clinical trials that we may plan or initiate will be conducted as planned or completed on schedule, if at all.

A failure of one or more of our clinical trials could occur at any stage, and any clinical trial may not be successful. Events that may prevent successful initiation or timely completion of our clinical development include, but are not limited to:

- delays in obtaining regulatory approval to commence a clinical trial;
- delays in reaching agreement on acceptable terms with prospective clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different trial sites;
- our ability to recruit, sufficient patients for our clinical trials in a timely manner or at all;
- delays in achieving a sufficient number of clinical trial sites or obtaining the required institutional review board, or IRB, approval at each clinical trial site;
- imposition of a temporary or permanent clinical hold by us or by the FDA or other regulatory agencies based on emerging data;
- clinical sites deviating from trial protocol or dropping out of a trial;
- suspension or termination of a clinical trial by the IRBs of the institutions in which such trials are being conducted or by the Data Safety Monitoring Board, or DSMB (where applicable);
- delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for advanced clinical trials;
- delays in reaching a consensus with regulatory agencies on the design or implementation of our clinical trials;
- changes in regulatory requirements or guidance that may require us to amend or submit new clinical protocols, or such requirements may not be as we anticipate;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional trials;
- insufficient or inadequate quality of our product candidates or other materials necessary to conduct preclinical studies or clinical trials of our product candidates;
- clinical trials of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials or abandon product development programs;
- failure of enrolled patients in foreign countries to adhere to clinical protocol as a result of differences in healthcare services or cultural customs, or additional administrative burdens associated with foreign regulatory schemes; or
- failure of ourselves or any third-party manufacturers, contractors or suppliers to comply with regulatory requirements, maintain adequate quality controls, or be able to provide sufficient product supply to conduct and complete preclinical studies or clinical trials of our product candidates.

In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our planned and

ongoing preclinical studies and clinical trials, as applicable. For example, on March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities in response to the COVID-19 pandemic. If global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews or other regulatory activities, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions. If we experience delays in the initiation, enrollment or completion of any preclinical study or clinical trial of our product candidates, or if any preclinical studies or clinical trials of our product candidates are canceled, the commercial prospects of our product candidates may be materially adversely affected, and our ability to generate product revenues from any of these product candidates will be delayed or not realized at all. In addition, any delays in completing our clinical trials may increase our costs and slow down our product candidate development and approval process.

Our business is highly dependent on the success of our product candidates, in particular NKX101 and NKX019, and we may fail to develop NKX101 and NKX019 successfully or be able to obtain regulatory approval for them.

We cannot guarantee that NKX101 and NKX019 will be safe and effective, or will be approved for commercialization, on a timely basis or at all. Although certain of our employees have prior experience with clinical trials, regulatory approvals and cGMP manufacturing, we have not previously completed any clinical trials or submitted a BLA to the FDA, or similar regulatory approval filings to comparable foreign authorities, for any product candidate, and we cannot be certain that NKX101 and NKX019 will be successful in clinical trials or receive regulatory approval. The FDA, and other comparable global regulatory authorities can delay, limit or deny approval of a product candidate for many reasons. For further details about such reasons, see "—Clinical development involves a lengthy and expensive process with an uncertain outcome, and we may encounter substantial delays due to a variety of reasons outside our control." Any delay in obtaining, or inability to obtain, applicable regulatory approval will delay or harm our ability to successfully commercialize NKX101 and NKX019 and materially adversely affect our business, financial condition, results of operations and growth prospects.

Furthermore, because NKX101 is our most advanced product candidate, and because our other product candidates are based on similar technology, if our clinical trials of NKX101 encounter safety, efficacy or manufacturing problems, development delays, regulatory issues or other problems, our development plans for NKX019 and our other product candidates in our pipeline could be significantly impaired, which could materially adversely affect our business, financial condition, results of operations and growth prospects.

We also plan to develop NKX101 for additional indications if we are able to obtain clinical proof-of-concept from our NKX101 Phase 1 trials for blood cancers including acute myeloid leukemia, or AML and myelodysplastic syndromes, or MDS, as well as hepatocellular carcinomas and other cancers localized to the liver. We may not be able to advance any of these indications through the development process. Even if we receive regulatory approval to market NKX101 for the treatment of any of these additional indications, any such additional indications may not be successfully commercialized, widely accepted in the marketplace or more effective than other commercially available alternatives. If we are unable to successfully develop and commercialize NKX101 for these additional indications, our commercial opportunity will be limited.

Furthermore, the development of NKX101 for treating solid tumors is subject to a number of risks related to liver delivery using a catheter through the hepatic artery generally, including potential damage to arteries from the catheter placement itself, from use of imaging contrast, radiation exposure and use of material to occlude the hepatic artery to cut blood supply off to the tumor, and differences between catheter models potentially introducing variability into the observed clinical effects. The

development of treatments to treat solid tumors often requires larger and more expensive clinical trials than for treating blood cancers.

We intend to develop our product candidates both as monotherapy and potentially as combination therapy, a common form of cancer treatment, with one or more currently approved cancer therapies. Even if any product candidate we develop were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA or similar regulatory authorities outside of the United States could revoke approval of the combination therapy used with our product candidate or that safety, efficacy, manufacturing or supply issues could arise with these existing therapies. This could result in our own products being removed from the market or being less successful commercially.

We may also evaluate our product candidates in combination with one or more other cancer therapies that have not yet been approved for marketing by the FDA or similar regulatory authorities outside of the United States. If the FDA or similar regulatory authorities outside of the United States do not approve these other drugs or revoke their approval of, or if safety, efficacy, manufacturing, or supply issues arise with, the drugs we choose to evaluate in combination with any product candidate we develop or combination therapy, we may be unable to obtain approval of or market our product candidates.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be delayed, made more difficult or rendered impossible by multiple factors outside our control.

Identifying and qualifying patients to participate in our clinical trials is critical to our success. Clinical trials of a new product candidate require the enrollment of a sufficient number of patients, including patients who are suffering from the disease that the product candidate is intended to treat and who meet other eligibility criteria. The rates of patient enrollment, a significant component in the timing of clinical trials, are affected by many factors, including:

- our ability to open clinical trial sites;
- the size and nature of the patient population;
- the design and eligibility criteria of the clinical trial;
- the proximity of subjects to clinical sites;
- the patient referral practices of physicians;
- changing medical practice patterns or guidelines related to the indications we are investigating;
- competing clinical trials or approved therapies which present an attractive alternative to patients and their physicians;
- perceived risks and benefits of the product candidate under study, including as a result of adverse effects observed in similar or competing therapies;
- our ability to obtain and maintain patient consents due to various reasons, including but not limited to, patients' unwillingness to participate due to the ongoing COVID-19 pandemic;
- the risk that enrolled subjects will drop out or die before completion of the trial;
- patients failing to complete a clinical trial or returning for post-treatment follow-up; and
- our ability to manufacture the requisite materials for a patient and clinical trial.

In addition, we need to compete with many ongoing clinical trials to recruit patients into our expected clinical trials. Our clinical trials may also compete with other clinical trials for product candidates that are in a similar cellular immunotherapy area as our product candidates, and this competition could reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we may conduct some of our clinical trials at the same clinical

trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial site. If we are unable to enroll a sufficient number of patients in our clinical trials in a timely manner, our completion clinical trials may be delayed or may not be achieved, which would prevent us from commercializing our product candidates.

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

In order to obtain FDA or other regulatory authority approval to market a new biological product we must demonstrate proof of safety, purity and potency or efficacy in humans. To meet these requirements we will have to conduct adequate and well-controlled clinical trials. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned INDs in the United States. We only have two product candidates that we expect to enter clinical development in 2020, and the rest of our programs are in preclinical development. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin.

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

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

Moreover, because standards for pre-clinical assessment are evolving and may change rapidly, even if we reach an agreement with the FDA on a pre-IND proposal, the FDA may not accept the IND submission as presented, in which case patient enrollment would be placed on partial or complete hold and treatment of enrolled patients could be discontinued while the product candidate is re-evaluated. Even if clinical trials do begin for our preclinical programs, our clinical trials or development efforts may not be successful.

The results of preclinical studies and early-stage clinical trials may not be predictive of future results. Initial success in any clinical trials may not be indicative of results obtained when these trials are completed or in later stage trials.

The results of preclinical studies may not be predictive of the results of clinical trials, and the results of any early-stage clinical trials we commence may not be predictive of the results of the later-stage clinical trials. For example, preclinical models as applied to cell therapy in oncology do not adequately represent the clinical setting, and thus cannot predict clinical activity nor all potential risks, and may not provide adequate guidance as to appropriate dose or administration regimen of a given therapy. In addition, initial success in clinical trials may not be indicative of results obtained when such trials are completed. Interim data from clinical trials that we may conduct are subject to the risk that one or more of

the clinical outcomes may materially change as patient enrollment continues and more patient data become available. 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 announced. Negative differences between preliminary or interim data and final data could materially adversely affect the prospects of any product candidate that is impacted by such data updates.

If any of our product candidates, or any competing product candidates, demonstrate serious adverse events, including the development of severe or fatal cytokine release syndrome, neurotoxicity or graft-versus-host disease, we may be required to halt or delay further clinical development.

Undesirable side effects that may be caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label than anticipated or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics.

To date, we have only evaluated our product candidate in preclinical mouse models and have observed fatalities as a result of lung toxicity when administered in extremely high doses, and we therefore do not know the side effect profile of our products in humans, which we would expect would use significantly lower doses. As such, there can be no guarantee that any toxicity, or other adverse events, will not occur in human subjects during clinical trials. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics.

While studies indicate that NK cell-based therapies may be better-tolerated as compared to T cell-based therapies due to biologic differences between these cell types, there can be no assurance that patients will not experience cytokine release syndrome, or CRS, neurotoxicity, graft-versus-host disease, or GVHD or other serious adverse events. Severe adverse events associated with our product candidate NKX101 may also develop, since targeting NKG2D ligands is not yet a well-characterized modality. NKG2D targets multiple ligands, and the landscape of ligand expression is currently not fully understood. For example, there are risks that ligands may be expressed on either known or an as-yet-underappreciated population of healthy cells. Therefore, such cells may also be targeted by NKX101 and lead to adverse events of unknown frequency and severity. Such adverse events may cause delays in completion of our clinical programs. If unacceptable side effects arise in the development of our product candidates such that there is no longer a positive benefit risk, we, the FDA, the IRBs at the institutions in which our trials are conducted or the DSMB could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff, and inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death.

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

We may seek various designations by the regulatory authorities such as Regenerative Medicine Advanced Therapy Designation, or RMAT, Breakthrough Therapy Designation, Fast Track Designation, or PRIority MEdicine, or PRIME, from regulatory authorities, for any product candidate that we develop. A product candidate may receive RMAT designation from the FDA if it is a regenerative medicine therapy that is intended to treat, modify, reverse or cure a serious or life-

threatening condition, and preliminary clinical evidence indicates that the product candidate has the potential to address an unmet medical need for such condition. A breakthrough therapy is defined by the FDA as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. If a product is intended for the treatment of a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address an unmet medical need for this condition, the product sponsor may apply for Fast Track Designation by the FDA. PRIME is a voluntary scheme launched by the EMA to strengthen support for the development of medicines that target an unmet medical need through enhanced interaction and early dialogue with developers of promising medicines in order to optimize development plans and speed up evaluation to help such medicines reach patients earlier.

Seeking and obtaining these designations is dependent upon results of our clinical program, and we cannot guarantee whether and when we may have the data from our clinical programs to support an application to obtain any such designation. The FDA and the EMA, as applicable, have broad discretion whether or not to grant any of these designations, so even if we believe a particular product candidate is eligible for one or more of these designations, we cannot assure you that the applicable regulatory authority would decide to grant it. Even if we do receive the designations we may apply for, we may not experience a faster development process, review or approval compared to conventional FDA or EMA procedures, as applicable. The FDA or EMA, as applicable, may rescind any granted designations if it believes that the designation is no longer supported by data from our clinical development program.

We may seek Orphan Drug Designation for our product candidates we develop, and we may be unsuccessful or may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. 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.

Similarly, in Europe, the European Commission grants Orphan Drug Designation after receiving the opinion of the EMA Committee for Orphan Medicinal Products on an Orphan Drug Designation application. Orphan Drug Designation is intended to promote the development of drugs that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than 5 in 10,000 persons in Europe and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). Additionally, designation is granted for drugs intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in Europe would be sufficient to justify the necessary investment in developing the drug. In Europe, Orphan Drug Designation entitles a party to a number of incentives, such as protocol assistance and scientific advice specifically for designated orphan medicines, and potential fee reductions depending on the status of the sponsor.

Generally, if a drug with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug is entitled to a period of

marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for Orphan Drug Designation or if the drug is sufficiently profitable such that market exclusivity is no longer justified.

Even if we obtain orphan drug exclusivity for our product candidates, that exclusivity may not effectively protect those product candidates from competition because different therapies can be approved for the same condition and the same therapies can be approved for different conditions but used off-label. Even after an orphan drug is approved, the FDA can subsequently approve another drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, 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. Moreover, orphan drug 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 quantity of the drug to meet the needs of patients with the rare disease or condition. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process. While we may seek Orphan Drug Designation for applicable indications for our current and any future product candidates, we may never receive such designations. Even if we do receive such designations, there is no guarantee that we will enjoy the benefits of those designations.

Public opinion and scrutiny of cell-based immuno-oncology therapies for treating cancer may impact public perception of our company and product candidates, or impair our ability to conduct our business.

Our platform utilizes a relatively novel technology involving the genetic modification of human NK cells and utilization of those modified cells in other individuals, and no NK cell-based immunotherapy has been approved to date. Public perception may be influenced by claims, such as claims that cell-based immunotherapy is unsafe, unethical, or immoral and, consequently, our approach may not gain the acceptance of the public or the medical community. Negative public reaction to cell-based immunotherapy in general could result in greater government regulation and stricter labeling requirements of cell-based immunotherapy products, including any of our product candidates, and could cause a decrease in the demand for any products we may develop. Adverse public attitudes may adversely impact our ability to enroll clinical trials. More restrictive government regulations or negative public opinion could have an adverse effect on our business or financial condition and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop.

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

Our business depends upon our ability to identify, develop and commercialize product candidates. A key element of our strategy is to discover and develop additional product candidates based upon our NK cell engineering platform. We are seeking to do so through our internal research programs, and may also explore strategic collaborations for the discovery of new product candidates. Research programs to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. In addition, targets for different cancers may require changes to our NK manufacturing platform, which may slow down development or make it impossible to manufacture our product candidates. Our research programs may initially show promise

in identifying potential product candidates, yet fail to yield product candidates for clinical development for many reasons, including the following:

- the research methodology or technology platform used may not be successful in identifying potential product candidates;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- we may choose to cease development if we determine that clinical results do not show promise;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- a product candidate may be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria; and
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors.

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

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

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

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories, and other third parties, such as contract research organization, or CROs, to conduct or otherwise support clinical trials for our product candidates. We rely heavily on these parties for execution of clinical trials for our product candidates and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on CROs and other third parties will not relieve us of our regulatory responsibilities. For any violations of laws and regulations during the conduct of our clinical trials, we could be subject to untitled letters, warning letters or enforcement action that may include civil penalties up to and including criminal prosecution.

We and the third parties on which we rely for clinical trials are required to comply with regulations and requirements, including Good Clinical Practice, or GCP, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials and their rights are protected. These regulations are enforced by the FDA, the competent authorities of the European Union member states, and comparable foreign regulatory authorities for

any drugs in clinical development. The FDA enforces GCP requirements through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or these third parties fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that any of our future clinical trials will comply with GCP. In addition, our clinical trials must be conducted with product candidates produced under cGMP regulations. Our failure or the failure of these third parties to comply with these regulations may require us to repeat clinical trials, which would delay the marketing approval process and could also subject us to enforcement action. The COVID-19 pandemic and government measures taken in response have also had a significant impact on our CROs, and we expect that they will face further disruption, which may affect our ability to initiate and complete our preclinical studies and clinical trials. We also are required to register certain ongoing clinical trials and provide certain information, including information relating to the trial's protocol, on a government-sponsored database, ClinicalTrials.gov, within specific timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Although we intend to design the clinical trials for our product candidates, we plan to rely on third parties to conduct our clinical trials. As a result, many important aspects of our clinical development, including their conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct future clinical trials will also result in less direct control over the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

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

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

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

If we fail to compete effectively with academic institutions and other biotechnology companies that are developing similar or alternatives to cellular immunotherapy product candidates, our business will be materially adversely affected.

The development and commercialization of new cellular immunotherapy products is highly competitive. We face competition from existing and future competitors with respect to each of our

product candidates currently in development, and will face competition with respect to other product candidates that we may seek to develop or commercialize in the future. For example, Kymriah and Yescarta are direct competitors to our product candidate NKX019, which have been commercially approved. Our known biopharmaceutical competitors working on allogeneic CAR-NK or CAR-T therapies currently include Allogene, Astellas, Bristol-Myers Squibb, Celyad, Fate Therapeutics, Gilead, NantKwest, Novartis, Surface Oncology, Takeda and numerous other biopharmaceutical companies. Furthermore, many companies are seeking to harness NK biology through engagers that seek to direct a patient's own NK cells to the site of a tumor. Such competitors include Affimed, Amgen, Dragonfly Therapeutics, Innate Pharma, and Servier. In addition, numerous academic institutions are conducting preclinical and clinical research in these areas, as well as with other white blood cell types including NK-T cells and gamma-delta T cells. It is also possible that new competitors, including those developing similar or alternatives to cellular immunotherapy product candidates, may emerge and acquire significant market share. Such competitors may have an advantage over us due to their greater size, resources or institutional experience, or may develop product candidates that are safer, more effective, more widely accepted, more cost-effective or enable higher patient quality of life than ours. More established biopharmaceutical companies may also develop and commercialize their product candidates at a faster rate, which could render our product candidates obsolete or non-competitive before they are fully developed or commercialized. If we are not able to compete effectively against our existing and potential competitors, our business, financial condition, results of operations and growth prospects may be materially adversely affected.

We will need to increase the size of our organization, and we may experience difficulties in managing growth.

As of April 30, 2020, we had 62 full-time employees. We will need to continue to expand our managerial, operational, quality, manufacturing, finance, sales and other resources in order to manage our operations and clinical trials, continue our development activities and eventually commercialize our product candidates. Our management and personnel, systems and facilities currently in place may not be adequate to support this future growth. Our need to effectively execute our growth strategy requires that we:

- discover new product candidates, develop the process and analytical methods for IND-enabling studies and FDA submissions, complete the required IND-enabling studies for each, and receive approval from the FDA and other regulatory authorities to initiate clinical trials for such product candidates;
- manage our clinical trials effectively;
- identify, recruit, retain, incentivize and integrate additional employees;
- complete the buildout and qualification of our in-house clinical GMP manufacturing facility; and
- continue to improve our operational, financial and management controls, reports systems and procedures.

If we are unable to attract skilled employees, increase the size of our organization or manage our future growth effectively, it will impair our ability to execute our business strategy and our business, financial condition, results of operations and growth prospects will be materially adversely affected.

If we fail to attract and retain senior management, clinical, and key scientific personnel, we may be unable to successfully develop our product candidates, conduct our clinical trials and commercialize our product candidates.

Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel. We are highly dependent upon our senior management, particularly our chief executive officer, as well as other members of our senior management team. The loss of services of any of these individuals could delay or prevent the successful development of our

product pipeline, initiation or completion of our planned clinical trials or the commercialization of our future product candidates. We do not have employment agreements with our senior management team.

Competition for qualified personnel in the biotechnology and pharmaceuticals field is intense due to the limited number of individuals who possess the skills and experience required by our industry. We will need to hire additional personnel as we expand our clinical development and if we initiate commercial activities. We may not be able to attract and retain quality personnel on acceptable terms, or at all. If we are unable to hire and retain the qualified personnel we need to operate our business, our business, financial condition, results of operations and growth prospects would be materially adversely affected. In addition, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited or that they have divulged proprietary or other confidential information, or that their former employers own their research output.

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

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

- decreased demand for any product candidate that we may develop;
- loss of revenue;
- substantial monetary awards to trial participants or patients;
- significant time and costs to defend the related litigation;
- withdrawal of clinical trial participants;
- increased insurance costs;
- the inability to commercialize any product candidate that we may develop; and
- injury to our reputation and significant negative media attention.

Any such outcomes could materially adversely affect our business, financial condition, results of operations and growth prospects.

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

We do not carry insurance for all categories of risk that our business may encounter. Although we maintain product liability insurance coverage that also covers our clinical trials, such insurance may not be adequate to cover all liabilities that we may incur, and we may be required to increase our product liability insurance coverage. We anticipate that we will need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any product candidate. Insurance availability, coverage terms and pricing continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify. However, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage and insurers may not respond as we intend to cover insurable events that may occur. Any significant uninsured liability may require us to pay substantial amounts, which would materially adversely affect our business, financial condition, results of operations and growth.

In addition, although we are dependent on certain key personnel, we do not have any key man life insurance policies on any such individuals. Therefore, if any of our chief executive officer or other

executive officers die or become disabled, we will not receive any compensation to assist with such individual's absence. The loss of such person could materially adversely affect our business, financial condition, results of operations and growth prospects.

Our business involves the use of hazardous materials and we and our third-party manufacturers and suppliers must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our research and development activities and our third-party manufacturers' and suppliers' activities involve the controlled storage, use and disposal of hazardous materials owned by us. We and our manufacturers and suppliers are subject to laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. In some cases, these hazardous materials and various wastes resulting from their use are stored at our manufacturers' facilities pending their use and disposal.

We cannot eliminate the risk of contamination, which could cause an interruption of our research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. Although we believe that the safety procedures utilized by our third-party manufacturers and suppliers for handling and disposing of these materials generally comply with the standards prescribed by these laws and regulations, we cannot guarantee that this is the case or eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent over time. We cannot predict the impact of such changes and cannot be certain of our future compliance. We do not currently carry biological or hazardous waste insurance coverage. Any contamination by such hazardous materials could therefore materially adversely affect our business, financial condition, results of operations and growth prospects.

Computer system interruptions or security breaches could significantly disrupt our product development programs and our ability to operate our business.

Our internal computer systems, cloud-based computing services and those of our current and any future collaborators and other contractors or consultants are vulnerable to damage or interruption from computer viruses, data corruption, cyber-based attacks, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any significant system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information, the disclosure of protected personally identifiable patient information or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Furthermore, federal, state and international laws and regulations, such as the European Union's General Data Protection Regulation, or the GDPR, which took effect in May 2018, and the California Consumer Protection Act, which took effect on January 1, 2020, can expose us to enforcement actions and investigations by regulatory authorities, and potentially result in regulatory penalties and significant legal liability, if our information technology security efforts fail or if our privacy practices do not meet the requirements of such laws. Other states are considering similar laws that could impact our use of research data with respect to individuals in those states. There are extensive documentation obligations and transparency requirements, which may impose significant costs on us. In addition, our software systems include cloud-based applications that are hosted by third-party service providers with

security and information technology systems subject to similar risks. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed, any of which could materially adversely affect our business, financial condition, results of operations and growth prospects.

Risks Related to Manufacturing

Our manufacturing process is complex and we may encounter difficulties in production, which would delay or prevent our ability to provide a sufficient supply of our product candidates for clinical trials or our products for patients, if approved.

Our product candidates are genetically engineered human cells, and the process of manufacturing such product candidates, as well as engineered K562 cells and viral vectors, is complex, highly regulated and subject to numerous risks. Manufacturing our product candidates involves harvesting white blood cells from a donor, isolating the NK cells, activating and expanding the NK cells, introducing a g-retrovirus with genes encoding the proteins we wish to express, cryopreservation, storage and eventually shipment and infusing the cell product into the patient's body. As a result of these complexities, the cost to manufacture our cellular product candidates, engineered K562 cells and viral vector is generally higher than traditional small-molecule chemical compounds or biologics, and the manufacturing process is less reliable and more difficult to reproduce.

Our manufacturing process will be susceptible to product loss or failure, or product variation that may negatively impact patient outcomes, due to logistical issues associated with the collection of starting material from the donor, shipping such material to the manufacturing site, shipping the final product back to the clinical trial recipient, preparing the product for administration, infusing the patient with the product, manufacturing issues or different product characteristics resulting from the differences in donor starting materials, variations between reagent lots, interruptions in the manufacturing process, contamination, equipment or reagent failure, improper installation or operation of equipment, vendor or operator error, inconsistency in cell growth and variability in product characteristics.

Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If, for any reason in our NKX101 study, we lose the starting material for a manufactured product for one of our clinical trial patients at any point in the process, the manufacturing process for that patient would need to be restarted and the resulting delay could require restarting the manufacturing process, or could result in such patient no longer participating in our clinical trial. If microbial, viral or other contaminations are discovered in our product candidates or in any of the manufacturing facilities in which products or other materials are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We will be required to maintain a chain of identity with respect to materials as they move from the donor to the manufacturing facility, through the manufacturing process and back to the clinical trial recipient. Maintaining a chain of identity is difficult and complex, and failure to do so could result in adverse patient outcomes, loss of product or regulatory action, including withdrawal of our products from the market, if licensed. Any failure in the foregoing processes could render a batch of product unusable, could affect the regulatory approval of such product candidate, could cause us to incur fines or penalties or could harm our reputation and that of our product candidates.

We may make changes to our manufacturing process for various reasons, such as to control costs, achieve scale, decrease processing time, increase manufacturing success rate or for other reasons. Changes to our process made during the course of clinical development could require us to show the comparability of the product used in earlier clinical phases or at earlier portions of a trial to the product used in later clinical phases or later portions of the trial. Other changes to our manufacturing process

made before or after commercialization could require us to show the comparability of the resulting product to the product candidate used in the clinical trials using earlier processes. Such showings could require us to collect additional nonclinical or clinical data from any modified process prior to obtaining marketing approval for the product candidate produced with such modified process. If such data are not ultimately comparable to that seen in the earlier trials or earlier in the same trial in terms of safety or efficacy, we may be required to make further changes to our process and/or undertake additional clinical testing, either of which could significantly delay the clinical development or commercialization of the associated product candidate, which would materially adversely affect our business, financial condition, results of operations and growth prospects.

We rely on third parties to manufacture our product candidates, which increases the risk that we will not have sufficient quantities of such product candidates or products or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not own or operate cGMP manufacturing facilities for the production of clinical or commercial supplies of the product candidates that we are developing or evaluating in our development programs. We have limited personnel with experience in drug manufacturing and lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale. We outsource all manufacturing of our product candidates and products to third parties until we can complete a cGMP manufacturing facility in South San Francisco, California that will allow us to supply the product candidates needed for our early-stage clinical trials. We compete with other companies for access to cGMP manufacturing facilities and cannot assure continued access.

In order to conduct clinical trials of product candidates, we will need to have them manufactured in potentially large quantities. For example, the extent to which the COVID-19 pandemic impacts our ability to procure sufficient supplies for the development of our product candidates will depend on the severity and duration of the spread of the virus, and the actions undertaken by governments and private enterprises to contain COVID-19 or treat its effects. Our third-party manufacturers may be unable to increase the manufacturing capacity for any of our product candidates in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities and at any other time. If these third-party manufacturers are unable to, or do not, scale up the manufacture of our product candidates in sufficient quality and quantity, the development, testing and clinical trials of that product candidate may be delayed or infeasible, and regulatory approval or commercial launch of that product candidate may be delayed or not obtained, which could significantly harm our business.

We do not currently have any agreements with third-party manufacturers for the long-term commercial supply. We may be unable to enter into agreements with third-party manufacturers for commercial supplies of any product candidate that we develop, or may be unable to do so on acceptable terms. Even if we are able to establish and maintain arrangements with third-party manufacturers, reliance on third-party manufacturers entails risks, including:

- reliance on the third-party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third-party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third-party at a time that is costly or inconvenient for us.

Third-party manufacturers may not be able to comply with cGMP requirements or similar regulatory requirements outside the United States. The failure of our third-party manufacturers to comply with applicable requirements could result in sanctions being imposed on us, including fines, injunctions, civil

penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and/or criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates.

If the third parties that we engage to supply any materials or manufacture product for our preclinical tests and clinical trials should cease to continue to do so for any reason, we likely would experience delays in advancing these tests and trials while we identify and qualify replacement suppliers or manufacturers and we may be unable to obtain replacement supplies on terms that are favorable to us. In addition, if we are not able to obtain adequate supplies of our product candidates or the substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

Our current and anticipated dependence upon others for the manufacture of our product candidates may adversely affect our profit margins and our ability to develop product candidates and commercialize any products that receive marketing approval on a timely and competitive basis.

We are reliant on a sole supplier for certain steps of our manufacturing process.

Our manufacturing process for NKX101 and for NKX019 depends on the use of the Miltenyi CliniMACS Plus system, and related reagents, all of which are only available from Miltenyi as the sole supplier. In addition, some of these reagents, at the time of procurement, typically expire after approximately four to six months. This short expiration period means that stocking the reagents in large quantities for future needs would not be an effective strategy to mitigate against the risk of shortage due to disruption of the supply chain.

Furthermore, while many of the reagents and consumables used in our manufacturing process are available from more than one commercial supplier, we have not confirmed the suitability of the use of all such reagents and consumables in our manufacturing process. Even if we are able to replace any raw materials or consumables with an alternative, such alternatives may cost more, result in lower yields or not be as suitable for our purposes. In addition, some of the raw materials that we use are complex materials, which may be more difficult to substitute. Therefore, supply disruptions could result in delays and additional regulatory submissions and prevent us from being able to manufacture our product candidates due to the unsuitability of the substituted reagent or consumable that we are able to procure.

Any disruption in supply of these instruments and reagents could result in delays in our clinical trials, which would materially adversely affect our business, financial condition, results of operations and growth prospects.

Delays in commissioning and receiving regulatory approvals for our manufacturing facilities could delay our development plans and thereby limit our ability to generate revenues.

We believe that internal cGMP manufacturing is important to facilitate clinical product supply, lower the risk of manufacturing disruptions and enable more cost-effective manufacturing. We are building a cGMP manufacturing facility in South San Francisco, California that will allow us to supply the product candidates needed for our early-stage clinical trials. We also plan to build a facility for the commercial-scale manufacture of our product candidates in the future. The design, construction, qualification and regulatory approvals for such facilities require substantial capital and technical expertise and any delay would limit our development activities and our opportunities for growth.

Furthermore, our manufacturing facility will be subject to ongoing, periodic inspection by the FDA and other comparable regulatory agencies to ensure compliance with cGMP. Our failure to follow and document our adherence to these regulations or other regulatory requirements may lead to significant

delays in the availability of products for clinical use or may result in the termination of or a hold on a clinical study. Failure to comply with applicable regulations could also result in sanctions being imposed on us, including fines, injunctions, civil penalties, a requirement to suspend or put on hold one or more of our clinical trials, failure of regulatory authorities to grant marketing approval of our drug candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of drug candidates, operating restrictions and criminal prosecutions, any of which could materially adversely affect our business, financial condition, results of operations and growth prospects.

We also may encounter problems with the following:

- complying with regulations regarding donor traceability, manufacturing, release of product candidates and other requirements from regulatory authorities outside the United States;
- achieving adequate or clinical-grade materials that meet regulatory agency standards or specifications with consistent and acceptable production yield and costs;
- bacterial, fungal or viral contamination in our manufacturing facility; and
- shortages of qualified personnel, raw materials or key contractors.

Our product candidates, if approved by applicable regulatory authorities, may require significant commercial supply to meet market demand. In these cases, we may need to increase, or "scale up," the production process by a significant factor over the initial level of production. If we fail to develop sufficient manufacturing capacity and experience, whether internally or with a third party, are delayed in doing so, or fail to manufacture our product candidates economically or on reasonable scale or volumes, or in accordance with cGMP, or if the cost of this scale-up is not economically feasible, our development programs and commercialization of any approved products will be materially adversely affected and we may not be able to produce our product candidates in a sufficient quantity to meet future demand and our business, financial condition, results of operations and growth prospects may be materially adversely affected.

The optimal donor and manufacturing parameters for our product candidates have not been definitively established, which may hinder our ability to optimize our product candidates or to address any safety or efficacy issues that may arise.

If any of our clinical trials reveal issues with the safety or efficacy of any of our product candidates, modification of the donor selection criteria or the manufacturing process may be necessary to address such issues. However, we have not fully characterized or identified how donor characteristics and manufacturing process parameters affect the optimal cancer cell killing ability for our engineered NK cell product candidates for in vitro and animal efficacy studies or how such potency differences may translate into efficacy to be seen in human clinical trials, including both the proportion of patients who achieve a meaningful clinical response, and the duration of any such clinical responses. As a result, our ability to improve our manufacturing process or product potency, safety, or efficacy according to such parameters is limited and may require significant trial and error, which may cause us to incur significant costs or could result in significant delays to the clinical development and eventual commercialization of our product candidates.

We are dependent on third parties to store our CAR-NK cells, viral vector, master and working cell banks of the engineered K562 cells, and any damage or loss would cause delays in replacement, and our business could suffer.

The CAR-NK cells, the viral vector, and the master and working cell banks of the engineered K562 cells are stored in freezers at third-party biorepositories and will also be stored in our freezers at our production facility. If these materials are damaged at these facilities, including by the loss or malfunction of these freezers or our back-up power systems, as well as by damage from fire, power loss or other natural disasters, we would need to establish replacement CAR-NK cells, viral vector, and

master and working cell banks of the engineered K562 cells, which would impact clinical supply and delay our patients' treatments. If we are unable to establish replacement materials, we could incur significant additional expenses and liability to patients whose treatment is delayed, and our business could suffer.

We have not yet developed a validated methodology for freezing and thawing large quantities of CAR-NK cells, which we believe will be required for the storage and distribution of our CAR-NK product candidates.

We have not yet demonstrated that CAR-NK cells, which can be frozen and thawed in smaller quantities, can also be frozen and thawed in large quantities without damage, in a cost-efficient manner and without degradation over time. We may encounter difficulties not only in developing freezing and thawing methodologies for large scale use, but also in obtaining the necessary regulatory approvals for using such methodologies in treatment. If we cannot adequately demonstrate similarity of our frozen product to the unfrozen form to the satisfaction of the FDA, we could face substantial delays in our regulatory approvals. If we are unable to freeze CAR-NK cells for shipping purposes, our ability to promote adoption and standardization of our products, as well as achieve economies of scale by centralizing our production facility, will be limited. Even if we are able to successfully freeze and thaw CAR-NK cells in large quantities, we will still need to develop a cost-effective and reliable distribution and logistics network, which we may be unable to accomplish.

Furthermore, we have not yet demonstrated long-term stability of cryopreserved CAR-NK cells and therefore do not know if we will be able to store the cryopreserved cells for extended periods of time. If we are unable to demonstrate long-term stability, we will need to reduce the manufacturing batch size to ensure that the material we produce will be used before it expires. In that case, the scaling of our production processes will not deliver the efficiencies we expect, and the cost per dose of our product candidates will be substantially higher.

For these and other reasons, we have not yet established the long-term stability of our cryopreserved CAR-NK Cells and we may not be able to commercialize CAR-NK cells on a large scale or in a cost-effective manner. If such product is found to be instable, we would be required to conduct more frequent manufacturing runs, which could cause us to incur significant additional expenses.

Risks Related to Our Intellectual Property

If our license agreement with National University of Singapore and St. Jude's Children's Research Hospital, Inc. is terminated, we could lose our rights to key components enabling our NK cell engineering platform.

In August 2016, we entered into a license agreement with the National University of Singapore and St. Jude Children's Research Hospital, Inc., or the Licensors. Pursuant to this license, the Licensors granted to us an exclusive, worldwide, royalty-bearing, sublicensable license under specified patents and patent applications related to NK cell technology in the field of therapeutics. We make single-digit royalty payments, patent expenses, license maintenance fees and milestone payments to the Licensors. The term of the license agreement extends until expiration of the last of the patent rights licensed to us by the Licensors, which is currently expected to occur in approximately 2039. The Licensors may terminate the license agreement upon the occurrence of certain events, such as an uncured material breach by us, the cessation of our business or our insolvency, liquidation or receivership. If the Licensors terminate or narrow the license agreement, we could lose the use of intellectual property rights that may be material or necessary to the development or production of our product candidates, which could impede or prevent our successful commercialization of such product candidates and materially adversely affect our business, financial condition, results of operations and growth prospects.

Furthermore, our patent license agreement with the Licensors is field-specific and has been granted to us in the field of therapeutics. This license agreement permits to Licensors to practice the licensed rights, and to allow non-profit academic third parties to practice the licensed rights for certain academic purposes. As such, certain patents in a patent family that is licensed to us by the Licensors have been licensed to at least one other third party. Although these patents should not be overlapping with our licensed patents, there is a risk that inadvertent overlap may occur, and thus resources may have to be expended to resolve any such overlap and to prevent other licensees from practicing under our licensed patents rights. If any of the foregoing were to occur, it could delay our development and commercialization of our product candidates, which in turn could materially adversely affect our business, financial condition, results of operations and growth prospects.

Our development and commercialization rights to our current and future product candidates and technology are subject, in part, to the terms and conditions of licenses granted to us by others.

Our patent portfolio consists of a combination of issued patents and pending patent applications licensed from third parties, jointly owned with third parties and assigned solely to us based on our ongoing development activities. We are reliant upon certain of these rights and proprietary technology from third parties for the engineering and development of our current and future product candidates. However, these and other licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we choose to develop or commercialize our technology and products in the future. As a result, we may not be able to prevent competitors from developing and commercializing competitive products in territories included in all of our licenses.

We also engage in collaborations with scientists at academic and non-profit institutions to access technologies and materials that are not otherwise available to us. Although the agreements that govern these collaborations may include an option to negotiate an exclusive license to the institution's rights in any inventions that are created in the course of these collaborations, we may not be able to come to a final agreement for an exclusive license with an institution.

Such licenses and other contracts may be the subject of disagreements with the grantors and/or various third parties regarding the interpretation of such licenses and contracts. The resolution of any such disagreements that may arise could affect the scope of our rights to the relevant technology, or affect financial or other obligations under the relevant agreement, either of which could inhibit our ability to utilize the underlying technology in a cost-effective manner to develop and commercialize our product candidates, which in turn could have materially adversely affect our business, financial condition, results of operations and growth prospects.

Under certain circumstances such as a material breach of terms, our licensors could terminate our license agreements. If these in-licenses are terminated, or if the underlying patents fail to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products identical to ours. In addition, we may seek to obtain additional licenses from our licensors and, in connection with obtaining such licenses, we may agree to amend our existing licenses in a manner that may be more favorable to the licensors, including by agreeing to terms that could enable third parties (potentially including our competitors) to receive licenses to a portion of the intellectual property that is subject to our existing licenses.

In addition, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement and defense of patents and patent applications directed to the technology that we license from third parties. Therefore, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced and defended in a manner consistent with our best interests. If our licensors fail to prosecute, maintain, enforce and defend such patents, or lose rights to

those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our products that are the subject of such licensed rights could be impaired. Additionally, we may be required to reimburse our licensors for all of their expenses related to the prosecution, maintenance, enforcement and defense of patents and patent applications that we in-license from them.

Furthermore, our licensors may have relied on third-party consultants or collaborators or on funds from third parties such that our licensors are not the sole and exclusive owners of the patents we in-licensed. If other third parties have ownership rights to our in-licensed patents, they may be able to license such patents to our competitors, and our competitors could market competing products and technology. This could harm our competitive position, and our business.

Duration of patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time, and the expiration of our patents may subject us to increased competition.

As of April 30, 2020, the patent portfolio that is assigned to us, jointly owned with others or licensed to us includes five issued U.S. patents, 16 pending U.S. patent applications and 45 pending international patent applications. Our portfolio of issued patents, excluding pending patent applications, has expiration dates between 2024 and 2035. Our portfolio, including issued patents, and including pending applications if they issue, has expiration dates between 2024 and 2041. At least 45 of our issued patents and pending patent applications relate to supporting commercialization of our current product candidates, while the remaining issued patents and pending patent applications relate to future product candidates and alternative technologies. We plan to file additional patent applications that could potentially allow for further increase of the exclusive market protection for use of NKX101 and NKX019. However, we can provide no assurance that we will be able to file or receive additional patent protection for these or other product candidates.

Patent expiration dates may be shortened or lengthened by a number of factors, including terminal disclaimers, patent term adjustments, supplemental protection certificates and patent term extensions. Patent term extensions and supplemental protection certificates, and the like, may be impacted by the regulatory process and may not significantly lengthen patent term. Our patent protection could also be reduced or eliminated for noncompliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies. In addition, if we fail to apply for applicable patent term extensions or adjustments, we will have a more limited time during which we can enforce our granted patent rights.

Given the amount of time required for the development, testing and regulatory review of product candidates, patents protecting such candidates might expire before or shortly after such product candidates are commercialized. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we have or will obtain patent rights. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent; provided that the patent is not enforceable for more than 14 years from the date of drug approval, which is limited to the approved indication (or any additional indications approved during the period of extension). Furthermore, only one patent per approved product can be extended and only those claims directed to the approved product, a method for using it or a method for manufacturing it may be extended. However, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If we are responsible for patent prosecution and maintenance of patent rights in-licensed to us, we could be exposed to liability to the applicable patent owner. If we or our licensors fail to maintain the patents and patent applications covering our product candidates and technologies, we may not be able to

prevent a competitor from marketing products that are the same as or similar to our product candidates. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours, and our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case, which could increase competition for our product candidates and materially adversely affect our business, financial condition, results of operations and growth prospects.

If any patent protection we obtain is not sufficiently robust, our competitors could develop and commercialize products and technology similar or identical to ours.

The market for cell therapy is highly competitive and subject to rapid technological change. Our success depends, in large part, on our ability to maintain a competitive position in the development and protection of technologies and products for use in these fields and to obtain and maintain patent protection in the United States and other countries with respect to our product candidates and our technology. We have sought, and intend to seek, to protect our proprietary position by filing patent applications in the United States and abroad related to our product candidates and our technology that are important to our business. If we are unable to protect our intellectual property, our competitive position could be materially adversely affected, as third parties may be able to make, use or sell products and technologies that are substantially the same as ours without incurring the sizeable development and licensing costs that we have incurred. This, in turn, would materially adversely affect our ability to compete in the market.

The patent position of biotechnology and pharmaceutical companies generally is uncertain, involves complex legal and factual questions and has, in recent years, been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued that protect our technology or product candidates or effectively prevent others from commercializing competitive technologies and product candidates.

The patent prosecution process is expensive, time-consuming and complex, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may also fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection.

Claim scope in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if the patent applications we license or own do issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us or otherwise provide us with any competitive advantage. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative products in a non-infringing manner.

Even after issuance, our owned and in-licensed patents may be subject to challenge, which if successful could require us to obtain licenses from third parties, which may not be available on commercially reasonable terms or at all, or to cease the use of the underlying technology, which could materially adversely affect our business.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents, even after issuance, may be challenged in the courts or patent offices in the United States and abroad. Third-party challenges may result in a loss of exclusivity or in our patent claims being narrowed, invalidated or held unenforceable, which could limit our ability to prevent others from using or commercializing similar or identical technology and products, or could limit the duration of the patent protection of our technology and product candidates.

Even if our patents are determined to be valid and enforceable, they may not be interpreted sufficiently broadly to prevent others from marketing products similar to ours or designing around our patents.

We are currently involved in two patent re-examination proceedings. On August 1, 2018, a third party requested ex-parte re-examination of certain claims of U.S. Patent No. 9,511,092 and this re-examination is currently pending with the USPTO. On August 2, 2019, a third party requested an ex-parte re-examination on the remaining claims of U.S. Patent No. 9,511,092, and this re-examination is currently pending with the USPTO. U.S. Patent No. 9,511,092 relates generally to chimeric receptor complexes that bind certain specific natural killer cell ligands and methods of using natural killer cells. U.S. Patent No. 9,511,092 does not relate to our current product candidates but may relate to future product candidates or alternative technologies. Although we plan to vigorously protect our intellectual property rights, as with all legal proceedings, there can be no guarantee as to the outcome, and, regardless of the merits of third-party challenges, such proceedings are time-consuming and costly. As a result of such re-examinations, our rights under the relevant patents could be narrowed or lost, and in the course of such proceedings, we may incur substantial costs, and the time and attention of our management may be diverted from the development and commercialization of our product candidates.

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

There are many patents issued or applied for in the biotechnology industry, and we may not be aware of patents or patent applications held by others that relate to our business. We cannot guarantee that any of our or our licensors' patent searches or analyses, including but not limited to the identification of relevant patents, analysis of the scope of relevant patent claims or determination of the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States and elsewhere that is relevant to or necessary for the development and commercialization of our product candidates in any jurisdiction.

For example, patent applications in the United States and many international jurisdictions are typically not published until 18 months after the filing of certain priority documents (or, in some cases, are not published until they issue as patents) and publications in the scientific literature often lag behind actual discoveries. Thus, we cannot be certain that others have not filed patent applications or made public disclosures relating to our technology or our contemplated technology. A third party may have filed, and may in the future file, patent applications directed to our products or technology similar to ours. Any such patent application may have priority over our patent applications or patents, which could further require us to obtain rights to patents directed to such technologies. If third parties have filed such patent applications, an interference proceeding in the United States can be initiated by such third party, or by the USPTO itself, to determine who was the first to invent any of the subject matter recited by the patent claims of our applications.

Furthermore, after issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, and we may incorrectly determine that our product candidates are not covered by a third party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or elsewhere that we consider relevant may also be incorrect, which. If we fail to correctly identify or interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay monetary damages, we may be

temporarily or permanently prohibited from commercializing our product candidates. We may also be forced to attempt to redesign our product candidates in a manner that no longer infringes third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to the development and commercialization of our product candidates.

Claims brought against us for infringing, misappropriating or otherwise violating intellectual property rights of third parties or engaging in unfair competition, would be costly and time-consuming and could prevent or delay us from successfully developing or commercializing our product candidates.

Our success depends in part on our ability to develop, manufacture and market our technology and use our technology without infringing the proprietary rights of third parties. As the relevant product industries expand and more patents are issued, the risk increases that there may be patents issued to third parties that relate to our products and technology of which we are not aware or that we may need to challenge to continue our operations as currently contemplated. As a result, our technology and any future products that we commercialize could be alleged to infringe patent rights and other proprietary rights of third parties, which may require costly litigation and, if we are not successful, could cause us to pay substantial damages and/or limit our ability to commercialize our product candidates.

Whether merited or not, we may face allegations that we have infringed the trademarks, copyrights, patents and other intellectual property rights of third parties. We employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Accordingly, we may be subject to claims that these employees, or we, have used or disclosed trade secrets or other proprietary information of their former employers. Litigation may make it necessary to defend ourselves by determining the scope, enforceability and validity of third-party proprietary rights, or to establish our proprietary rights. Regardless of whether claims that we are infringing patents or other intellectual property rights have merit, such claims can be time consuming, divert management attention and financial resources and are costly to evaluate and defend.

Results of any such litigation are difficult to predict and may require us to stop treating certain conditions, obtain licenses or modify our product candidates while we develop non-infringing substitutes, or may result in significant settlement costs. Litigation can involve substantial damages for infringement (and if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner’s attorneys’ fees), and the court could prohibit us from selling or require us to take a license from a third party, which the third party is not required to do at a commercially reasonable price or at all. If a license is available from a third party, we may have to pay substantial royalties, upfront fees, milestone fees, or grant cross-licenses to intellectual property rights for our products. We may also have to redesign our products so they do not infringe third-party intellectual property rights, which may not be possible or may require substantial monetary expenditures and time, during which our products may not be available for manufacture, use, or sale.

We may not be able to effectively monitor unauthorized use of our intellectual property and enforce our intellectual property rights against infringement, and may incur substantial costs as a result of bringing litigation or other proceedings relating to our intellectual property rights.

Monitoring unauthorized use of our intellectual property is difficult and costly. From time to time, we review our competitors’ products for potential infringement of our rights. We may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Any inability to meaningfully monitor unauthorized use of our intellectual property could result in competitors offering products that incorporate our product or service features, which could in turn reduce demand for our products.

We may also, from time to time, seek to enforce our intellectual property rights against infringers when we determine that a successful outcome is probable and may lead to an increase in the value of the intellectual property.

If we choose to enforce our patent rights against a party, that party could counterclaim that our patent is invalid and/or unenforceable. The defendant may challenge our patents through proceedings before the Patent Trial and Appeal Board, or PTAB, including inter partes and post-grant review. Proceedings to challenge patents are also available internationally, including, for example, opposition proceedings and nullity actions. In patent litigation in the United States, counterclaims alleging invalidity and/or unenforceability and PTAB challenges are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before the PTAB, even outside the context of litigation. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we may lose at least part, and perhaps all, of the patent protection on our product candidates.

In addition, such lawsuits and proceedings are expensive and would consume time and resources and divert the attention of managerial and scientific personnel even if we were successful in stopping the infringement of such patents. Litigation is inherently unpredictable, and there is a risk that the court will decide that such patents are not valid and that we do not have the right to stop the other party from using the inventions. Furthermore, some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. There is also the risk that, even if the validity of such patents is upheld, the court will refuse to stop the other party on the ground that such other party's activities do not infringe our intellectual property rights.

There could also be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could materially adversely affect the price of our common stock. Finally, any uncertainties resulting from the initiation and continuation of any litigation could materially adversely affect our ability to raise the funds necessary to continue our operations.

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

We have a number of international patents and patent applications, and expect to continue to pursue patent protection in many of the significant markets in which we intend to do business. However, filing, prosecuting and defending patents relating to our product candidates, including all of our in-licensed patent rights, in all countries throughout the world would be prohibitively expensive. We must ultimately seek patent protection on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Furthermore, the protection offered by intellectual property rights in certain countries outside of the United States may be less extensive than those in the United States. Consequently, we may not be able to prevent third parties from utilizing proprietary technology in all countries outside of the United States, even if we pursue and obtain issued patents in particular foreign jurisdictions, or from selling or

importing products made using our proprietary technology in and into the United States or other jurisdictions. Such products may compete with our products, and our patent rights or other intellectual property rights may not be effective or sufficient to prevent them from competing. If such competing products arise in jurisdictions where we are unable to exercise intellectual property rights to combat them, our business, financial condition, results of operations and growth prospects could be materially adversely affected.

Changes in U.S. patent law or the patent law of other jurisdictions could decrease the certainty of our ability to obtain patents and diminish the value of patents in general, thereby impairing our ability to protect our current and any future product candidates.

The U.S. Supreme Court and the Court of Appeals for the Federal Circuit have made, and will likely continue to make, changes in how the patent laws of the United States are interpreted. For example, in recent years the U.S. Supreme Court modified some tests used by the USPTO in granting patents over the past 20 years, which may decrease the likelihood that we will be able to obtain patents and increase the likelihood of a challenge of any patents we obtain or license. Similarly, international courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. Those changes may materially adversely affect our patent rights and our ability to obtain issued patents.

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Under the Leahy-Smith America Invents Act, or the America Invents Act, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. The America Invents Act also includes a number of significant changes that affect the way patent applications are prosecuted and also may affect patent litigation. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO-administered post-grant proceedings, including post-grant review, inter partes review and derivation proceedings. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could materially adversely affect our business, financial condition, results of operations and growth prospects.

In addition, the U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. 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 actions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to enforce patents that we own, have licensed or might obtain in the future. Similarly, changes in patent law and regulations in other countries or jurisdictions, changes in the governmental bodies that enforce them or changes in how the relevant governmental authority enforces patent laws or regulations may weaken our ability to obtain new patents or to enforce patents that we own or have licensed or that we may obtain in the future, which in turn could materially adversely affect our business, financial condition, results of operations and growth prospects.

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

While it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual

property to us, we may be unsuccessful in executing an enforceable agreement with each party who in fact conceives or develops intellectual property that we regard as our own. Furthermore, our assignment agreements may not be self-executing or may be breached, and we may be forced to bring or defend claims to determine the ownership of what we regard as our intellectual property, and we may not be successful in such claims. If we fail in bringing or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Such an outcome could materially adversely affect our business, financial condition, results of operations and growth prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and distraction to management and other employees.

If we are not able to adequately prevent disclosure of trade secrets and other proprietary information, the value of our technology and products could be materially diminished.

Trade secrets are difficult to protect. We rely on trade secrets to protect our proprietary information and technologies, especially where we do not believe patent protection is appropriate or obtainable, or where such patents would be difficult to enforce. We rely in part on confidentiality agreements with our employees, consultants, contractors, outside scientific collaborators and other advisors to protect our trade secrets and other proprietary information. We cannot guarantee that we have entered into such agreements with each party that may have had access to our proprietary information or technologies, or that such agreements, even if in place, will not be circumvented. These agreements may not effectively prevent disclosure of proprietary information or technology and may not provide an adequate remedy in the event of unauthorized disclosure of such information or technology. In addition, others may independently discover our trade secrets and proprietary information, in which case we may have no right to prevent them from using such trade secrets or proprietary information to compete with us. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could materially adversely affect our business, financial condition, results of operations and growth prospects.

The U.S. government could choose to exercise certain rights in technology developed under government-funded research, which could eliminate our exclusive use of such technology or require us to commercialize our product candidates in a way we consider sub-optimal.

The U.S. government has certain rights in some of our licensed patents (including U.S. Patent Nos. 7,435,596, 8,026,097 and certain related U.S. patent applications) in accordance with the Bayh-Dole Act of 1980. These rights in certain technology developed under government-funded research include, for example, a nonexclusive, nontransferable, irrevocable, paid-up license to use those inventions for governmental purposes. In addition, the U.S. government has the right to require us to grant exclusive licenses to such inventions to a third party if the U.S. government determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations.

The U.S. government also has the right to take title to such technology if we fail to disclose the invention of such technology to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title to patent rights in any country in which a patent application is not filed within specified time limits. To the extent any of our owned or future in-licensed intellectual property is generated through the use of U.S. government funding, these provisions of the Bayh-Dole Act may apply.

Intellectual property generated under a government-funded program is also subject to certain reporting requirements. In addition, the U.S. government requires that any products embodying any of these inventions or produced through the use of any of these inventions be manufactured substantially

in the United States. If we are unable to obtain a waiver from the government agency that provided the underlying research funding, we may be limited in our ability to contract with non-U.S. product manufacturers for products related to such intellectual property.

The exercise of any of the foregoing rights of the U.S. government over technology that we own or use in the development and commercialization of our product candidates could prevent us from enjoying the exclusive use of such technology, or could cause us to incur additional expenses in the commercialization of our product candidates. Any of the foregoing could materially adversely affect our business, financial condition, results of operations and growth prospects.

Risks Related to Commercialization

If any of our product candidates are approved for marketing and commercialization and we have not developed or secured third-party marketing, sales and distribution capabilities, we will be unable to successfully commercialize such products and may not be able to generate product revenue.

We currently have no sales, marketing or distribution organizational experience or capabilities. We will need to develop internal sales, marketing and distribution capabilities to commercialize any product candidate that gains FDA or other regulatory authority approval, which would be expensive and time-consuming, or enter into partnerships with third parties to perform these services. If we decide to market any approved products directly, we will need to commit significant financial and managerial resources to develop a marketing and sales force with technical expertise and supporting distribution, administration and compliance capabilities. If we rely on third parties to market products or decide to co-promote products with partners, we will need to establish and maintain marketing and distribution arrangements with third parties, and there can be no assurance that we will be able to enter into such arrangements on acceptable terms or at all. In entering into third-party marketing or distribution arrangements, any product revenue we receive will depend upon the efforts of the third parties and we cannot assure you that such third parties will establish adequate sales and distribution capabilities or be successful in gaining market acceptance for any approved product. If we are not successful in commercializing any product approved in the future, if any, either on our own or through third parties, our business, financial condition, results of operations and growth prospects could be materially adversely affected.

If we are not able to establish pharmaceutical or biotechnology collaborations on commercially reasonable terms, or at all, we may have to alter our development and commercialization plans.

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

We face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Whether we reach a definitive agreement for other collaborations will depend, among other things, upon our assessment of the collaborator’s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator’s evaluation of a number of factors. Those factors may include the design or results of clinical trials, the progress of our clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of

competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. Further, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for future product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view them as having the requisite potential to demonstrate safety and efficacy. Any delays in entering into new collaborations or strategic partnership agreements related to any product candidate we develop could delay the development and commercialization of our product candidates, which would harm our business prospects, financial condition, and results of operations.

If we enter into collaborations with third parties to develop or commercialize our product candidates, our prospects with respect to those product candidates will depend in significant part on the success of those collaborations.

If we enter into future collaboration with third parties, we could face the following risks:

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

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

As a result, if we enter into additional collaboration agreements and strategic partnerships or license our intellectual property, products or 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, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction.

Our product candidates, including NKX101 and NKX019, could be subject to regulatory limitations following approval, if and when such approval is granted.

Following approval of a product candidate, if any, we must comply with comprehensive government regulations regarding the manufacture, labeling, marketing, distribution and promotion of biologic products. We must comply with the FDA's labeling protocols, which prohibits promoting "off-label uses." We may not be able to obtain the labeling claims necessary or desirable to successfully commercialize our products, including NKX101 and NKX019 or other product candidates in development.

The FDA and foreign regulatory authorities could impose significant restrictions on use of an approved product including potentially restricting its use to limited clinical centers as well as through the product label, as well as on advertising, promotional and distribution activities associated with such approved product. The FDA or a foreign regulatory authority could also condition their approval on the performance of post-approval clinical trials, patient monitoring or testing, which could be time-consuming and expensive. If the results of such post-marketing trials are not satisfactory, the FDA or such foreign regulatory authority could withdraw marketing authorization or may condition continued marketing on commitments from us or our partners that may be expensive and/or time-consuming to fulfill.

In addition, if we or others identify side-effects after any of our products are on the market, if manufacturing problems occur subsequent to regulatory approval, or if we, our manufacturers or our partners fail to comply with regulatory requirements, including those mentioned above, we or our partners could be subject to the following:

- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned clinical trials;
- restrictions on such products' manufacturing processes;
- changes to the product label;
- restrictions on the marketing of a product;
- restrictions on product distribution;
- requirements to conduct post-marketing clinical trials;
- Untitled or Warning Letters from the FDA;
- withdrawal of the product from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenue;
- suspension or withdrawal of regulatory approvals;
- refusal to permit the import or export of our products;
- product seizure;
- injunctions; or
- imposition of civil or criminal penalties.

Any one or a combination of these penalties could prevent us from achieving or maintaining market acceptance of the affected product, or could substantially increase the costs and expenses of commercializing such product, which in turn could delay or prevent us from generating any revenue or profit from the sale of such product and could materially adversely affect our business, financial condition, results of operations and growth prospects. In addition, third-party payors may impose limitations on centers and personnel that may administer our products, including but not limited to

requiring third-party accreditation to be obtained before the use of our products is reimbursed in such a center, which could materially adversely affect our potential commercial success and lead to slower market acceptance.

The market opportunities for our product candidates, if and when approved, may be limited, and if such market opportunities are smaller than we expect, our revenues could be materially adversely affected and our business could suffer.

Cancer therapies are sometimes characterized as first-line, second-line, or third-line, and the FDA often approves new therapies initially only for third-line use. When cancer is detected early enough, first-line therapy, usually chemotherapy, hormone therapy, surgery, radiation therapy or a combination of these, is sometimes adequate to cure the cancer or prolong life without a cure. Second- and third-line therapies are administered to patients when prior therapy is not effective. Our initial planned clinical trials are expected to enroll patients who have received other available therapies in order to first evaluate whether the product is safe and whether there is any activity. We do not know at this time whether either NKX101 or NKX019 will be safe for use in humans or whether they will demonstrate any anti-cancer activity. Subsequently, we plan to conduct additional clinical trials depending on the activity we note in the initial clinical trials. If the activity is sufficient, we may initially seek approval of any product candidates we develop as a therapy for patients who have received one or more prior treatments. Subsequently, for those products that prove to be sufficiently beneficial, if any, we would expect to seek approval potentially in earlier lines of therapy, but there is no guarantee that product candidates we develop, even if approved for later lines of therapy, would be approved for earlier lines of therapy, and, prior to any such approvals, we may have to conduct additional clinical trials.

The number of patients who have the cancers we are targeting may turn out to be lower than expected. Additionally, the potentially addressable patient population for our current programs or future product candidates may be limited. Potentially addressable patient populations for of our product candidates are only estimates. These estimates could prove to be incorrect, and the estimated number of potential patients in the United States and elsewhere could be lower than expected. It may also be that such patients may not be otherwise amenable to treatment with our product candidates, or patients could become increasingly difficult to identify and access, any of which could materially adversely affect our business, financial condition, results of operations and growth prospects.

The commercial success of any of our product candidates will depend upon such product candidate's degree of market acceptance by physicians, patients, third-party payors and others in the medical community.

Our product candidates may not be commercially successful. Even if requisite approvals are obtained from the FDA in the United States and other regulatory authorities internationally, the commercial success of our product candidates will depend, in part, on the acceptance by physicians, patients and healthcare payors of cell therapy products in general, and our product candidates in particular, as medically necessary, cost-effective and safe. Physicians, patients, healthcare payors and others in the medical community may not accept any product that we commercialize. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of cell therapy products and, in particular, our product candidates, if approved for commercial sale, will depend on several factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the potential and perceived advantages of product candidates over alternative treatments;
- the cost of treatment relative to alternative treatments;
- the clinical indications for which the product candidate is approved by the FDA;
- the willingness of physicians to prescribe new therapies;

- the willingness of the target patient population to try new therapies;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements imposed by the FDA or other regulatory authorities, including any limitations or warnings contained in a product's approved labeling;
- relative convenience and ease of administration;
- the timing of market introduction of competitive products;
- adverse publicity concerning our product candidates or favorable publicity about competing products and treatments;
- sufficient third-party payor coverage, any limitations in terms of center or personnel training requirement imposed by third parties and adequate reimbursement;
- limitations or warnings contained in the FDA-approved labeling for our product candidates;
- any FDA requirement to undertake a Risk Evaluation and Mitigation Strategy, or REMS;
- the effectiveness of our sales, marketing and distribution efforts; and
- potential product liability claims.

Even if a product candidate displays a favorable efficacy and safety profile in preclinical studies and clinical trials, market acceptance of the product will not be fully known until after such product is launched. Our product candidates may not achieve broad market acceptance.

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

The insurance coverage and reimbursement status of newly approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our product candidates, if approved, could limit our ability to market such products and to generate product revenue.

We expect the cost of a single administration of one of our cell therapy product candidates to be substantial, when and if they achieve regulatory approval. We expect that coverage and reimbursement by government and private payors will be essential for most patients to be able to afford these treatments. Accordingly, sales of our products, if approved, will depend substantially, both domestically and internationally, on the extent to which the costs of our product candidates will be reimbursed by government authorities, private health coverage insurers and other third- party payors. Coverage and reimbursement by a third-party payor could depend upon several factors, including the third-party payor's determination that use of a product is (i) a covered benefit under its health plan, (ii) safe, effective and medically necessary, (iii) appropriate for the specific patient, (iv) cost-effective and (v) neither experimental nor investigational.

Obtaining coverage and reimbursement for a product from third-party payors is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If coverage and reimbursement are not available, or are available only at limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be adequate to realize a sufficient return on our investment.

There is significant uncertainty related to third-party coverage and reimbursement of newly approved drug products. In the United States, third-party payors, including government payors such as Medicare and Medicaid, play an important role in determining the extent to which new drugs and biologics will be covered and reimbursed. Medicare and Medicaid are increasingly used as models for the development of private payors' and government payors' coverage and reimbursement policies. Currently, few cell therapy products have been approved for coverage and reimbursement by the Centers for Medicare & Medicaid Services, or CMS, the agency responsible for administering Medicare. It is difficult to predict what CMS will decide with respect to coverage and reimbursement for fundamentally novel products such as ours, since there is no body of established protocols and precedents for these types of drug products. Moreover, reimbursement agencies in the European Union may be more conservative than CMS. For example, several cancer drugs have been approved for reimbursement in the United States, whereas they have not been approved for reimbursement in certain European Union member states. It is difficult to predict what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

Outside the United States, international operations vary significantly by country and are subject to extensive government price controls and other market regulations, and increasing emphasis on cost-containment initiatives in the European Union, Canada and other countries could place pricing pressure on us. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. It can also take a significant amount of time after approval of a product to secure pricing and reimbursement for such product in many counties outside the United States. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable product revenues.

Moreover, increasing efforts by government and third-party payors in the United States and abroad to cap or reduce healthcare costs could limit coverage and the level of reimbursement for our product candidates. Payors are increasingly considering new metrics as the basis for reimbursement rates, such as average sales price, or ASP, average manufacturer price, or AMP, and Actual Acquisition Cost. The existing data for reimbursement based on some of these metrics is relatively limited, although certain states have begun to survey acquisition cost data for the purpose of setting Medicaid reimbursement rates, and CMS has begun making pharmacy National Average Drug Acquisition Cost and National Average Retail Price data publicly available on at least a monthly basis. Therefore, it may be difficult to project the impact of these evolving reimbursement metrics on the willingness of payors to cover candidate products that we or our partners are able to commercialize. Furthermore, most third-party payors currently require additional accreditation for approved cell therapy drugs, which limits the centers that can administer the drugs, and similar limitations may also be imposed on the product candidates that we are developing. We expect to experience pricing pressures in connection with the sale of our product candidates, if any, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, and on prescription drugs and surgical procedures in particular, has become intense. As a result, increasingly high barriers to entry are developing for new drug products such as ours.

Healthcare reform initiatives and other administrative and legislative proposals may harm our business.

In the United States, the European Union and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect our results of operations. In particular, there have been and

continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private payors. Among the provisions of the ACA, those of greatest importance to the pharmaceutical and biotechnology industries include the following:

- an annual, non-deductible fee payable by any entity that manufactures or imports certain branded prescription drugs and biologic agents (other than those designated as orphan drugs), which is apportioned among these entities according to their market share in certain government healthcare programs;
- new requirements to report certain financial arrangements with physicians and teaching hospitals, including reporting “transfers of value” made or distributed to prescribers and other healthcare providers and reporting investment interests held by physicians and their immediate family members;
- 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;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer’s Medicaid rebate liability;
- a licensure framework for follow-on biologic products;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and
- establishment of the CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, the Tax Cuts and Jobs Act of 2017 was enacted, which includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the “individual mandate”. It is uncertain the extent to which any such changes may impact our business or financial condition.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, led to aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2027 unless additional action is taken by Congress. However, the Medicare sequester reductions under the Budget Control Act of 2011 will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws or any other similar laws introduced in the future may result in additional reductions in Medicare and other health care funding, which could negatively affect our customers and accordingly, our financial operations.

There have also been a number of proposals in the United States to control the escalating cost of healthcare, including the cost of drug treatments, patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and

we expect that coverage and reimbursement for new therapies will be increasingly restricted. Recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies for drugs. Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. On May 11, 2018, the Trump administration issued a plan to lower drug prices.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action in the United States, the European Union or any other jurisdiction. It is possible that additional governmental action is taken to address the COVID-19 pandemic. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability. Furthermore, future price controls or other changes in pricing regulation or negative publicity related to the pricing of pharmaceutical drugs could restrict the amount that we are able to charge for our drug products, which could render our product candidates, if approved, commercially unviable and materially adversely affect our ability to raise additional capital on acceptable terms.

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

Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

If we market approved products outside the United States, we expect that we will be subject to additional risks in commercialization, including:

- different regulatory requirements for approval of therapies in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- 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 currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- foreign reimbursement, pricing and insurance regimes;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, natural disasters including earthquakes, typhoons, floods and fires, and other public health crises, illnesses, epidemics or pandemics, such as the potential impact of the COVID-19 outbreak.

We have no prior experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by many of the individual countries in which we may operate, with which we will need to comply. Any of the foregoing difficulties, if encountered, could materially adversely affect our business, financial condition, results of operations and growth prospects.

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

These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell and distribute our product candidates, if approved. Such laws include, the U.S. federal Anti-Kickback Statute, the U.S. federal civil and criminal false claims and civil monetary penalties laws, including the civil False Claims Act, the Health Insurance Portability and Accountability Act, or HIPAA, the Health Information Technology for Economic and Clinical Health Act, or HITECH, the U.S. Physician Payments Sunshine Act and its implementing regulations, U.S. state laws and regulations, including, state anti-kickback and false claims laws, laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources, laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, laws requiring the registration of pharmaceutical sales representatives, laws governing the privacy and security of health information in certain circumstances, and similar healthcare laws and regulations in other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers.

It is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will also involve substantial costs. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that may apply to us, we may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming and may require significant personnel resources. Any of the foregoing could significantly harm our business, financial condition, results of operations and growth prospects.

We may fail to comply with evolving European and other privacy laws.

If we conduct clinical trials in the European Economic Area, or EEA, we may be subject to additional privacy laws. The General Data Protection Regulation, (EU) 2016/679, or GDPR, imposes a broad range of strict requirements on companies subject to the GDPR, including requirements relating to having legal bases for processing personal information relating to identifiable individuals and transferring such information outside the EEA, including to the United States, providing details to those individuals regarding the processing of their personal information, keeping personal information secure,

having data processing agreements with third parties who process personal information, responding to individuals' requests to exercise their rights in respect of their personal information, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing privacy and data protection officers, conducting data protection impact assessments, and record-keeping. The GDPR increases substantially the penalties to which we could be subject in the event of any non-compliance, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover for more serious offenses. Given the limited enforcement of the GDPR to date, we face uncertainty as to the exact interpretation of the new requirements on our trials and we may be unsuccessful in implementing all measures required by data protection authorities or courts in interpretation of the new law.

In particular, national laws of member states of the European Union are in the process of being adapted to the requirements under the GDPR, thereby implementing national laws which may partially deviate from the GDPR and impose different obligations from country to country, so we do not expect to operate in a uniform legal landscape in the EU. Also, as it relates to processing and transfer of genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty.

In the event we conduct clinical trials in the EEA, we must also ensure that we implement and maintain adequate safeguards to enable the transfer of personal data outside of the EEA, in particular to the United States, in compliance with European data protection laws. We expect that we will continue to face uncertainty as to whether our efforts to comply with our obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or pharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or pharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current and, in particular, future data protection obligations imposed on them by certain data protection authorities in interpretation of current law, including the GDPR. Such clients or pharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the foregoing could materially harm our business, prospects, financial condition and results of operations.

Risks Related to Our Common Stock and This Offering

There has been no public market for our common stock prior to this offering, and you may not be able to resell our shares at or above the price you paid, or at all.

We have applied to list our common stock on the Nasdaq Global Market, or Nasdaq, but an active trading market for our common stock may never develop following this offering. If an active trading market for our common stock does not develop after this offering, the market price and liquidity of our common stock will be materially and adversely affected. You may not be able to sell your shares quickly or at the market price if trading in our common shares is not active. Negotiations between us and the underwriters will determine the offering price for our common stock and the offering price may bear no relationship to the market price for our common stock after this offering. In addition, the market price of our common stock may decline below the offering price. Furthermore, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration.

Certain of our existing principal stockholders, directors and their affiliated entities have indicated an interest in purchasing up to an aggregate of $ million in common shares in this offering at the initial public offering price per share. To the extent that such entities purchase shares in this offering, it would reduce the available public float for our shares because these entities will be restricted from selling the shares by restrictions under applicable securities laws. As a result, any purchase of shares by such entities in this offering may reduce the liquidity of our common shares compared to what it would have been had these shares been purchased by investors that were not affiliated with us.

The market price for our common stock may be volatile, which could contribute to the loss of all or part of your investment.

Prior to this offering, there has not been a public market for our common stock. Accordingly, the initial public offering price for the shares of our common stock may not be indicative of the price that will prevail in the trading market, if any, that develops following this offering. If an active market for our common stock develops and continues, the trading price of our common stock following this offering is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control.

Factors affecting the trading price of our common stock may include, but are not limited to:

- our decision to initiate a clinical study, not to initiate a clinical study or to terminate an existing clinical study;
- adverse regulatory decisions, including failure to receive regulatory approval for our products;
- success or failure of competitive products, immunotherapy drugs or cellular therapies more generally;
- adverse developments concerning our manufacturers or our strategic partnerships;
- adverse safety or other clinical results, such as those that have occurred in the past or that may occur in the future, related to cellular therapies being developed by other companies that are or may be perceived to be similar to our cellular therapies;
- operating and stock price performance of other companies that investors deem comparable to us;
- sales of substantial amounts of common stock by our directors, executive officers or significant stockholders or the perception that such sales could occur;
- general economic and political conditions such as recessions, interest rates, fuel prices, elections, drug pricing policies, international currency fluctuations, acts of war or terrorism, and other public health crises, illnesses, epidemics or pandemics, such as the potential impact of the COVID-19 outbreak; and
- other factors discussed in these risk factors.

Any of the factors listed above could materially adversely affect your investment in our common stock, and our common stock may trade at prices significantly below the initial public offering price, which could contribute to a loss of all or part of your investment. In such circumstances the trading price of our common stock may not recover and may experience a further decline.

In addition, broad market and industry factors could materially adversely affect the market price of our common stock, irrespective of our operating performance. The stock market in general, and Nasdaq and the market for biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of ours, may not be predictable. For example, the trading prices for common stock of other biopharmaceutical and biotechnology companies have been highly volatile as a result of the COVID-19 pandemic. The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our

business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence. A loss of investor confidence in the market for biotechnology or pharmaceutical stocks or the stocks of other companies which investors perceive to be similar to us, the opportunities in the biotechnology and pharmaceutical market or the stock market in general, could depress our stock price regardless of our business, financial condition, results of operations or growth prospects.

We could be subject to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a period of volatility or decline in the market price of its securities. This risk is especially relevant for us because biotechnology companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could materially adversely affect our business, financial condition, results of operation and growth prospects.

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

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us, our business, our markets and our competitors. We do not control these analysts. If securities analysts do not cover our common stock after the closing of this offering, the lack of research coverage may materially adversely affect the market price of our common stock. Furthermore, if one or more of the analysts who do cover us downgrade our stock or if those analysts issue other unfavorable commentary about us or our business, our stock price would likely decline. If one or more of these analysts cease coverage of us or fails to regularly publish reports on us, we could lose visibility in the market and interest in our stock could decrease, which in turn could cause our stock price or trading volume to decline and may also impair our ability to expand our business with existing customers and attract new customers.

You will experience immediate and substantial dilution in the net tangible book value of the shares you purchase in this offering.

If you purchase shares of our common stock in this offering, you will experience immediate and substantial dilution, as the initial public offering price of our common stock will be substantially greater than the net tangible book value per share of our common stock.

Assuming (i) an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, (ii) that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and (iii) no exercise of the underwriters' option to purchase additional shares, if you purchase our common stock in this offering, you will suffer immediate and substantial dilution of approximately $ per share. Further, giving effect to the same assumptions, investors purchasing common stock in this offering will contribute approximately % of the total amount invested by stockholders since our inception, but will own only approximately % of the shares of common stock outstanding after giving effect to this offering. If the underwriters exercise their option to purchase additional shares, or if outstanding options to purchase our common stock are exercised, you will experience additional dilution. For a further description of the dilution that you will experience immediately after this offering, see the section entitled "Dilution."

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

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of stockholders intend to sell shares of our

common stock, could reduce the market price of our common stock. After this offering, we will have shares of common stock outstanding, based on the number of shares of our common stock outstanding as of April 30, 2020. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. Substantially all of the remaining shares of common stock initially will be restricted as a result of securities laws, market standoff provisions or lock-up agreements, but will become eligible to be sold after this offering as described in the section titled "Shares Eligible for Future Sale."

After this offering, holders of an aggregate of 27,283,973 shares of common stock will have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders, until such shares can otherwise be sold without restriction under Rule 144 under the Securities Act, or until the rights terminate pursuant to the terms of the stockholders agreement between us and such holders. We also intend to register all shares of common stock subject to equity awards issued or reserved for future issuance under our equity compensation plans on a registration statement on Form S-8. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates under Rule 144 under the Securities Act and the market standoff provisions and lock-up agreements described above. Any sales of securities by these stockholders could have a negative impact on the trading price of our common stock.

Concentration of ownership of our shares of common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.

Following this offering, our directors and executive officers, and entities affiliated with them, as well as holders of more than 5% of our outstanding shares of common stock, in the aggregate will beneficially own % of our common stock, after giving effect to the issuance of shares in this offering but without giving effect to any purchases by such persons or entities in the offering. These stockholders, acting together, will be able to control or significantly influence all matters requiring stockholder approval, including the election and removal of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. Certain of these persons and entities have indicated an interest in purchasing additional shares of common stock in this offering, which would increase their ownership percentage.

Some of these persons or entities may have interests different from yours. For example, because many of these stockholders purchased their shares at prices substantially below the price at which shares are being sold in this offering and have held their shares for a longer period, they may be more interested in selling our company to an acquirer than other investors, or they may want us to pursue strategies that deviate from the interests of other stockholders.

We are an "emerging growth company" under the Jumpstart Our Business Startups Act, or JOBS Act, and a "smaller reporting company" and we are permitted to, and intend to, rely on exemptions from certain disclosure requirements. As a result of the reduced disclosure and governance requirements applicable to emerging growth companies and smaller reporting companies, our common stock may be less attractive to investors.

We intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including: not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion or (c) in which we are deemed to be a “large accelerated filer” under the rules of the U.S. Securities and Exchange Commission, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30; and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

We have taken advantage of reduced reporting burdens in this prospectus. In particular, in this prospectus, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. An emerging growth company can, therefore, delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have an irrevocable election not to take advantage of the benefits of this extended transition period.

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue is less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue is less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million. Even after we no longer qualify as an emerging growth company, we may still qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and in our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive if we rely on emerging growth company or smaller reporting company exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

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

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act and rules of the SEC and those of Nasdaq have imposed various requirements on public companies including that we establish and maintain effective disclosure and financial controls. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have increased and will continue to increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must evaluate our systems and procedures, and test our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. In addition, we will be required to have our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting the later of our second annual report on Form 10-K or the first annual report on Form 10-K following the date on which we are no longer an emerging growth company unless we are a smaller reporting company. Our compliance with Section 404 of the Sarbanes-Oxley Act will require that we incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and we will need to hire additional accounting and financial staff with appropriate public

company experience and technical accounting knowledge. If we do not comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities, which would require additional financial and management resources.

To successfully implement our business plan and comply with Section 404, we must prepare timely and accurate financial statements. We expect that we will need to continue to improve existing procedures and controls, and implement new operational and financial systems, to manage our business effectively. Any delay in the implementation of, or disruption in the transition to, new or enhanced systems, procedures or controls, may cause our operations to suffer, and we may be unable to conclude that our internal control over financial reporting is effective and to obtain an unqualified report on internal controls from our auditors as required under Section 404 of the Sarbanes-Oxley Act. This, in turn, could materially adversely affect the trading prices for our common stock and our ability to access the capital markets.

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

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. Pursuant to Section 404 of the Sarbanes-Oxley Act, our management will be required to report upon the effectiveness of our internal control over financial reporting beginning with the annual report for our fiscal year ending December 31, 2021. When we lose our status both as an emerging growth company and a smaller reporting company, our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. Any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could materially adversely affect the trading price of our common stock.

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

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

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

Changes to, or interpretations of, financial accounting standards may affect our results of operations and could cause us to change our business practices.

We prepare our financial statements in accordance with GAAP. These accounting principles are subject to interpretation by the Financial Accounting Standards Board, the SEC and various bodies formed to interpret and create accounting rules and regulations. Changes in accounting rules can have a significant effect on our reported financial results and may affect our reporting of transactions completed before a change is announced. Changes to those rules or the questioning of current practices may materially adversely affect our financial results, including those contained in this filing, or the way we conduct our business.

Our employment agreements with our executive officers may require us to pay severance benefits to any of those persons who are terminated in connection with a change in control of us, which could materially adversely affect our financial condition or results of operations.

Certain of our executive officers are parties to employment agreements that contain change in control and severance provisions providing for aggregate cash payments for severance and other benefits and acceleration of stock options vesting in the event of a termination of employment in connection with a change in control of us. The accelerated vesting of options could result in dilution to our existing stockholders and could materially adversely affect the market price of our common stock. The payment of these severance benefits could materially adversely affect our financial condition and results of operations. In addition, these potential severance payments may discourage or prevent third parties from seeking a business combination with us.

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

As described above under "—We have incurred significant losses since our inception and we expect to continue to incur significant losses for the foreseeable future," we have incurred net losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future. Under the Internal Revenue Code of 1986, or the Code, a corporation is generally allowed a deduction for net operating losses, or NOLs, carried over from a prior taxable year. Under that provision, we can carry forward our NOLs to offset our future taxable income, if any, until such NOLs are used or expire, in the case of NOLs generated prior to 2018. The same is true of other unused tax attributes, such as tax credits. The amounts of our unused carryovers of NOLs and tax credits as of December 31, 2017, and a description of the valuation allowance we have recorded with respect to those items, are set forth below under "Management's Discussion and Analysis of Financial Condition and Results of Operations." In addition, under the Tax Cuts and Jobs Act of 2017, or the Tax Act, the amount of post-2017 NOLs that we are permitted to deduct in any taxable year is limited to 80% of our taxable income in such year, where taxable income is determined without regard to the NOL deduction itself. The Tax Act generally eliminates the ability to carry back any NOL to prior taxable years, while allowing post-2017 unused NOLs to be carried forward indefinitely. Recently enacted legislation, the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act"), temporarily reverses the limitations imposed by the Tax Act by suspending the 80% taxable income limitation to permit a corporation to offset without limitation its taxable income in 2019 or 2020 with NOL carryforwards generated in prior years.

Furthermore, if a corporation undergoes an "ownership change," generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, Sections 382 and 383 of the Code limit the corporation's ability to use carryovers of its pre-change NOLs, credits and certain other tax attributes to reduce its tax liability for periods after the ownership change. Our issuance of common stock pursuant to this offering may result in a limitation under Sections 382 and 383 of the Code, either separately or in combination with certain prior or subsequent shifts in the ownership of our common stock. As a result, our ability to use carryovers of our pre-change NOLs and credits to reduce our future U.S. federal income tax liability may be subject to limitations. This could result in increased

U.S. federal income tax liability for us if we generate taxable income in a future period. Limitations on the use of NOLs and other tax attributes could also increase our state tax liability. The use of our tax attributes will also be limited to the extent that we do not generate positive taxable income in future tax periods. To the extent our ability to utilize our NOLs and other tax assets going forward is limited, in part or altogether, our tax liability for future periods may be greater than expected, and our business, financial condition, results of operations and growth prospects may be materially adversely affected.

We have broad discretion in the use of net proceeds from this offering and may not use them effectively.

We currently intend to use the net proceeds from this offering for working capital and other general corporate purposes, which may include further funding for the costs of operating as a public company. We may also use the proceeds to acquire and develop other companies or product candidates. For a further description of our use of proceeds from this offering and the concurrent private placement, see the section entitled “Use of Proceeds.” Although we currently intend to use the net proceeds in such a manner, we will have broad discretion in the application of the net proceeds. As a result, investors will be relying upon management’s judgment with only limited information about our specific intentions for the use of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

We do not expect to pay any cash dividends to the holders of our common stock for the foreseeable future.

We currently intend to invest our future earnings, if any, to fund our growth. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future. There is no guarantee that our common stock will appreciate in value or even maintain the price at which our stockholders have purchased our common stock. Investors seeking cash dividends should not purchase our common stock.

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

Our certificate of incorporation, bylaws and Delaware law contain provisions that may have the effect of delaying or preventing a change in control of us or changes in our management. Our certificate of incorporation and bylaws include provisions that:

- authorize “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- specify that only our board of directors or holders of greater than 10% of our common stock can call special meetings of our stockholders;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that a majority of directors then in office, even though less than a quorum, may fill vacancies on our board of directors;
- specify that no stockholder is permitted to cumulate votes at any election of directors;
- expressly authorize our board of directors to modify, alter or repeal our bylaws; and

- require supermajority votes of the holders of our common stock to amend specified provisions of our certificate of incorporation and bylaws.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

In addition, because we are incorporated in the State of Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us.

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

Our certificate of incorporation, or as amended and restated in connection with the completion of this offering, our Certification of Incorporation, will provide that, subject to limited exceptions, the Court of Chancery of the State of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware) will be the exclusive forum for any:

- derivative action or proceeding brought on our behalf;
- action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders;
- action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, our Certificate of Incorporation or our bylaws; or
- other action asserting a claim against us that is governed by the internal affairs doctrine.

This exclusive forum provision is intended to apply to claims arising under Delaware state law and is not intended to apply to claims brought pursuant to the Exchange Act or the Securities Act, or any other claim for which the federal courts have exclusive jurisdiction. This exclusive forum provision will not relieve us of our duties to comply with the federal securities laws and the rules and regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations.

Our Certificate of Incorporation to be in effect upon the completion of this offering will further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. The Delaware Supreme Court recently determined that the exclusive forum provision of federal district courts of the United States of America for resolving any complaint asserting a cause of action arising under the Securities Act is permissible and enforceable under Delaware law, reversing an earlier decision from the Court of Chancery of the State of Delaware that had ruled that such provisions were not enforceable. Nevertheless, there is uncertainty as to whether a federal district court would enforce any exclusive forum provision with respect to claims under the Securities Act.

Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our bylaws described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our Certificate of Incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could materially adversely affect our business, financial condition, results of operation and growth prospects.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements, including in the sections captioned “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business.” These forward-looking statements include, without limitation, statements regarding our industry, business strategy, our future financial condition and plans and objectives of management for future operations. Terminology such as “may,” “believes,” “intends,” “seeks,” “anticipates,” “plans,” “estimates,” “expects,” “should,” “assumes,” “continues,” “could,” “will,” “future,” “goal,” “potential,” “likely,” and the negative of these or similar terms and phrases are intended to identify forward-looking statements in this prospectus.

Forward-looking statements reflect our current expectations regarding future events, results or outcomes. These expectations may or may not be realized. Although we believe the expectations reflected in the forward-looking statements are reasonable, we can give you no assurance these expectations will be proven correct. Some of these expectations may be based upon assumptions, data or judgments that prove to be incorrect. Actual events, results and outcomes may differ materially from our expectations due to a variety of known and unknown risks, uncertainties and other factors. Although it is not possible to identify all of these risks and factors, they include, among others, the following:

- the success, cost, timing and potential indications of our product candidate development activities and clinical trials, including our currently planned and potential future clinical trials of NKX101 and NKX019;
- our ability to obtain and maintain regulatory approval of our product candidates, including NKX101 and NKX019, 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;
- the future results of ongoing or later clinical trials, including of NKX101 and NKX019;
- our ability to maintain our license agreement with National University Singapore and St. Jude with respect to certain rights to NKX101 and NKX019;
- our ability to obtain funding for our operations, including funding necessary to complete the clinical trials of any of our product candidates;
- risks associated with the COVID-19 pandemic, which may adversely impact our business, preclinical studies and clinical trials;
- our plans to research, develop and commercialize our product candidates;
- the size and growth potential of the markets for our products, and our ability to identify target patient populations and serve those markets, especially for diseases with small patient populations;
- our ability to successfully commercialize our products, including obtaining reimbursement on favorable terms;
- our ability to develop and maintain sales and marketing capabilities;
- the rate and degree of market acceptance of our products;
- our ability to obtain and maintain insurance coverage and reimbursement for our product candidates;
- our ability to grow our organization and increase the size of our facilities to meet our anticipated growth;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our ability to attract and retain strategic partners with development, regulatory and commercialization expertise;
- the success of competing therapies that are or become available;
- our ability to attract and retain key scientific, commercial or management personnel;

- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act or a smaller reporting company;
- our use of the proceeds from this offering;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to continue as a going concern;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our products and our ability to operate our business without infringing on the intellectual property rights of others;
- regulatory developments in the United States and foreign countries; and
- other risks and factors listed under “Risk Factors” and elsewhere in this prospectus.

These risks are not exhaustive. Other sections of this prospectus may include additional factors that could adversely affect our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors nor can we assess the effects 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, or implied by, any forward-looking statements.

In light of these risks, uncertainties and other factors, the forward-looking statements contained in this prospectus might not prove to be accurate and you should not place undue reliance upon them. All forward-looking statements speak only as of the date made and we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this prospectus and the documents that we reference in this prospectus, and have filed as exhibits to the registration statement of which this prospectus is a part, with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements. You should also read carefully the factors described in the section of this prospectus captioned “Risk Factors” and elsewhere to better understand the risks and uncertainties inherent in our business and underlying and forward-looking statements. 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 prospectus, 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.

Unless otherwise indicated, information contained in this prospectus concerning our industry, our business and the markets for treatments of certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions is based on information from various third-party sources. In presenting this information, we have also made assumptions based on such data and other similar sources, and on our knowledge of, and our experience to date in our industry. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the “Risk Factors” section. These and other factors could cause results to differ materially from those expressed in the estimates made by third parties and by us.

MARKET AND INDUSTRY DATA

We use market data and industry forecasts and projections throughout this prospectus, and in particular in the sections captioned "Prospectus Summary" and "Business." We have obtained the market data from third-party sources of information, including publicly available industry publications and subscription-based publications. Industry forecasts are based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any of the industry forecasts will be achieved. Any industry forecasts are based on data (including third-party data), models and experience of various professionals and are based on various assumptions, all of which are subject to change without notice. We believe these data are reliable, but we have not independently verified the accuracy of this information. While we are not aware of any misstatements regarding the market data presented herein, industry forecasts and projections involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors." These and other factors could cause results to differ materially from those expressed in these publications and reports.

Certain information in this prospectus regarding the activity of non-engineered allogeneic NK cells in relapsed or refractory AML is sourced from in independent industry publications. These independent industry publications are listed below:

- Bachanova, Veronkia, *et al.* Clearance of acute myeloid leukemia by haploidentical natural killer cells is improved using IL-2 diphtheria toxin fusion protein. *Blood 2014*; 123(25): 3855-63.
- Curti, Antonio, *et al.* Successful transfer of alloreactive haploidentical KIR ligand-mismatched natural killer cells after infusion in elderly high risk acute myeloid leukemia patients. *Blood 2011*; 118(12): 3273-9.
- Kottaridis PD, North J, Tsirogianni M, Marden C, Samuel ER, Jide-Banwo S, *et al.* Two-Stage Priming of Allogeneic Natural Killer Cells for the Treatment of Patients with Acute Myeloid Leukemia: A Phase I Trial. *PLoS ONE 2015*; 10(6): e0123416.
- Miller, Jeffery S., *et al.* Successful adoptive transfer and in vivo expansion of human haploidentical NK cells in patients with cancer. *Blood 2005*; 105(8): 3051-7.
- Romee, Rizman, *et al.* Cytokine-induced memory-like natural killer cells exhibit enhanced responses against myeloid leukemia. *Science Translation Medicine 2016*; 357(8): 357ra123.
- Rubnitz, Jeffrey E., *et al.* Natural Killer Cell Therapy in Children with Relapsed Leukemia. *Pediatr. Blood Cancer 2015*; 62(8): 1468-72.

Overall information regarding the activity of non-engineered allogeneic NK cells in cancer is based upon our systematic literature review by searching the online counterpart to the Medical Literature Analysis and Retrieval System Online of the U.S. National Library of Medicine, or MEDLINE, a bibliographic database of life sciences and biomedical information that includes articles from academic journals covering medicine, nursing, pharmacy, dentistry, veterinary medicine, and other health care disciplines. We searched the MEDLINE database between February and March 2019 for publication of clinical trials held between 2005 and 2019 with reprints available in the English language. We identified a total of 32 academic trials of non-engineered allergeneic NK cells in cancer treatments with a combined 586 subjects enrolled.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $ million (or $ million if the underwriters exercise their over-allotment option in full), based on the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

Each $1.00 increase or decrease in such assumed initial public offering price of $ per share, would increase or decrease, respectively, the net proceeds to us from this offering by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million in the number of shares we are offering would increase or decrease, respectively, the net proceeds to us from this offering by approximately $ million, assuming the assumed initial public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to obtain additional capital to support our operations, to create a public market for our common stock and to facilitate our future access to the public equity markets.

We currently expect to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- Approximately to fund the development of NKX101 through ;
- Approximately to fund the development of NKX019 through ;
- Approximately to fund the development of Program 3 through ;
- Approximately to fund the development of our NK+T program through ;
- Approximately to fund the initial buildout and qualification of our commercial cGMP manufacturing facility; and
- The remainder for our other pipeline candidates and general corporate purposes.

Pending the specific use of net proceeds as described in this prospectus, we intend to invest the net proceeds to us from this offering in short- and intermediate-term investment grade instruments, certificates of deposit or guaranteed obligations of the U.S. government.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. For example, we may use a portion of the net proceeds for the acquisition of businesses or technologies to continue to build our pipeline, our research and development capabilities and our intellectual property portfolio, although we currently have no agreements, commitments or understandings with respect to any such transactions.

The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the status of and results from pre-clinical and clinical trials and any unforeseen cash needs. Moreover, our estimates of the costs to fund our development programs are based on current assumptions and business conditions. If these assumptions or business conditions were to change, our costs to fund our operations could increase. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

We believe that our existing cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to fund our planned operations for at least the next months. After this offering, we will require substantial capital in order to advance our current and future product candidates through clinical trials, regulatory approval and commercialization. For additional information regarding our potential capital requirements, see “Risk Factors—Risks Related to Our Financial Position—We will require additional capital, which, if available, may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our product candidates.”

DIVIDEND POLICY

We have never declared or paid any dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws and organizational documents, after taking into account our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of March 31, 2020 as follows:

- on an actual basis;
- on a pro forma basis, giving effect to (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,283,973 shares of common stock upon the completion of this initial public offering, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware; and
- on a pro forma as adjusted basis, giving effect to the pro forma adjustments set forth above and the sale and issuance by us of shares of our common stock in this offering, based upon the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information set forth in the table below is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with the sections of this prospectus captioned “Selected Financial and Other Data,” “Use of Proceeds,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” “Description of Capital Stock” and our financial statements and related notes included elsewhere in this prospectus.

	As of March 31, 2020		
	Actual	Pro Forma	Pro Forma as Adjusted[1]
	(in thousands, except share and per share amounts)		
Cash, cash equivalents, short-term investments and restricted cash	$ 25,965	$ 25,965	$
Convertible preferred stock, $0.0001 par value per share: 54,350,179 shares authorized, 27,283,973 shares issued and outstanding actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	$ 59,815	$ –	$
Stockholders’ (deficit) equity:			
Preferred stock, $0.0001 par value per share: no shares authorized, issued and outstanding, actual; shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted			
Common stock, $0.0001 par value per share: 71,919,982 shares authorized, 5,997,586 shares issued and 6,431,822 shares outstanding, actual; 71,919,982 shares authorized, 33,281,559 shares issued and 33,715,795 outstanding, pro forma; shares issued and outstanding, pro forma as adjusted	1	3	
Additional paid-in capital	1,675	61,488	
Accumulated other comprehensive loss	(4)	(4)	
Accumulated deficit	(35,366)	(35,366)	
Total stockholders’ (deficit) equity	(33,694)	26,121	
Total capitalization	$ 52,086	$ 52,086	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming an initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma and pro forma as adjusted columns in the table above are based on 33,715,795 shares of our common stock (including redeemable convertible preferred stock on an as-converted basis and unvested shares issued pursuant to the early exercise of stock options which are subject to potential forfeiture) outstanding as of March 31, 2020, and exclude the following:

- 9,204,950 shares of common stock issuable upon the exercise of outstanding stock options under our 2015 Equity Incentive Plan, at a weighted-average exercise price of $0.98 per share;
- 933,031 shares of our common stock reserved for future issuance pursuant to our 2015 Equity Incentive Plan;
- shares of our common stock reserved for future issuance under our 2020 Performance Incentive Plan, which will become effective prior to the completion of this offering; and
- shares of common stock reserved for future issuance under our ESPP, which will become effective prior to the completion of this offering.

Our 2020 Performance Incentive Plan and ESPP each provide for annual automatic increases in the number of shares reserved thereunder, as more fully described in the section titled "Executive Compensation—Equity Incentive Plans."

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our pro forma net tangible book value as of March 31, 2020 was $26.1 million, or $0.77 per share. Pro forma net tangible book value per share represents the amount of our total tangible assets less our total liabilities, divided by the total number of shares of our common stock outstanding as of March 31, 2020, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,283,973 shares of common stock upon the completion of this offering and a for reverse stock split of our common stock.

Net tangible book value dilution per share to new investors represents the amount per share paid by purchasers of common stock in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately following the completion of this offering. After giving effect to (i) the pro forma transactions described in the preceding paragraph, and (ii) the sale of shares of common stock in this offering at the assumed initial public offering price, and after deducting estimated underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of March 31, 2020 would have been $ million, or $ per share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of $ per share to investors purchasing shares of common stock in this offering at the initial public offering price.

The following table illustrates this dilution on a per share basis to new investors.

Assumed initial public offering price per share		$
Historical net tangible book value per share as of March 31, 2020	$(5.24)	
Increase in net tangible book value per share attributable to pro forma transactions	6.01	
Pro forma net tangible book value per share as of March 31, 2020	0.77	
Increase in net tangible book value per share attributable to investors participating in this offering		
Pro forma as adjusted net tangible book value per share, as adjusted to give effect to this offering		
Dilution per share to new investors participating in this offering		$

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value per share to new investors by approximately $, and would increase or decrease, as applicable, dilution per share to investors purchasing shares of our common stock in this offering by approximately $, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, an increase or decrease of 1.0 million shares in the number of shares of common stock offered by us would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by

approximately $ per share and increase or decrease, as applicable, the dilution to investors purchasing shares of our common stock in this offering by approximately $ per share, assuming the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

To the extent that any outstanding options to purchase shares of our common stock are exercised, new options are issued under our compensatory stock plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

The following table presents on a pro forma as adjusted basis, as of March 31, 2020, the differences between the existing stockholders and the new investors purchasing shares of our common stock in this offering with respect to the number of shares purchased from us, the total consideration paid or to be paid to us, which includes net proceeds received from the issuance of common stock and redeemable convertible preferred stock and cash received from the exercise of stock options, and the average price per share paid or to be paid to us at the initial public offering price, before deducting underwriting discounts and commissions and estimated offering expenses:

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders					
New investors					
Total					

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the total consideration paid by new investors and total consideration paid by all stockholders by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Except as otherwise indicated, the above discussion and tables assume no exercise of the underwriters' over-allotment option. If the underwriters exercise their over-allotment option in full, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding upon completion of this offering.

SELECTED FINANCIAL DATA

Selected Financial Data

The summary statements of operations data for the years ended December 31, 2018 and 2019 and the selected balance sheet data as of December 31, 2018 and 2019 presented below are derived from our audited financial statements included elsewhere in this prospectus. The summary statements of operations data for the three months ended March 31, 2019 and 2020 and the selected balance sheet data as of March 31, 2020 are derived from our unaudited financial statements and related notes included elsewhere in this prospectus. We have prepared the unaudited interim financial statements on a basis consistent with our audited financial statements and, in the opinion of management, such unaudited interim financial statements reflect all adjustments, consisting only of normal recurring adjustments, that are necessary for the fair presentation of our unaudited interim financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and the results for the three months ended March 31, 2020 are not necessarily indicative of the results to be expected for the full year or any other period. The following summary financial data should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
			(Unaudited)	
Statement of Operations Data:				
Collaboration revenue	$ 6,550,000	$ 115,385	$ 113,077	$ –
Operating expenses:				
Research and development	4,252,210	17,216,955	2,294,117	7,259,838
General and administrative	2,654,239	5,246,960	939,838	2,148,421
Total operating expenses	6,906,449	22,463,915	3,233,955	9,408,259
Loss from operations	(356,449)	(22,348,530)	(3,120,878)	(9,408,259)
Other income (expense):				
Change in fair value of preferred stock purchase right liability	–	1,317,582	–	577,645
Change in fair value of derivative liability	–	858,331	–	–
Loss from extinguishment of debt	–	(752,167)	–	–
Interest expense	–	(472,819)	–	–
Interest income	81,946	304,106	37,899	124,611
Other income, net	–	17,662	–	–
Total other income	81,946	1,272,695	37,899	702,256
Net loss	$ (274,503)	$ (21,075,835)	$ (3,082,979)	$ (8,706,003)
Comprehensive loss:				
Net loss	$ (274,503)	$ (21,075,835)	$ (3,082,979)	$ (8,706,003)
Other comprehensive loss	–	(2,139)	–	(1,403)
Comprehensive loss	$ (274,503)	$ (21,077,974)	$ (3,082,979)	$ (8,707,406)
Net loss per share, basic and diluted	$ (0.07)	$ (3.89)	$ (0.64)	$ (1.46)
Weighted average shares outstanding, basic and diluted[1][2]	3,940,474	5,411,362	4,838,626	5,954,041
Pro forma net loss per share, basic and diluted (unaudited)[1][2]		$ (1.13)		$ (0.26)
Pro forma weighted average shares outstanding, basic and diluted (unaudited)[1][2]		18,599,999		33,225,398

(1) See Note 16 to our audited financial statements for an explanation of the method used to calculate historical and pro forma basic and diluted net loss per share for the years ended December 31, 2018 and 2019 and Note 3 of the unaudited financial statements for the three-month periods ended March 31, 2019 and 2020.

(2) Reflects a for reverse stock split of our common stock that occurred on , 2020.

	As of March 31, 2020		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(Unaudited)	
Balance Sheet Data:			
Cash and cash equivalents	$ 16,507,860	$ 16,507,860	
Working capital(4)	17,095,932	17,095,932	
Total assets	41,122,966	41,122,966	
Total liabilities	15,001,950	15,001,950	
Convertible preferred stock	59,814,882	—	$ —
Accumulated deficit	(35,365,745)	(35,365,745)	
Total stockholders' (deficit) equity	$(33,693,866)	$ 26,121,016	

(1) The pro forma information in the table gives effect to (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,283,973 shares of common stock upon the completion of this initial public offering, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware, as if such conversion, reclassification and effectiveness had occurred on March 31, 2020.

(2) The pro forma as adjusted information in the table gives further effect to the pro forma adjustments set forth above and the sale and issuance by us of shares of our common stock in this offering, based upon the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity (deficit) by $ million, assuming an initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(4) We define working capital as current assets less current liabilities.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes included elsewhere in this prospectus. Some of the information contained in this discussion and analysis are set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, and includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the section of this prospectus titled "Risk Factors," our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of allogeneic, off-the-shelf engineered natural killer, or NK, cell therapies to treat cancer. Our NK cell engineering platform builds on prior experience and success with engineering T cells and includes proprietary technologies that enable us to generate an abundant supply of NK cells, improve the persistence of these cells for sustained activity in the body, engineer enhanced NK cell recognition of tumor targets and to freeze, store and thaw our engineered NK cells for off-the-shelf use for the treatment of cancer. All of our product candidates are designed to be allogeneic, meaning they are produced using cells from a different person than the patient treated, as well as off-the-shelf, meaning they are produced in quantity, then frozen and therefore available for treating patients without delay, unlike existing autologous cell therapies. Based on published data from a number of clinical trials of NK cell therapies, we believe that engineered NK cells can be well tolerated and avoid some of the toxicities observed with other cell therapies. Our two co-lead product candidates are NKX101 and NKX019.

Our NK cell engineering platform is designed to address the limitations and challenges of current technologies for engineering T cells and NK cells and is a result of our internal expertise and deep understanding of NK cell biology. Our platform includes proprietary technologies for NK cell expansion, persistence, targeting and cryopreservation. All of our product candidates incorporate each of the four components of our technology platform, which we believe provides the best opportunity for achieving clinically meaningful results in our development program.

Since the commencement of our operations in 2015, we have devoted substantially all of our resources in support of our product development efforts, hiring personnel, raising capital to support and expand such activities and providing general and administrative support for these operations. We have not generated any revenue from product sales and have funded our operations primarily from the issuance of convertible promissory notes, private placements of our preferred stock and with proceeds from our previous collaboration with GlaxoSmithKline, or GSK. We have incurred a net loss of $0.3 million and $21.1 million during the years ended December 31, 2018 and 2019, and $3.1 million and $8.7 million for the three months ended March 31, 2019 and 2020, respectively, and we expect to continue to incur significant losses for the foreseeable future. As of March 31, 2020, we had an accumulated deficit of $35.4 million.

We expect our operating expenses to significantly increase as we continue to develop and seek regulatory approvals for our product candidates, engage in other research and development activities to expand our pipeline of product candidates, maintain and expand our intellectual property portfolio, and ultimately establish a sales organization and operate as a public company. Our net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our clinical trials, and our expenditures on other research and development activities.

We will need substantial additional funding, in addition to the net proceeds of this offering, to support our continuing operations and pursue our long-term development strategy. We may seek additional funding through the issuance of our common stock, other equity or debt financings or collaborations or partnerships with other companies. The amount and timing of our future funding requirements will depend on many factors, including the pace and results of our clinical development efforts for our product candidates and other research, development and manufacturing activities. We may not be able to raise additional capital on terms acceptable to us, or at all. Any failure to raise capital as and when needed would compromise our ability to execute on our business plan and may cause us to significantly delay, scale back or discontinue the development of some of our programs or curtail any efforts to expand our product pipeline. We currently do not generate any revenue and our independent registered public accounting firm has included in its opinion for the year ended December 31, 2019 an explanatory paragraph expressing substantial doubt about our ability to continue as a going concern within one year from the date of this filing.

Financial Operations Overview

Collaboration Revenue

We currently have no therapeutic products approved for sale, and we have never generated any revenue from the sale of any therapeutic products. Our ability to generate product revenues will depend on the successful development and eventual commercialization of our product candidates. We may look to generate revenue from collaboration and license agreements in the future, as well as from product sales, which approval we do not expect for several years, if ever. Prior to the year ended December 31, 2019, we also generated revenue from a collaboration and license agreement with GSK, which terminated in December 2018. Revenue recorded in 2019 represented the wind down efforts associated with this agreement. Costs incurred in performing the research services under this agreement were recorded as research and development expense in our financial statements.

Operating Expenses

Research and Development

Research and development costs consist primarily of costs incurred for the discovery and clinical development of our drug candidates, which include:

- employee-related expenses, including salaries, related benefits, travel and share-based compensation expenses for employees engaged in research and development functions;
- expenses incurred in connection with research, laboratory consumables and preclinical studies
- expenses incurred in connection with conducting clinical trials including investigator grants and site payments for time and pass-through expenses and expenses incurred under agreements with contract research organizations, or CROs, other vendors or central laboratories and service providers engaged to conduct our trials;
- the cost of consultants engaged in research and development related services and the cost to manufacture drug products for use in our preclinical studies and clinical trials;
- facilities, depreciation and other expenses, which include allocated expenses for rent and maintenance of facilities, insurance and supplies;
- costs related to regulatory compliance; and
- the cost of annual license fees.

Our research and development expenses through the years ended December 31, 2018 and 2019 and for the three months ended March 31, 2019 and 2020 were primarily incurred in connection with the preclinical development of our most advanced program, NKX101. However, we have not historically tracked research and development expenses by program. We typically have various early

stage research and drug discovery projects as well as potentially various products undergoing clinical trials. Our internal resources, employees and infrastructure are not directly tied to any one research or drug discovery project and are typically deployed across multiple projects. As such, we do not maintain information regarding these costs incurred for these early stage research and drug discovery programs on a project-specific basis.

We expense research and development costs as they are incurred. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the related goods are delivered or the services are performed.

The following table summarizes our research and development expenses for the years ended December 31, 2018 and 2019 and the three months ended March 31, 2019 and 2020. The direct external development program expenses reflect external costs attributable to our clinical development candidates and preclinical candidates selected for further development. Such expenses include third-party contract costs relating to manufacturing, clinical trial activities, translational medicine and toxicology activities. The unallocated internal research and development costs include personnel, facility costs, laboratory consumables and discovery and research related activities associated with our pipeline.

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
Direct external development program expenses:				
NKX101	$ 314,128	$ 4,154,459	$ 402,610	$ 2,104,239
NKX019	—	26,137	—	9,885
Program 3	—	—	—	20,833
Unallocated internal research and development costs:				
Personnel related (including share-based compensation)	2,094,252	7,603,575	1,197,838	3,166,117
Others	1,843,830	5,432,784	693,669	1,958,764
Total research and development costs	$4,252,210	$17,216,955	$ 2,294,117	$ 7,259,838

Research and development activities are central to our business model. There are numerous factors associated with the successful commercialization of any of our drug candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. In addition, future regulatory factors beyond our control may impact our clinical development programs. Drug candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our drug candidates. However, we expect that our research and development expenses will increase substantially in connection with our planned preclinical and clinical development activities in the near term and in the future.

The successful development of our drug candidates is highly uncertain. This is due to numerous risks and uncertainties, including the following:

- successful completion of preclinical studies and clinical trials;
- delays in regulators or institutional review boards authorizing us or our investigators to commence our clinical trials or in our ability to negotiate agreements with clinical trial sites or contract research organizations;

- the number of clinical sites included in the trials;
- raising additional funds necessary to complete clinical development of our drug candidates;
- obtaining and maintaining patent, trade secret and other intellectual property protection and regulatory exclusivity for our drug candidates;
- establishing manufacturing capabilities, for clinical supplies of our drug candidates;
- the results of our clinical trials;
- protecting and enforcing our rights in our intellectual property portfolio; and
- maintaining a continued acceptable safety profile of the products following approval.

A change in the outcome of any of these variables with respect to the development of our drug candidates may significantly impact the costs and timing associated with the development of our drug candidates. We may never succeed in obtaining regulatory approval for any of our drug candidates.

General and Administrative

General and administrative expenses consist primarily of salaries and employee-related costs, including share-based compensation, for personnel in executive, finance and other administrative functions. Other significant costs include legal fees relating to intellectual property and corporate matters, professional fees for accounting and consulting services and facility-related costs.

We expect our general and administrative expenses will increase for the foreseeable future to support our increased research and development activities and to reflect increased costs associated with operating as a public company. These increased costs will likely include increased expenses related to audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums and investor relations costs.

Other Income (Expense)

Change in Fair Value of Preferred Stock Purchase Right Liability

In August 2019, we entered into a Series B Preferred Stock Purchase Agreement that contains future purchase rights that are required to be accounted for as liabilities and remeasured to fair value at each reporting date, with any change in the fair value reported as a component of other income (expense). We will continue to record adjustments to the estimated fair value of the preferred stock purchase rights until they are exercised or expire. At that time, the convertible preferred stock purchase right liability will be reclassified to additional paid-in capital and we will no longer record any related periodic fair value adjustments.

Change in Fair Value of Derivative Liability

In May 2019, we issued convertible promissory notes that contained certain conversion options that were required to be accounted for as liabilities and remeasured to fair value at each reporting date, with changes in the fair value reported as a component of other income (expense). In August 2019, our convertible promissory notes and related accrued interest converted into Series B preferred stock and a final remeasurement adjustment was recorded.

Loss from Extinguishment of Debt

The loss from extinguishment of debt represented the write-off of the unamortized debt issuance costs, slightly offset by the remaining unamortized debt discount, on the date the convertible promissory notes converted into Series B preferred stock.

Interest Expense

Interest expense consisted of interest on our convertible promissory notes that were outstanding during 2019.

Interest Income

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

Income Taxes

We are subject to corporate U.S. federal and state income taxation. As of December 31, 2019, we had federal and state net operating loss carryforwards of approximately $24.7 million and $24.5 million, respectively. Of the $24.7 million federal net operating loss carryforwards, $3.2 million will begin expiring in 2035, if not utilized, while $21.5 million can be carried forward indefinitely. The state tax loss carryforwards will begin expiring in 2036, if not utilized. As of December 31, 2019, we had federal and state research and development tax credits of approximately $1.0 million and $0.7 million, respectively. If not utilized, the federal research tax credit will begin to expire in 2035. The California research tax credit can be carried forward indefinitely.

Utilization of the net operating loss carryforwards may be subject to a substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code of 1986, as amended, and similar state provisions. This annual limitation may result in the expiration of net operating losses and credits before utilization. We have not performed an analysis to determine the limitation of our net operating loss carryforwards.

We estimate our income tax provision, including deferred tax assets and liabilities, based on management's judgment. We record a valuation allowance to reduce our deferred tax assets to the amounts that are more likely than not to be realized. We consider future taxable income, ongoing tax planning strategies and our historical financial performance in assessing the need for a valuation allowance. If we expect to realize deferred tax assets for which we have previously recorded a valuation allowance, we will reduce the valuation allowance in the period in which such determination is first made.

We record liabilities related to uncertain tax positions in accordance with the guidance that clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements by prescribing a minimum recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return.

As of December 31, 2019, we had gross unrecognized tax benefits of $0.3 million, all of which would affect our income tax expense if recognized, before consideration of our valuation allowance. As of December 31, 2019 and March 31, 2020, we do not expect our unrecognized tax benefits will significantly change over the next 12 months.

Results of Operations

The following table summarizes our statement of operations data for the periods indicated (in thousands except share and per share data):

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
			(Unaudited)	
Statement of Operations Data:				
Collaboration revenue	$ 6,550	$ 115	$ 113	$ –
Operating expenses:				
Research and development	4,252	17,217	2,294	7,260
General and administrative	2,654	5,247	940	2,148
Total operating expenses	6,906	22,464	3,234	9,408
Loss from operations	(356)	(22,349)	(3,121)	(9,408)
Other income (expense):				
Change in fair value of preferred stock purchase right liability	–	1,318	–	578
Change in fair value of derivative liability	–	858	–	–
Loss from extinguishment of debt	–	(752)	–	–
Interest expense	–	(473)	–	–
Interest income	82	304	38	124
Other income, net	–	18	–	–
Total other income	82	1,273	38	702
Net loss	$ (275)	$ (21,076)	$ (3,083)	$ (8,706)
Comprehensive loss:				
Net loss	$ (275)	$ (21,076)	$ (3,083)	$ (8,706)
Other comprehensive loss	–	(2)	–	(1)
Comprehensive loss	$ (275)	$ (21,078)	$ (3,083)	$ (8,707)
Net loss per share, basic and diluted	$ (0.07)	$ (3.89)	$ (0.64)	$ (1.46)
Weighted average shares outstanding, basic and diluted	3,940,474	5,411,362	4,838,626	5,954,041
Pro forma net loss per share, basic and diluted (unaudited)		$ (1.13)		$ (0.26)
Pro forma weighted average shares outstanding, basic and diluted (unaudited)		18,599,999		33,225,398

Comparison of the Three Months Ended March 31, 2019 and 2020 (Unaudited)

The following table summarizes our results of operations for the three months ended March 31, 2019 and 2020 (in thousands):

	Three Months Ended March 31,		
	2019	2020	Change
Collaboration revenue	$ 113	$ –	$ (113)
Operating expenses:			
Research and development	2,294	7,260	4,966
General and administrative	940	2,148	1,208
Total operating expenses	3,234	9,408	6,174
Loss from operations	(3,121)	(9,408)	(6,287)
Other income:			
Change in fair value of preferred stock purchase right liability	–	578	578
Interest income	38	124	86
Total other income	38	702	664
Net loss	$ (3,083)	$ (8,706)	$ (5,623)

Collaboration revenue. Revenue earned under our collaboration and license agreement with GSK were $0.1 million and nil for the three months ended March 31, 2019 and 2020, respectively. As the collaboration agreement with GSK was terminated in December 2018, collaboration revenue recognized during the three months ended March 31, 2019 was nominal in amount and was related to wind-down activities.

Research and development expenses. Research and development expenses were $2.3 million and $7.3 million for the three months ended March 31, 2019 and 2020, respectively. The increase of $5.0 million was primarily due to an increase in personnel cost of $2.0 million, including an increase in share-based compensation expense of $0.2 million as a result of continued growth in headcount, and increases of $1.7 million in third-party research costs as a result of the increase in our research activity and $1.3 million in other internal research and development costs, primarily consisting of research and laboratory supplies and facilities expenses.

General and administrative expenses. General and administrative expenses were $0.9 million and $2.1 million for the three months ended March 31, 2019 and 2020, respectively. The increase of $1.2 million was primarily due to an increase in personnel cost of $0.8 million, including an increase of $0.2 million in share-based compensation expense as a result of continued growth in headcount, a $0.2 million increase in outside consulting, legal and accounting fees and a $0.2 million increase in facilities expenses that included rent and depreciation expense.

Change in fair value of preferred stock purchase right liability. We recognized $0.6 million in other income related to the decrease in the fair value of our preferred stock purchase right liability for the three months ended March 31, 2020. There was no equivalent liability outstanding during the three months ended March 31, 2019.

Interest income. Interest income was $38,000 and $0.1 million for the three months ended March 31, 2019 and 2020, respectively, primarily due to interest earned on cash, cash equivalents and short-term investments during the period. There were no investments for the three months ended March 31, 2019.

Comparison of the Years Ended December 31, 2018 and 2019

The following table summarizes our results of operations for the years ended December 31, 2018 and 2019 (in thousands):

	Year Ended December 31,		
	2018	2019	Change
Collaboration revenue	$ 6,550	$ 115	$ (6,435)
Operating expenses:			
Research and development	4,252	17,217	12,965
General and administrative	2,655	5,247	2,592
Total operating expenses	6,907	22,464	15,557
Loss from operations	(357)	(22,349)	(21,992)
Other income (expense):			
Change in fair value of preferred stock purchase right liability	–	1,318	1,318
Change in fair value of derivative liability	–	858	858
Loss from extinguishment of debt	–	(752)	(752)
Interest expense	–	(473)	(473)
Interest income	82	304	222
Other income, net	–	18	18
Total other income	82	1,273	1,191
Net loss	$ (275)	$ (21,076)	$(20,801)

Collaboration revenue. Revenue earned under our collaboration and license agreement with GSK were $6.6 million and $0.1 million for the years ended December 31, 2018 and 2019, respectively. As the collaboration agreement with GSK was terminated in December 2018, collaboration revenue recognized during 2019 was nominal in amount and was related to wind-down activities.

Research and development expenses. Research and development expenses were $4.3 million and $17.2 million for the years ended December 31, 2018 and 2019, respectively. The increase of $12.9 million was primarily due to increases of $5.8 million of third-party research expenses related to our development programs, $5.0 million in personnel-related expenses, $0.8 million in facility costs, and $0.3 million in share-based compensation expense.

General and administrative expenses. General and administrative expenses were $2.7 million and $5.2 million for the years ended December 31, 2018 and 2019, respectively. The increase of $2.5 million was primarily due to increases of $1.1 million in personnel-related expenses, $1.0 million in professional services related to accounting services, corporate legal fees, other consulting and patent legal fees, and $0.5 million in share-based compensation expense.

Change in fair value of preferred stock purchase right liability. We recognized $1.3 million in other income related to the decrease in the fair value of our preferred stock purchase right liability in the year ended December 31, 2019, as compared to nil in the year ended December 31, 2018. This was due to the issuance of our Series B preferred stock in August of 2019, which included a provision that potentially obligates us to sell, outside of our control, an additional 27,066,206 shares of our Series B preferred stock at $2.37935 per share, for expected gross proceeds of $64.4 million. There was no equivalent liability outstanding during the year ended December 31, 2018.

Change in fair value of derivative liability. Change in fair value of derivative liability resulted in a remeasurement benefit of $0.9 million for the year ended December 31, 2019, as compared to nil in

the year ended December 31, 2018. This was due to the issuance of our convertible promissory notes in May 2019. The conversion option related to our convertible promissory notes was subject to remeasurement at each reporting period, with changes in fair value recorded in the statement of operations. In August 2019, our convertible promissory notes and related accrued interest converted into Series B preferred stock upon the sale of the Series B preferred stock and, accordingly, we no longer remeasure the fair value of the derivative liability.

Loss from extinguishment of debt. Loss from extinguishment of debt was $0.8 million for the year ended December 31, 2019, as compared to nil in the year ended December 31, 2018. This was due to fact that our convertible promissory notes converted into our Series B preferred stock in August 2019 and all related unamortized debt issuance costs, slightly offset by the remaining unamortized debt discount, were written off in that period.

Interest expense. Interest expense was nil and $0.5 million for the years ended December 31, 2018 and 2019, respectively. This increase was due to the non-cash interest expense related to a debt discount feature on our convertible promissory notes issued in May 2019.

Interest income. Interest income was $0.1 million and $0.3 million for the years ended December 31, 2018 and 2019, respectively. Interest income increased by $0.2 million primarily due to the interest earned in 2019 from the purchase of short-term investments starting in October 2019.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred net losses and negative cash flows from operations since our inception and anticipate that we will continue to incur net losses for the foreseeable future. We expect to incur substantial expenditures as we develop our product pipeline and advance our drug candidates through clinical development, undergo the regulatory approval process and, if approved, launch commercial activities. Specifically, in the near term we expect to incur substantial expenses relating to initiating and completing our clinical trials, the development and validation of our manufacturing processes, and other development activities. Furthermore, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company.

We will need substantial additional funding to support our continuing operations and pursue our development strategy. Until such time as we can generate significant revenue from sales of our drug candidates, if ever, we expect to finance our operations through the sale of equity, debt financings or other capital sources, including potential collaborations with other companies or other strategic transactions. Adequate funding may not be available to us on acceptable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back, or discontinue the development and commercialization of our drug candidates or delay our efforts to expand our product pipeline. We may also be required to sell or license to other parties' rights to develop or commercialize our drug candidates that we would prefer to retain.

These factors raise substantial doubt about the Company's ability to continue as a going concern. The financial statements have been prepared assuming that we will continue as a going concern, and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets, or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

To date, we have funded our operations primarily through the issuance of convertible promissory notes, the private placements of our convertible preferred stock and with proceeds from our previous collaboration with GSK which was terminated in December 2018. To date, we have raised gross proceeds of approximately $61.6 million from the issuance of our convertible preferred stock and

convertible promissory notes and $7.9 million under our collaboration agreement with GSK. At March 31, 2020, we had cash and cash equivalents, restricted stock and short-term investments of $26.0 million.

In December 2017, we raised aggregate gross cash proceeds of $8.0 million from the sale of 3,866,602 shares of our convertible Series A preferred stock at $2.069 per share. In addition, the convertible promissory notes that we issued in August 2015, November 2016 and June 2017 for aggregate gross cash proceeds of $3.6 million, including accrued interest, were converted into 2,303,747 Series A preferred stock in December 2017.

In May 2019, we issued $6.0 million in convertible promissory notes to our existing Series A preferred stock investors and in August 2019, we entered into the Series B Preferred Stock Purchase Agreement. The closing of the first tranche of the Series B preferred stock financing resulted in net cash proceeds of $40.8 million, net of $0.5 million in issuance costs and $2.8 million attributed to the Series B preferred stock purchase right, from the sale of 18,492,443 shares of Series B preferred stock at a price of $2.37935 per share. In addition, the convertible promissory notes that we issued in May 2019, including accrued interest of $0.1 million, were converted into 2,621,181 shares of Series B preferred stock in August 2019. The Series B Preferred Stock Purchase Agreement provides for a second tranche closing of $64.4 million upon the achievement of a specific milestone or by election of the majority of Series B preferred stock investors.

Cash Flows

The following table sets forth a summary of our cash flows for the period indicated (in thousands):

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
			(Unaudited)	
Net cash used in operating activities	$ (5,184)	$ (18,367)	$ (3,817)	$ (8,287)
Net cash (used in) provided by investing activities	(757)	(18,295)	(430)	4,897
Net cash provided by (used in) financing activities	87	49,581	(13)	(709)
Net (decrease) increase in cash and cash equivalents	$ (5,854)	$ 12,919	$ (4,259)	$ (4,099)

Operating Activities

Net cash used in operating activities was $5.2 million and $18.4 million for the years ended December 31, 2018 and 2019, respectively. The net cash used in operating activities for the year ended December 31, 2018 was primarily due to our net loss of $0.3 million and a decrease in deferred revenue of $6.0 million, partially offset by $0.4 million of non-cash charges for depreciation and amortization and share-based compensation, and a $0.7 million net change in accounts payable and accrued and other liabilities. The net cash used in operating activities for the year ended December 31, 2019 was primarily due to our net loss of $21.1 million, adjusted for $0.5 million of non-cash charges such as share-based compensation, depreciation and amortization, the change in fair value of our preferred stock purchase right liability and derivative liability, loss from extinguishment of debt, and interest expense and a $2.2 million change in operating assets and liabilities.

Net cash used in operating activities was $3.8 million and $8.3 million for the three months ended March 31, 2019 and 2020, respectively. The net cash used in operating activities for the three months ended March 31, 2019 was primarily due to our net loss of $3.1 million, adjusted for $0.1 million of non-cash charges for depreciation and amortization and share-based compensation, and a $0.9 million net

change in operating assets and liabilities. The net cash used in operating activities for the three months ended March 31, 2020 was primarily due to our net loss of $8.7 million, adjusted for $0.2 million of net non-cash charges for share-based compensation of $0.5 million, depreciation and amortization of $0.1 million, change in fair value of our preferred stock purchase right liability of $0.6 million, and a $0.3 million net change in operating assets and liabilities.

Investing Activities

Net cash used in investing activities was $0.8 million and $18.3 million for the years ended December 31, 2018 and 2019, respectively. The net cash used in investing activities for the year ended December 31, 2018 was primarily due to purchases of property and equipment to support our research activities. The net cash used in investing activities for the year ended December 31, 2019 was primarily due to purchases of $16.4 million in short-term investments, using the proceeds received from our Series B preferred stock financing in 2019, and purchases of property and equipment of $1.9 million to support our research activities.

Net cash used in investing activities was $0.4 million and net cash provided by investing activities was $4.9 million for the three months ended March 31, 2019 and 2020, respectively. The net cash used in investing activities for the three months ended March 31, 2019 was due to a $0.4 million purchase of property and equipment related to laboratory facilities construction. The net cash provided by investing activities for the three months ended March 31, 2020 was primarily due to proceeds from maturities of short-term investments of $10.8 million partially offset by purchases of property and equipment of $2.3 million and purchases of short-term investments of $3.6 million.

Financing Activities

Net cash provided by financing activities was $0.1 million for the year ended December 31, 2018 and was due to proceeds received from the early exercise of stock options. Net cash provided by financing activities was $49.6 million for the year ended December 31, 2019, primarily due to the proceeds of $6.0 million received from the issuance of our convertible promissory notes and the proceeds of $40.8 million received from the issuance of our Series B preferred stock, net of issuance costs of $0.5 million and Series B preferred stock purchase right liability of $2.8 million.

Net cash used in financing activities was $13,000 and $0.7 million for the three months ended March 31, 2019 and 2020, respectively, primarily due to payments of deferred public offering costs.

Funding Requirements

Based upon our current operating plans, we believe that the estimated net proceeds from this offering, together with our existing cash and cash equivalents and short-term investments, will be sufficient to fund our operations for at least the next months from the date of this prospectus. However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. We have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we expect. Additionally, the process of testing therapeutic product candidates in clinical trials is costly, and the timing of progress and expenses in these trials is uncertain.

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

- the type, number, scope, progress, expansions, results, costs and timing of, our clinical trials and preclinical studies for our product candidates or other potential product candidates or indications which we are pursuing or may choose to pursue in the future;

- the outcome, timing and costs of regulatory review of our product candidates;
- the costs and timing of manufacturing for our product candidates, including commercial manufacturing and the costs associated with building our manufacturing facility;
- our efforts to enhance operational systems and hire additional personnel to satisfy our obligations as a public company, including enhanced internal controls over financial reporting;
- the costs associated with hiring additional personnel and consultants as our preclinical and clinical activities increase;
- the costs and timing of establishing or securing sales and marketing capabilities if any product candidate is approved;
- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third- party payors and adequate market share and revenue for any approved products;
- patients' willingness to pay out-of-pocket for any approved products in the absence of coverage and/or adequate reimbursement from third-party payors;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements, including payments required for meeting regulatory and commercial milestones or sales based royalties;
- the costs of obtaining, maintaining and enforcing our patent and other intellectual property rights; and
- costs associated with any product candidates, products or technologies that we may in-license or acquire.

We currently do not generate any revenue and our independent registered public accounting firm has included in its opinion for the year ended December 31, 2019 an explanatory paragraph expressing substantial doubt about our ability to continue as a going concern within one year from the date of this filing. The financial statements have been prepared assuming that we will continue as a going concern, and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets, or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

Until such time as we can generate significant revenue from sales of our therapeutic product candidates, if ever, we expect to finance our cash needs through public or private equity or debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. We may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, or other similar arrangements with third parties, we may have to relinquish valuable rights to our product candidates, future revenue streams or research programs or may have to grant licenses on terms that may not be favorable to us and may reduce the value of our common stock. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our product candidates even if we would otherwise prefer to develop and market such product candidates ourselves.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations and commitments at March 31, 2020 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1 to 3 Years	4 to 5 Years	More Than 5 Years
			(Unaudited)		
Operating lease commitments[1]	$9,412	$ 1,286	$2,913	$3,059	$ 2,153

(1) Payments due for our leases of the office, laboratory and vivarium space in South San Francisco, California that expire in 2026 and 2021.

In May 2018, we entered into a lease agreement for our corporate office and laboratory space located in South San Francisco, California with an expiration date in May 2025. In April 2019, the first amendment to the lease agreement was executed for additional corporate space and manufacturing capabilities and an extension to the lease term through April 2026. The terms of the lease contain a rent abatement for the first month and rent escalation provisions. In addition to the base rent payments, we will be obligated to pay certain customary amounts for our share of operating expenses and tax obligations related to the facilities.

Subsequently, in May 2020, the second amendment to the lease agreement was executed for an eight-year non-cancelable lease for additional office and laboratory space in the same building. The lease for this additional space is expected to commence in the first quarter of 2021. The lease also includes an extension of the lease term of our existing office and laboratory space through the first quarter of 2029. As the lease amendment was signed subsequent to March 31, 2020, the related minimum lease payments are not included in the operating lease commitments as of March 31, 2020.

We also have a two-year operating lease for a dedicated space in a vivarium that will expire in early 2021.

We enter into contracts in the normal course of business with clinical supply manufacturers and with vendors for preclinical studies and other services and products for operating purposes. These contracts generally provide for termination after a short notice period, and, therefore, are cancelable contracts and not included in the table above.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements as defined under the rules and regulations of the SEC.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities in our financial statements and accompanying notes. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses, preferred stock purchase right liability, and share-based compensation. We base our estimates and assumptions on historical experience, known trends and events, and various other factors that are believed to be reasonable and appropriate under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our financial statements included elsewhere in this prospectus, we believe the following accounting policies and estimates to be most critical to the preparation of our financial statements.

Research and Development Costs

We are required to estimate certain of our expenses resulting from our obligations under contracts with vendors, consultants and CROs, in connection with conducting research and development activities. The financial terms of these contracts vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. We reflect research and development expenses in our financial statements by matching those expenses with the period in which services and efforts are expended. We account for these expenses according to the progress of the research and development study as measured by the timing of various aspects of the study or related activities.

We estimate our preclinical studies based on the services performed pursuant to contracts with research institutions and CROs that conduct these activities on our behalf. In recording service fees, we estimate the time period over which the related services will be performed and compare the level of effort expended through the end of each period to the cumulative expenses recorded and payments made for such services and, as appropriate, accrue additional service fees or defer any non-refundable advance payments until the related services are performed. If the actual timing of the performance of services or the level of effort varies from the estimate, we will adjust our accrual or deferred advance payment accordingly. If we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates. To date, we have not experienced significant changes in our estimates of preclinical studies.

Although we do not expect our estimates to be materially different from amounts actually incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting amounts that are too high or too low in any particular period. To date, there have been no material differences between our estimates of such expenses and the amounts actually incurred.

Preferred Stock Purchase Right Liability

We entered into a convertible preferred stock financing where, in addition to the initial closing, investors agreed to buy, and we agreed to sell, additional shares of that convertible preferred stock at a fixed price in the event that certain agreed upon milestones were achieved or at the election of the investors. We evaluated these purchase rights and assessed whether they met the definition of a freestanding instrument and, as such, determined the fair value of the purchase right liability and recorded it on the balance sheet with the remainder of the proceeds raised being allocated to convertible preferred stock. The preferred stock purchase right liability is revalued at each reporting period with changes in the fair value of the liability recorded as a component of other income (expense) in the statements of operations and comprehensive loss. The preferred stock purchase right liability will be revalued at settlement and the resultant fair value will then be reclassified to convertible preferred stock at that time. We determine the estimated fair value of the preferred stock purchase right liability using valuation models that consider the probability of achieving the requisite milestones, the investors electing to purchase the shares, our cost of capital, the estimated time period the preferred stock right would be outstanding, consideration received for the convertible preferred stock, the number of shares to be issued to satisfy the preferred stock purchase right and at what price, and probability of the consummation of an initial public offering, as applicable.

There are significant judgments and estimates inherent in the determination of the fair value of our preferred stock purchase right liability. If we had made different assumptions, the carrying value of our preferred stock, net loss and net loss per share could have been significantly different.

Share-based compensation expense

We recognize compensation costs related to stock options granted to employees and non-employees based on the estimated fair value of the awards on the date of grant, net of forfeitures. We generally recognize grant-date fair value of stock options granted to employees and non-employee service providers on a straight-line basis over the requisite service period, which is generally the vesting term of the respective awards. We determine the fair value of stock options with a service and performance condition, or performance-based options, based on the fair value of our common stock on the date of grant. We account for the impact of forfeitures as they occur.

For purposes of calculating share-based compensation, we estimate the fair value of stock options issued using a Black-Scholes option-pricing model. The determination of the fair value of share-based payment awards utilizing the Black-Scholes option-pricing model is affected by our stock price and a number of assumptions, including expected volatility, expected life, risk-free interest rate and expected dividends.

Expected term. We have opted to use the "simplified method" for estimating the expected term of employee options, whereby the expected term equals the average of the vesting term and the original contractual term of the option (generally 10 years).

Expected volatility. Due to our limited operating history and a lack of company specific historical and implied volatility data, we have based our estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the share-based awards.

Risk-free interest rate. The risk-free rate assumption is based on the U.S. Treasury instruments with maturities similar to the expected term of our stock options.

Expected dividend yield. We have not issued any dividends and do not expect to issue dividends over the life of the options. As a result, we have estimated the dividend yield to be zero.

The fair values of the employee stock options granted during the years ended December 31, 2018 and 2019 and for the three months ended March 31, 2020 were estimated at the date of grant using the Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,		Three Months Ended March 31, 2020
	2018	2019	
Common stock fair value	$0.81	$0.92 - $1.29	$1.16
Risk-free interest rate	2.2% - 3.0%	1.5% - 2.3%	0.51%
Expected volatility	81.2% - 83.5%	80.2% - 81.9%	87.78%
Expected term (in years)	4.7 - 6.1	5.6 - 6.1	6.0
Expected dividend yield	—%	—%	—%

There were no employee stock option grants during the three months ended March 31, 2019.

Share-based compensation expense, net of forfeitures, is reflected in our Statements of Operations and Comprehensive Loss as follows (in thousands):

	Year Ended December 31,		Three Months Ended March 31,	
	2018	2019	2019	2020
			(Unaudited)	
Research and development	$ 58	$ 384	$ 21	$ 192
General and administrative	125	563	46	290
Total stock-based compensation	$ 183	$ 947	$ 67	$ 482

As of March 31, 2020, the total unamortized share-based compensation was $5.8 million.

The intrinsic value of all outstanding stock options as of was approximately $ based on a hypothetical common stock fair value of $ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus.

Determination of the Fair Value of Common Stock

We are required to estimate the fair value of our common stock underlying our share-based awards when performing the fair value calculations using the Black-Scholes option pricing model. Because our common stock is not currently publicly traded, the fair value of our common stock underlying our share-based awards has been determined on each grant date by our board of directors, with input from management, considering our most recently available third-party valuation of our common stock. All options to purchase shares of our common stock are intended to be granted with an exercise price per share no less than the fair value per share of our common stock underlying those options on the date of grant, based on the information known to us on the date of grant.

In the absence of a public trading market for our common stock, on each grant date, our board of directors has made a reasonable determination of the fair value of our common stock based on the information known to us on the date of grant, upon a review of any recent events and their potential impact on the estimated fair value per share of the common stock, and timely valuations from an independent third-party valuation in accordance with guidance provided by the American Institute of Certified Public Accountants Guide: Valuation of Privately-Held-Company Equity Securities Issued as Compensation, or the Guide. In addition, our board of directors considered various objective and subjective factors to determine the fair value of our common stock, including:

- the estimated value of each security both outstanding and anticipated;
- the anticipated capital structure that will directly impact the value of the currently outstanding securities;
- our results of operations and financial position;
- the status of our research and development efforts;
- the composition of, and changes to, our management team and board of directors;
- the lack of liquidity of our common stock as a private company;
- our stage of development and business strategy and the material risks related to our business and industry;
- external market conditions affecting the life sciences and biotechnology industry sectors;
- U.S. and global economic conditions;
- the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering or a sale of our company, given prevailing market conditions; and
- the market value and volatility of comparable companies.

The Guide identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date. In accordance with the Guide, we considered the following methods:

- Option Pricing Method. Under the option pricing method, or OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The estimated fair values of the preferred and common stock are inferred by analyzing these options.
- Probability-Weighted Expected Return Method. The probability-weighted expected return method, or PWERM, is a scenario-based analysis that estimates value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

Based on our early stage of development and other relevant factors, we determined that an OPM was the most appropriate method for allocating our enterprise value to determine the estimated fair value of our common stock for valuations performed prior to April 30, 2019. For valuations performed after this date, we used either a hybrid of PWERM and OPM or the PWERM methods to determine the estimated fair value of our common stock. In determining the estimated fair value of our common stock, our board of directors also considered the fact that our stockholders could not freely trade our common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of our common stock based on the weighted-average expected time to liquidity.

Following the closing of this offering, the fair value of our common stock will be the closing price of our common stock on the Nasdaq Global Market as reported on the date of the grant.

Recently Issued Accounting Pronouncements

See Note 2 to our financial statements included elsewhere in this prospectus for recently issued accounting pronouncements.

Segment Information

We have one business activity and operate in one reportable segment.

Quantitative and Qualitative Disclosures About Market Risk

We hold certain financial instruments for which a change in prevailing interest rates may cause the principal amount of the marketable securities to fluctuate. Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash, cash equivalents and short-term investments. We invest our excess cash primarily in money market funds, commercial paper and debt instruments of financial institutions, corporations, U.S. government-sponsored agencies and the U.S. Treasury. The primary objectives of our investment activities are to ensure liquidity and to preserve principal while at the same time maximizing the income we receive from our marketable securities without significantly increasing risk. Additionally, we established guidelines regarding approved investments and maturities of investments, which are designed to maintain safety and liquidity. For marketable investment securities with short-term maturities, we do not believe that an increase or decrease in market rates would have a significant impact on the realized values or the statements of operations and comprehensive loss. As such, we believe that if a 10.0% change in interest rates were to have occurred on March 31, 2020, this change would not have had a material effect on the fair value of our investment portfolio as of that date.

We are exposed to market risk related to changes in foreign currency exchange rates. We contract with vendors that are located outside the United States and certain invoices are denominated in foreign

currencies. We are subject to fluctuations in foreign currency rates in connection with such arrangements. We do not currently hedge our foreign currency exchange risk.

Inflation generally affects us by increasing our cost of labor and research and development contract costs. We do not believe inflation has had a material effect on our results of operations during the periods presented.

We do not believe that inflation, interest rate changes, or exchange rate fluctuations had a significant impact on our results of operations for any periods presented herein.

JOBS Act

We are an “emerging growth company” as described under the JOBS Act, and we could have taken advantage of an extended transition period for complying with new or revised accounting standards. This would have allowed us to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are choosing irrevocably to “opt out” of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. We intend to rely on other exemptions provided by the JOBS Act, including without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of Sarbanes-Oxley. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the consummation of this offering, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded $700.0 million as of the last business day of the second fiscal quarter of such year, or (iv) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period. Even after we no longer qualify as an emerging growth company, we may still qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and in our periodic reports and proxy statements.

BUSINESS

Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of allogeneic, off-the-shelf engineered natural killer, or NK, cell therapies to treat cancer. Our approach for cellular immunotherapy involves chimeric antigen receptors, or CARs, on the surface of an NK cell that enable the cell to recognize specific proteins or antigens that are present on the surface of tumor cells. The concept of a CAR builds upon and enhances the normal biology of T cells and NK cells, whereby naturally occurring receptors serve to activate these cells when a foreign pathogen or cancerous cell is detected. Our NK cell engineering platform builds on prior experience and success with engineering T cells and includes proprietary technologies that enable us to generate an abundant supply of NK cells, improve the persistence of these cells for sustained activity in the body, engineer enhanced NK cell recognition of tumor targets and to freeze, store and thaw our engineered NK cells for off-the-shelf use for the treatment of cancer. All of our product candidates are designed to be allogeneic, meaning they are produced using cells from a different person than the patient treated, as well as off-the-shelf, meaning they are produced in quantity, then frozen and therefore available for treating patients without delay, unlike existing autologous cell therapies. Based on published data from a number of clinical trials of NK cell therapies, we believe that engineered NK cells can be well tolerated and avoid some of the toxicities observed with other cell therapies.

Our modular NK cell engineering platform allows us to generate new product candidates in a rapid and cost-efficient manner. Our engineered CAR-NK cells generally consist of an NK cell engineered with a targeting receptor, OX40 costimulatory domain, CD3z signaling moiety, and mbIL-15. This platform is modular, which enables extensive optimization of different ways to enhance the natural signaling of engineered cells, as well as the ability to attach and optimize new targeting receptors. We believe that this will allow us to continue to generate new Investigational New Drugs, or IND, every 9 to 12 months.

Our two co-lead product candidates are NKX101 and NKX019. NKX101 is designed to enhance the power of innate NK biology to detect and kill cancerous cells. The primary activating receptor for NK cells is known as NKG2D, which works through the detection of stress ligands displayed by cancerous cells. We have engineered NKX101 to increase the cancer cell killing ability of our engineered NK cells by raising levels of NKG2D at least ten-fold as compared to non-engineered NK cells and by adding a costimulatory domain, which is an additional signaling element for white blood cells. We are planning to initiate a broad clinical program for NKX101 for both blood cancers and solid tumors in . Our initial indications include acute myeloid leukemia, or AML, myelodysplastic syndromes, or MDS, liver cancer, a bile duct cancer known as cholangiocarcinoma, as well as surgically removed colon cancer cases where only liver metastases remain. NKX019 is based on the ability to treat a variety of B cell malignancies by targeting the CD19 antigen that is found on these types of cancerous cells, where both engineered NK cells and T cells as well as monoclonal antibodies have demonstrated clinical activity. The two approved CAR-T therapies target CD19 and have achieved complete remission rates ranging from 32% to 63% in three pivotal clinical trials. A recent academic publication in the New England Journal of Medicine from Dr. Katayoun Rezvani and colleagues described a cohort of patients treated with a CAR-NK therapy targeting CD19 where seven of 11 (64%) of these patients achieved a complete remission. We are planning to initiate clinical trials for NKX019 in .

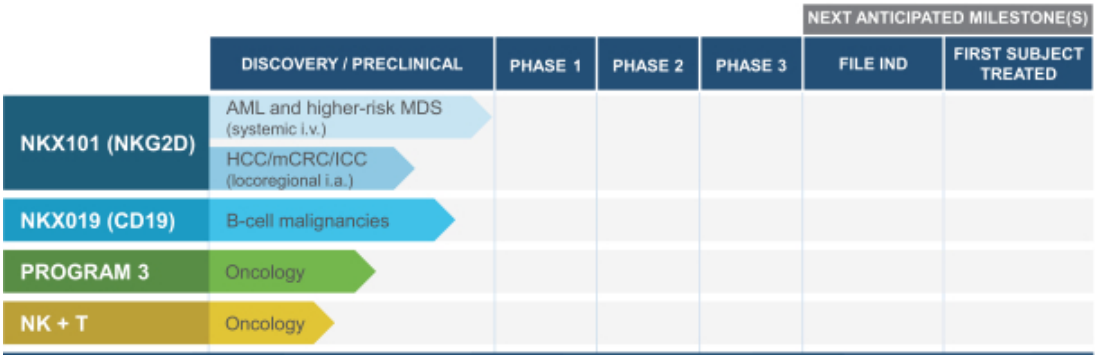
Beyond our two lead product candidates, we are engaged in preclinical discovery for another allogeneic CAR-NK product candidate for which we expect to begin clinical trials in . We are also conducting discovery efforts for an allogeneic, off-the-shelf product candidate that will combine engineered NK cells with engineered T cells, to take advantage of both the innate and adaptive immune systems. This NK+T program is designed to harness multiple aspects of human immunology to treat a variety of cancers.

We have an intensive focus on manufacturing capabilities and technology, and we are building a 2,700-square foot current good manufacturing practice, or cGMP, facility on-site at our primary corporate location in South San Francisco, California. We currently expect to complete the construction of the first phase of this facility in and estimate this expense, including laboratory and manufacturing equipment, will be approximately $6.0 million. By , after qualification including several test manufacturing runs, we expect to manufacture NKX019 at this cGMP facility. Starting in 2021, after completing a smaller, final phase of this buildout, we plan to manufacture the proprietary, engineered K562 cells and g-retrovirus as well as NKX101 at this facility. We believe this clinical cGMP facility will be capable of manufacturing approximately 24 batches per year and supply our anticipated non-pivotal clinical trial needs. We are also in the early stages of designing a separate, larger commercial cGMP manufacturing facility for manufacturing engineered NK cells for pivotal clinical trials as well as for eventual commercial supply. We may choose to begin construction of such a cGMP facility as early as 2021 based on early clinical results from the NKX101 and NKX019 clinical programs. We believe that we can achieve a cost of manufacturing for commercial NKX101 and NKX019 at peak capacity of approximately $2,000 per dose, based on achieving 500 doses per manufacturing run at our highest planned Phase 1 dose of one billion CAR-NK cells per dose and our current estimates for the costs of raw materials, consumables, rent, construction, equipment, labor and overhead.

We were founded in 2015 based upon a deep understanding of NK cell biology as well as robust expansion and persistence technologies developed by Dario Campana, M.D., Ph.D., who remains actively involved in our company. Dr. Campana demonstrated the primary importance of the NKG2D receptor amongst other NK receptors in the activation of NK cells by tumor cells. He also demonstrated proof of concept for enhancing tumor recognition by NK cells through increasing NKG2D levels and activity. Our expansion technology is based upon our proprietary, engineered K562 cell line developed by Dr. Campana, which enables the robust growth of NK cells. Dr. Campana also discovered that engineering NK cells with membrane bound IL-15, or mbIL-15, a proprietary version of a cytokine for activating NK cell growth, enhances the proliferation and persistence of these cells.

Our Product Candidates and Discovery Programs

Our current pipeline of product candidates and discovery programs is shown below.



i.v.: intravenous administration. i.a.: intraarterial administration through the hepatic artery. IND: Investigational New Drug application.

Our Strategy

We are developing novel engineered, allogeneic and off-the-shelf cell therapies to improve the lives of cancer patients and their overall survival by leveraging our NK cell engineering platform. Key elements of our strategy to achieve this include:

Develop NKX101 for blood cancers and solid tumors.

Because NKG2D is the primary activating receptor responsible for innate immune surveillance for cancerous cells, we believe that NKX101 presents a broad opportunity to treat a variety of blood cancers and the larger category of solid tumors, which collectively represent approximately 90% of all cancer incidence in the United States. Therefore, upon clinical proof-of-concept from our NKX101 Phase 1 trials for AML, MDS, and cancers in the liver, we plan to pursue a broad clinical development plan for multiple tumor types. Based upon clinical data, we may seek Regenerative Medicine Advanced Therapy, or RMAT, and PRIority MEdicine, or PRIME, designations for NKX101, which provide an expedited developmental and approval pathway, in the United States and the European Union, respectively.

Develop NKX019 for B cell malignancies.

NKX019 is designed to treat a variety of B cell malignancies by targeting the clinically- and commercially validated CD19 antigen that is found in diffuse large B cell lymphoma, or DLBCL, chronic lymphocytic leukemia, or CLL, acute lymphocytic leukemia, or ALL, follicular lymphoma and several other B cell malignancies. Because targeting CD19 has demonstrated clinical activity with both CAR-T and CAR-NK cell therapies as well as monoclonal antibodies, we believe that NKX019 presents an opportunity to treat a variety of B cell malignancies while addressing the limitations of existing autologous CAR-T therapies. We are conducting preclinical studies for NKX019 and expect to submit an IND in , with the first clinical trial subjects treated in . Based upon clinical data, we may seek RMAT and PRIME designations for NKX019.

Apply our NK cell engineering platform to build a broad pipeline of product candidates incorporating engineered NK cells.

Our proprietary NK cell engineering platform is based on a modular and generalizable approach that we believe enables us to generate new product candidates in a rapid and cost-efficient manner. Our engineered CAR-NK cells generally consist of an NK cell engineered with a targeting receptor, OX40 costimulatory domain, CD3z signaling moiety, and mbIL-15. We believe our modular platform will allow us to continue to generate new INDs every 9 to 12 months. With these attributes, we plan to continue to build out a pipeline with product candidates focused on novel targets as well as clinically and commercially validated targets. We are engaged in preclinical research for an allogeneic, off-the-shelf product candidate combining engineered NK and T cells, or our NK+T discovery program, which may provide advantages of both the innate and adaptive immune responses.

Continue to build proprietary manufacturing capabilities to enable speed, control, flexibility, scalability, and cost efficiency.

We believe that internal cGMP manufacturing capabilities will facilitate clinical product supply, lower the risk of manufacturing disruptions, and enable more cost-effective manufacturing for clinical and commercial supply of our product candidates. We are building a 2,700-square foot cGMP facility on-site at our primary corporate location in South San Francisco, California. We currently expect to complete the construction of the first phase of this facility in and estimate this expense, including laboratory and manufacturing equipment, will be approximately $6.0 million. By , after qualification including several test manufacturing runs, we expect to manufacture NKX019 at this cGMP facility. Starting in 2021, after completing a smaller, final phase of this buildout, we plan to manufacture the proprietary, engineered K562 cells and g-retrovirus as well as NKX101 at this facility. We believe this clinical cGMP facility will be capable of manufacturing approximately 24 batches per year and supply our anticipated non-pivotal clinical trial needs. Furthermore, we are in the early stages

of planning a larger commercial cGMP manufacturing facility to supply engineered cells, g-retrovirus and potentially K562 cells for all of our pivotal clinical trials as well as for eventual commercial supply.

Continue to opportunistically evaluate enabling, adjacent or potential competing technologies to advance our platform.

We will continue to evaluate technologies that may enable or enhance our various product candidates, as well as maintain awareness of those that may provide a broader cell therapy engineering or manufacturing platform for us. For example, we will continue to evaluate various gene editing technologies to enhance certain immunological functions of engineered NK cells, as well as generate allogeneic, off-the-shelf engineered T cells, thereby enabling our NK+T discovery program. We are also evaluating technologies that will allow us to better target cancers through the development of unique or proprietary antibodies or other binders.

The Immune System and Cancer

Recent decades have seen significant innovation and improvements in the treatment of different cancers. Despite the introduction of new therapeutic approaches and many new drug approvals, substantial unmet medical need remains for many of the most common cancers. Researchers have continued to focus on the development of new therapeutic approaches, including those that take advantage of normal human biology to attack cancer. Immuno-oncology therapies seek to stimulate or supplement a person's own immune system to attack cancer cells selectively without affecting normal cells, or deliver certain immune system components in order to inhibit the spread of cancer. Immuno-oncology therapy has emerged as an important mode of cancer treatment, alongside more established options such as surgery, chemotherapy, targeted therapy and radiation therapy.

The ability of the immune system to recognize and destroy tumors has been known for over 100 years. More recently, a growing understanding of molecular mechanisms underlying recognition of cancer cells by the immune system and their evasion of detection has allowed scientists to develop new classes of immuno-oncology therapies. These therapies either undermine the tumor's ability to resist immune attack or enhance immune targeting and killing of cancer cells.

Cellular Immunotherapies

Cellular immunotherapy is a type of immuno-oncology therapy whereby human cells are genetically engineered to recognize and destroy cancer cells in a more targeted manner. Most cellular immunotherapies are focused on modulating or enhancing the activity of different lymphocytes, a subtype of white blood cell that are responsible for defending the body against infectious pathogens and other foreign material, as well as killing cancerous cells within the body. There are several different classes of lymphocytes which differ in their natural function. T cells are a type of lymphocyte that primarily serves to protect from infectious invaders such as bacteria, viruses, fungi and parasites. Every individual T cell recognizes a different specific antigen, or proteins found on the surface of infectious pathogens or foreign tissue. This type of lymphocyte is activated and divides rapidly only when it detects its specific antigen. Accordingly, T cells are the foundation of the adaptive immune system, because they selectively respond to different threats when they occur.

NK cells are the foundation of the innate immune system. While T cells are activated by unique antigens specific to each individual T cell, the activity of NK cells is tightly regulated by a common set of activating receptors that serve to recognize and kill cancerous or virally infected cells, as well as a set of inhibitory receptors that identify healthy cells from the same individual. This balance of inhibition and activation spares healthy cells from the surveillance and killing effects of the innate immune system. The primary activating receptor for NK cells is known as NKG2D and functions by detecting eight known stress ligands, or signals that cancerous or virally infected cells produce. The detection of these stress ligands by NKG2D is the primary basis for tumor surveillance by NK cells and is the basis of the mechanism of action for our product candidate NKX101.

A frequently used approach for cellular immunotherapy involves chimeric antigen receptors, or CARs, on the surface of a lymphocyte that enable the cell to recognize specific proteins or antigens that are present on the surface of tumor cells. The concept of a CAR builds upon and enhances the normal biology of T cells and NK cells, whereby naturally occurring receptors serve to activate these cells when a foreign pathogen or cancerous cell is detected. The key components of CARs used today often include the following elements:

- **Target binding domain.** At one end of the CAR is a binding domain that is specific to a target antigen or protein. This domain extends out from the surface of the engineered lymphocyte, where it can recognize the target antigen or antigens. The target binding domain can be based upon a naturally occurring receptor, such as the NKG2D receptor for NKX101, or a binder derived from a monoclonal antibody against a target antigen, such as the CD19 binder for NKX019.
- **Transmembrane domain and hinge.** This middle portion of the CAR links the 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 the binder and provides structural flexibility to facilitate binding to the target antigen on the surface of the cancer cell.
- **Activating domains.** The other end of the CAR, inside the lymphocyte, includes domains responsible for activating the lymphocyte when the CAR binds to its target antigen. The first, found in almost all CAR constructs, is called CD3z and is the natural basis for lymphocyte activation. The second is called a costimulatory domain, is found in most CARs under development today and provides an additional activating signal. Together, these signals trigger lymphocyte activation, resulting in proliferation of the CAR cells and killing of the cancer cell. In addition, activated CAR cells stimulate the secretion of cytokines and other molecules that can thereby recruit and activate additional immune cells to increase killing of the cancer cells.

In 2017, the FDA approved the first two CAR-based cell therapies for the treatment of certain types of cancer affecting B cells. Each of these therapies is an autologous therapy, or derived from a patient's own cells, which necessitates a complex, individualized manufacturing process for every patient treated. The approvals of these patient-specific cell therapies were a landmark event for many reasons, including the ability to treat and provide long-term remission for otherwise deadly disease; achieving the run-to-run product consistency required by the FDA despite the complex manufacturing required; and achieving successful reimbursement in the U.S. and other countries of several hundred thousand dollars per treatment.

Limitations of Current CAR-T Therapies

The commercial adoption of the approved autologous CAR-T therapies has been limited to date. According to industry sources, approximately 1,300 patients worldwide were treated with commercial CAR-T cell therapies in the first three quarters of 2019, representing less than 20% of the eligible population for the approved CAR-T therapies. We believe this is due to a number of factors including:

- **Adverse events.** According to the product labels for the two approved CAR-T therapies, severe or life-threatening cytokine release syndrome, or CRS, was observed in 13% to 49% of patients treated in the respective pivotal clinical trials. In addition, severe or life threatening neurotoxicity was seen in 18% to 31% of patients treated in such trials. Because of the frequency and severity of these adverse events, patients treated with the approved CAR-T therapies can require a lengthy stay in an intensive care unit and costly ancillary care.
- **Limited availability.** As a condition of FDA approval, treatment with approved CAR-T therapies is currently limited to select centers due to safety, logistical and regulatory reasons under a Risk Evaluation and Mitigation Strategy, or REMS, Program.

- **Lengthy manufacturing time.** Due to the individualized manufacturing process, patients must wait approximately two to four weeks to be treated with their engineered cells. As a result, in the registrational trials for the two approved CAR-T therapies, from 9% to 34% of enrolled patients did not receive CAR-T cells, for reasons including manufacturing failure as well as patient progression or death while waiting for manufacturing.
- **Variable potency.** In many cases, patients have T cells that have been damaged or weakened due to prior chemotherapy or hematopoietic stem-cell transplant or HSCT. Compromised T cells may not proliferate well during manufacturing or may produce engineered T cells with insufficient potency that cannot be used for patient treatment. This can result in outright manufacturing failures as well as cells with poor expansion and activity in a patient. The individualized nature of autologous manufacturing, together with the inconsistency in patients' T cells, can cause variable and unpredictable treatment outcomes.
- **High manufacturing complexity and cost.** The delivery of autologous T cell therapy is complicated due to the individualized and labor-intensive 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. These 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 is a time consuming and costly step in the autologous manufacturing process.

Many of these limitations are related to fundamental aspects of T cell biology, such as exponential expansion upon detection of a target antigen which is believed to be the cause of CRS. While a patient could theoretically receive allogeneic T cells, the donor's T cells would likely recognize the recipient as "non-self" and cause graft-versus-host disease, or GVHD, a serious or life threatening condition where the donor's T cells attack the recipient's body. The need to avoid GVHD risk is the reason the approved CAR-T therapies are patient-specific. In addition, achieving significant efficacy against solid tumors has been challenging for CAR-T therapy because many solid tumors create an immunosuppressive environment around cancerous cells, significantly reducing the activity of unmodified, endogenous immune cells as well as CAR-T cells. However, in preclinical models, NK cells can reduce this immune suppression, demonstrating the potential for CAR-NK cells as a therapy in solid tumors. Therefore, despite the approvals of CAR-T therapy and substantial subsequent progress by researchers in the biopharmaceutical industry and academia, we believe there is a substantial opportunity for improved cell therapies that address these limitations.

Allogeneic Cell Therapies

One opportunity to address certain limitations of autologous CAR-T cells involves the development of allogeneic, off-the-shelf cell therapies, which offers these potential advantages:

- **Availability.** Because they are produced in quantity with cells from a healthy donor and then frozen, such allogeneic therapies are available for patient treatment without delay.
- **Consistency.** By using cells from a healthy donor as starting material, and producing large numbers of doses per manufacturing run, an allogeneic cell therapy provides the opportunity for more rigorous quality control and release of consistent engineered cells.
- **Cost of manufacturing.** An allogeneic cell therapy provides an opportunity to spread manufacturing costs across a large number of doses, thereby significantly lowing the cost per dose produced.

The Opportunity for Engineered NK Cells in Treating Cancer

The development of CAR-NK therapies can capitalize on the knowledge and experience gained from decades of CAR-T research. Furthermore, the inherent biology of NK cells offers a number of potential advantages as the starting cell type for allogeneic, off-the-shelf engineered cell therapy. These advantages include:

- **Inherent anticancer activity.** We conducted a systematic literature review of published clinical trial results of allogeneic NK cells in cancer, which identified a 34% complete response rate amongst 103 patients with relapsed or refractory AML that were treated with non-engineered NK cells across six academic clinical studies. These data demonstrate the inherent anticancer activity of endogenous NK cells, and support the opportunity for increasing the activity of NK cells through engineering.
- **Allogeneic and off-the-shelf without gene editing or other modifications.** Because NK cells are not generally activated by "non-self" cells, further modification of NK cells is not necessary to avoid the risk of GVHD and thereby produce an allogeneic, off-the-shelf engineered NK cell therapy.
- **Modest clonal expansion and therefore potential reduced CRS risk.** While T cells experience exponential growth when activated by a matching target antigen, NK cells expand only modestly. The explosive growth of T cells is believed to be the basis of the risk of CRS when CAR-T cells are administered to patients. However, a significant incidence of CRS has not been reported in medical literature for NK cell therapy.
- **Balance of activation and inhibition.** The activity of NK cells is tightly regulated by a common set of activating receptors that serve to recognize and kill cancerous or virally infected cells, as well as a set of inhibitory receptors that identify healthy cells from the same individual. This balance of inhibition and activation spares healthy cells from the surveillance and killing effects of the innate immune system. Therefore, the fundamental biology of CAR-NK cells enhances their ability to discriminate between healthy and tumor cells.
- **Ability to overcome tumor evasion of the immune system.** Many solid tumors are able to evade the immune system by creating an immunosuppressive environment around the cancerous cells, which can dramatically reduce the normal tumor-killing ability of the immune system. This tumor microenvironment involves down-regulators of immune response, including regulatory T cells and myeloid-derived suppressor cells, which significantly reduce the activity of unmodified immune cells as well as CAR-T cells in preclinical models. However, these cell types also display NKG2D ligands, and preclinical models demonstrate that clearance of these cells can reduce immune suppression from the tumor microenvironment. Therefore, by acting through NKG2D, CAR-NK cells may be able to reduce the immune suppression of the tumor microenvironment, and therefore uncover a broader opportunity for immuno-oncology cell therapy development for the treatment of solid tumors.

We believe that epidemiological and clinical data support the opportunity for using engineered NK cells to treat cancer. In the 1980s several academic studies reported a higher incidence of cancers in individuals with defective NK cell function. Subsequent studies found decreased NK cell function in cancer patients or their families, including a long-term epidemiology study where subjects with low NK cell activity had a higher risk of developing various types of cancer. This and other academic research on the role of NK cells in surveillance for cancer was the inspiration for a number of academic studies evaluating the administration of allogeneic, non-engineered NK cells to cancer patients.

Clinical Activity and Tolerability of Non-Engineered NK Cells

In early 2019, we conducted a systematic literature review of clinical trial results published in English from 2005 onwards that described the effect of allogeneic NK cell transfusions from donors in the treatment of cancer patients. We identified a total of 32 academic clinical trials that enrolled a combined total of 586 patients. Key findings from this systematic literature review include:

- The most common indications were AML and a related disease, MDS, with a combined 57% of subjects having one of these diseases. In addition, 20% had solid tumors, most commonly neuroblastoma (6% overall) and sarcoma (3% overall).
- Most patients (57% overall) received non-engineered allogeneic NK cells after hematopoietic stem cell transplant, or HSCT, which is a potentially curative procedure for certain blood cancers. Of the remaining patients in the non-transplant setting, the majority of the subjects (60%) received NK cells after lymphodepleting chemotherapy by treatment with two cancer drugs, cyclophosphamide and fludarabine. This lymphodepleting chemotherapy temporarily prevents the clearance of the transfused NK cells by the recipient's immune system, providing an opportunity for the transfused cells to kill cancerous cells.
- The most common source of NK cells was haploidentical related donors, those from a close relative with at least 50% matching for a set of proteins known as human leukocyte antigen, or HLA. These haplomatched donor/recipient pairs comprised 95% of the patients we identified.
- In general, systemic NK cell transfusions were well tolerated. Commonly reported adverse events included low-grade systemic symptoms such as fever and chills. Higher-grade events reported were low numbers of various blood cells, or cytopenias, and infections which most often arose after HSCT. In the non-HCT setting, no GVHD and minimal CRS events or neurotoxicities were reported.
- Although there was inconsistency in sampling for donor NK cell persistence, peak levels of allogeneic NK cells occurred at a median of 10 to 11 days post-infusion across the various trials. Another academic study demonstrated that the transfused allogeneic NK cells were cleared commensurate with recovery of the patient's immune system after lymphodepleting chemotherapy, generally within 14 to 21 days.
- Among the 103 patients with relapsed or refractory AML treated in the non-transplant setting across seven published studies, 35 patients (34%) achieved a complete response to NK cell therapy alone.

Clinical Activity and Tolerability of CAR-NK Cells

Early clinical data with CAR-NK cells also support the opportunity for using engineered NK cells to treat cancer. A team of researchers at M.D. Anderson Cancer Center in Houston, Texas recently reported in the New England Journal of Medicine on a cohort of patients with various B-cell malignancies, including DLBCL, CLL and follicular lymphoma, who were treated with CAR-NK cells targeting CD19. These CAR-NK cells were derived from umbilical cord blood and engineered to express a secreted form of IL-15 as well as a CAR construct containing a CD19-targeting binder and a CD28 costimulatory domain. Of the 11 patients treated, seven achieved a complete response. The patients had already received a median of four prior rounds of therapy, and four patients had relapsed after stem cell transplant, which is considered the only curative therapy after the failure of front-line treatment for these diseases. Notably, no GVHD, CRS or neurotoxicity was reported. We believe that the clinical activity and tolerability profile of these allogeneic CAR-NK cells further validate the opportunity for engineering NK cells to treat cancer.

Challenges with Developing NK Cell Therapies

We believe that data from this prior academic experience with NK cells, including both clinical activity and tolerability, validates the opportunity for NK cells for the treatment of different cancers. However, to achieve a commercially viable engineered NK cell therapy, we believe that a number of challenges inherent with NK cells must be addressed. These include the following:

- **Expansion.** One of the historical challenges in treating patients with NK cells has been the lack of robust techniques to grow these cells in large numbers without causing exhaustion, or the inability of the expanded NK cells to kill tumor cells with the same potency as native NK cells.
- **Persistence.** Non-engineered human NK cells turn over rapidly, with a half-life of seven to 10 days in the body. This short lifetime limits the cancer-killing ability of these NK cells.
- **Cryopreservation.** Without cryopreservation, a truly off-the-shelf engineered NK cell therapy would be challenging to commercialize. However, freezing then thawing NK cells while maintaining cancer cell killing potency is difficult to achieve using standard techniques for T cell cryopreservation.

Our NK Cell Engineering Platform

Our NK cell engineering platform is designed to address the limitations and challenges of current technologies for engineering T cells and NK cells and is a result of our internal expertise and deep understanding of NK cell biology. Our platform includes proprietary technologies for NK cell expansion, persistence, targeting and cryopreservation. This enables us to generate an abundant supply of NK cells, engineer enhanced NK cell recognition of tumor targets, improve the persistence of these cells for sustained activity in the body, and to freeze, transport and store our engineered NK cells for off-the-shelf use for the treatment of cancer.

We have chosen to use healthy adult donors as our source for NK cells. We believe this offers a number of advantages including:

- A large number of NK cells to begin each manufacturing run, as compared to other potential sources of NK cells;
- The ability to select donors with consistent and favorable NK cell characteristics, thereby avoiding challenges with patient-derived or other cell sources; and
- A diverse repertoire of NK cells. Different NK cell sub-populations have different characteristics, and by utilizing the entire natural gamut of NK cells as our cell source, we can capitalize on the inherent diversity of the innate immune system.

Below are the four core technologies that comprise our proprietary platform:

Our Proprietary NK Cell Engineering Platform

Expansion

Co-culture with proprietary K562 stimulatory cell line to achieve high cell doses

Persistence

Expression of proprietary membrane bound IL-15 to enhance time in circulation

Targeting

Engineered for expression of optimized CARs

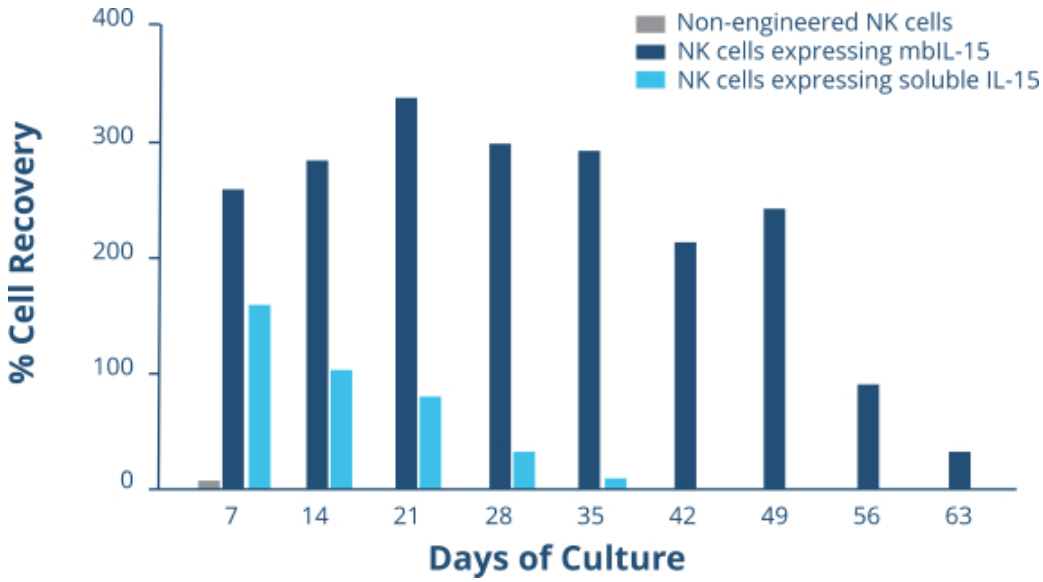
Cryopreservation

Maintains NK cell viability and potency

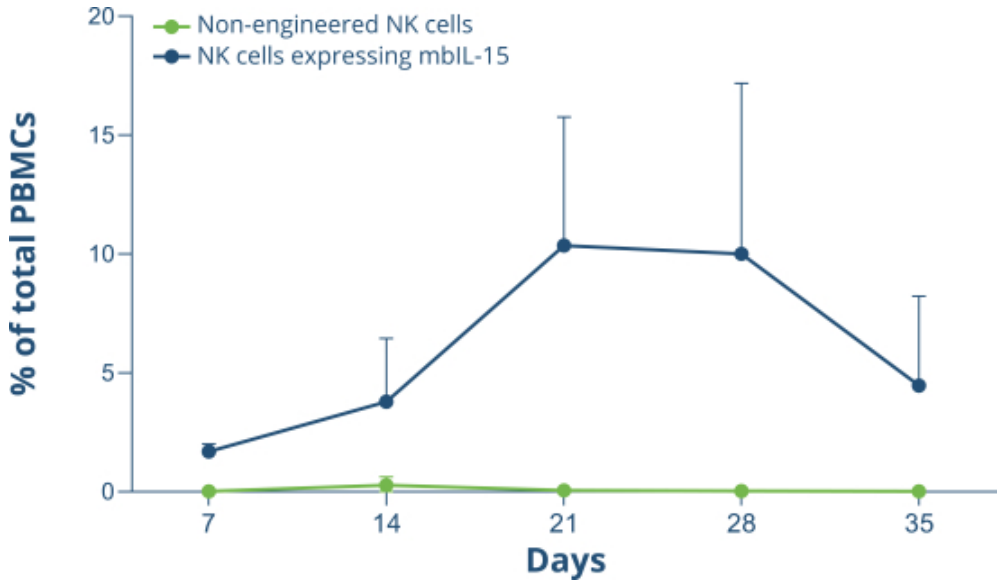
Expansion. The first pillar of our technology platform enables NK cell expansion without causing exhaustion. Our academic founder, Dario Campana, M.D., Ph.D., developed a proprietary cell line based on engineering of a publicly available cancer cell line called K562. Our proprietary, engineered K562 stimulatory cell line has been engineered with mbIL15 as well as a protein named 4-1BB ligand, or 4-1BBL. IL-15 is a naturally occurring growth protein that induces cell proliferation in NK cells. 4-1BBL binds to 4-1BB, a receptor normally found on NK cells that stimulates NK cell division and expansion. Therefore, our proprietary, engineered K562 cell line is selectively able to stimulate the expansion of NK cells as compared to other leukocytes, and thereby provide large numbers of NK cells. Based on our pilot scale experiments, we believe that we can produce many hundreds of doses from a single manufacturing run. We also believe that we can achieve a cost of manufacturing for commercial NKX101 and NKX019 at peak capacity of approximately $2,000 per dose, based on achieving 500 doses per manufacturing run at our highest planned Phase 1 dose of one billion CAR-NK cells per dose and on our current estimates for the costs of raw materials, consumables, rent, construction, equipment, labor and overhead.

Persistence. The second component of our technology platform is engineering NK cells with mbIL-15 to enhance persistence. We believe increased persistence could result in improved clinical activity. Because IL-15 is a selective driver of NK activation and expansion, tethering IL-15 to the surface of our engineered NK cells serves to stimulate the naturally occurring IL-15 receptor on these NKs, and thereby provide weeks of persistence in animal models without exhaustion. Because mbIL-15 selectively stimulates NK cells without systemic circulation, we believe that mbIL-15 provides meaningful advantages as compared to secreted IL-15 or the systemic administration of other cytokines such as IL-2 or IL-21. The first graph below shows data from a cell culture experiment which demonstrates the increase of the number and persistence of NK cells engineered with mbIL-15, as compared to unmodified NK cells or NK cells expressing soluble IL-15. The second graph below shows the increased number and persistence in mice of NK cells engineered with mbIL-15, as compared to unmodified NK cells, as a percentage of total peripheral blood mononuclear cells, or PBMCs.

***In vivo* Persistence of Engineered NK cells Expressing mbIL-15**



Evaluation of the effect of soluble IL-15 and mbIL-15 on the numbers of NK cells in cell culture.



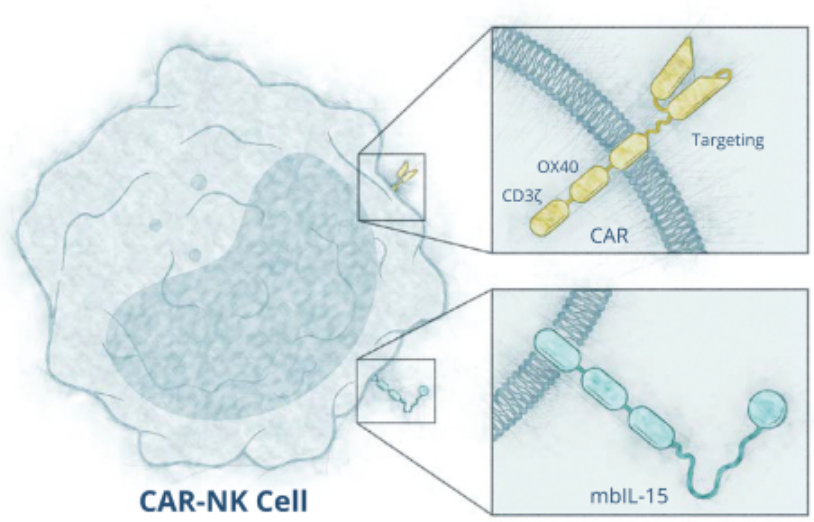
Effect of the addition of mbIL-15 to the longevity of circulating NK cells in a mouse model. At day 0, comparable numbers of NK cells were introduced to all mice in both experimental arms.

Targeting and Signaling. The third element of our technology platform is CARs optimized for NK cells, based on extensive preclinical evaluation of different possible constructs. We have performed extensive optimization of the CARs that serve to target our engineered NK cells to cancer cells as well as provide signals that engage the cancer cell killing activity found naturally in NK cells. For both NKX101 and NKX019, we have found that using the OX40 costimulatory domain enhances the ability of the engineered NK cells to kill cancerous cells repeatedly in several *in vitro* models, as compared to CAR-NK cells that include other costimulatory domains commonly used for CAR-T cells. We confirmed these findings in animal models for both product candidates.

Cryopreservation. The fourth constituent of our technology platform is cryopreservation of our engineered NK cells, the ability to freeze and store these cells for an extended time. The development of robust cryopreservation techniques is a result of our insight into the biology of engineered NK cells as well as extensive experimental optimization. Based on our preclinical data, we are able to freeze and subsequently thaw individual doses of engineered NK cells without significant loss of cancer cell killing potency of our engineered NK cells. Cryopreservation of our allogeneic CAR-NK cells will enable their off-the-shelf use in medical centers around the world, for administration to a patient at any time. In contrast, the approved autologous cell therapies require custom manufacturing for every patient, thereby limiting their commercial adoption. Therefore, we believe that our cryopreservation of CAR-NK cells will enable us to achieve the attractive commercial profile of an off-the-shelf, allogeneic cell therapy.

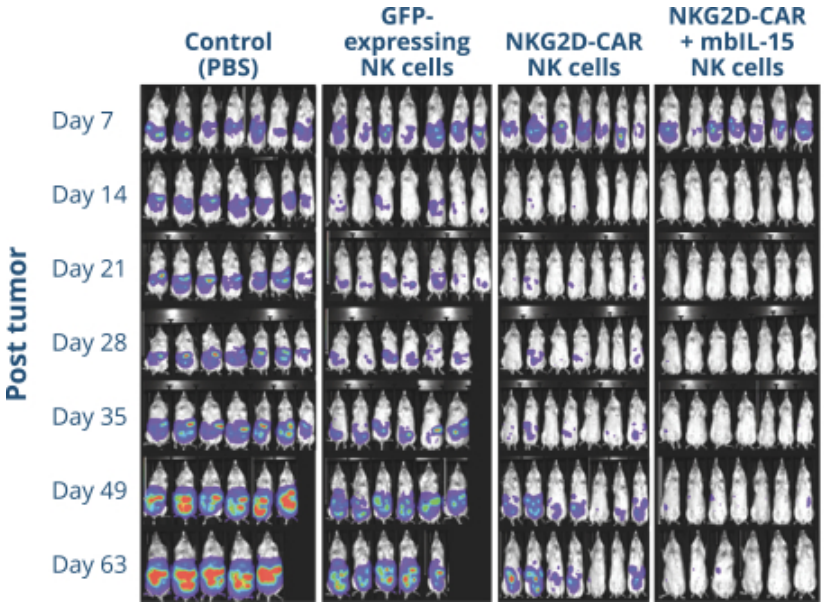
We believe that the collective elements of our technology platform have the potential to comprise a key competitive advantage for us if our product candidates are approved. As illustrated in the image below, our engineered CAR-NK cells generally consist of an NK cell engineered with a swappable targeting receptor, OX40 costimulatory domain, CD3z signaling moiety, and mbIL-15.

Key Components of our Engineered CAR-NK cells



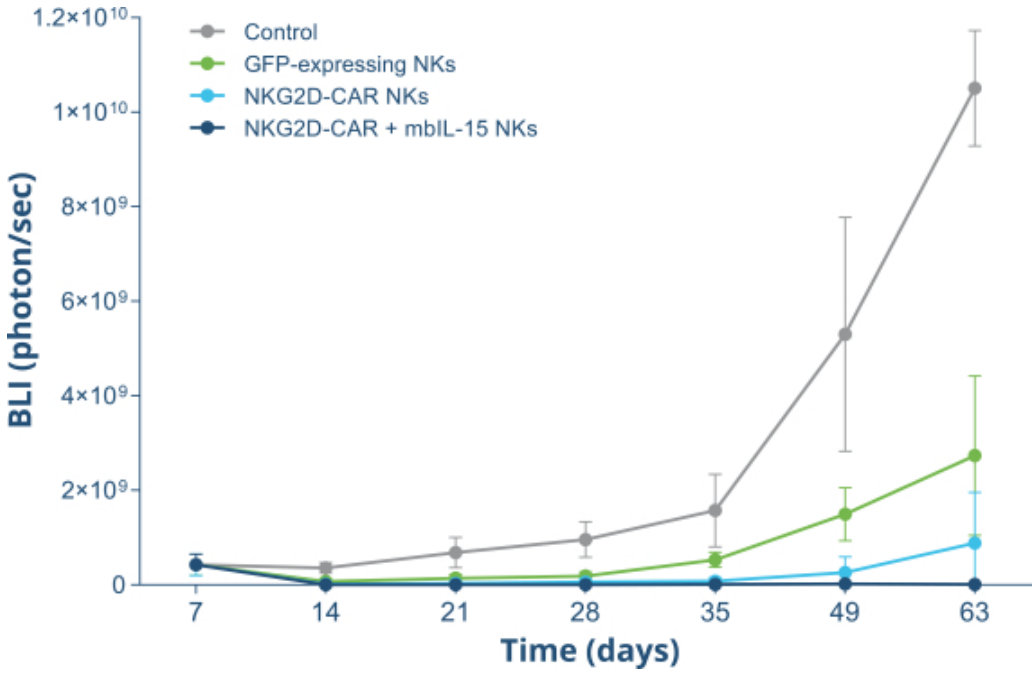
We demonstrated the potential power of combining the different elements of our technology platform in the discovery and preclinical development of NKX101. In a model of osteosarcoma, the treatment of mice with NK cells engineered to express mbIL-15 and an early version of the NKG2D ligand targeting CAR resulted in durable suppression of tumor cell growth for 63 days whereas treatment of mice with NK cells engineered to express the CAR alone, or with NK cells lacking a CAR, resulted in a significant reduction in the control of tumor growth. The effect on tumor growth when we combine an NKG2D-CAR with mbIL-15 is shown visually and graphically in the two figures below.

***In vivo* Suppression of Tumor Growth with NKG2D-CAR NK cells and NKG2D-CAR + mbIL-15 NK cells (imaging)**



Highest tumor burden is shown by the red color in the mice images above and lowest is purple.

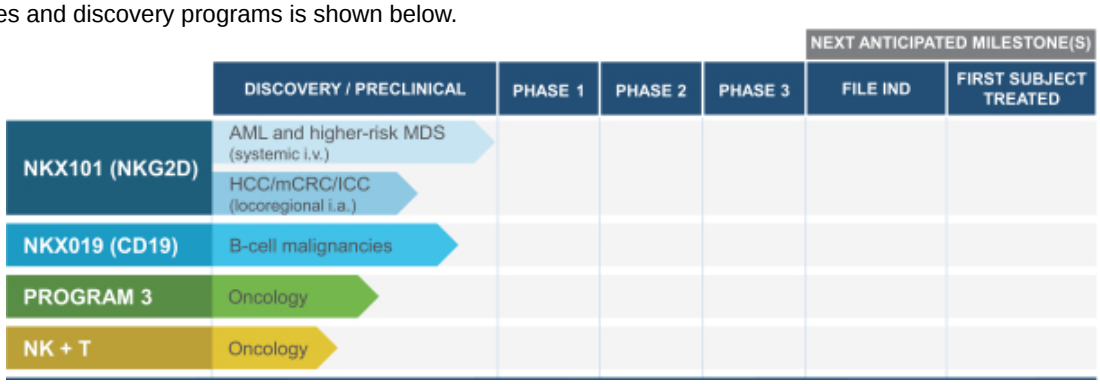
***In vivo* Suppression of Tumor Growth with NKG2D-CAR NK cells and NKG2D-CAR + mbIL-15 NK cells (graphical)**



The graphical data above are an average of the mice studied in the osteosarcoma mouse model shown above.

Our Pipeline of Product Candidates and Discovery Programs

All of our product candidates and discovery programs incorporate each of the four components of our technology platform, which we believe provides the best opportunity for achieving clinically meaningful results in our development program. Our current pipeline of product candidates and discovery programs is shown below.

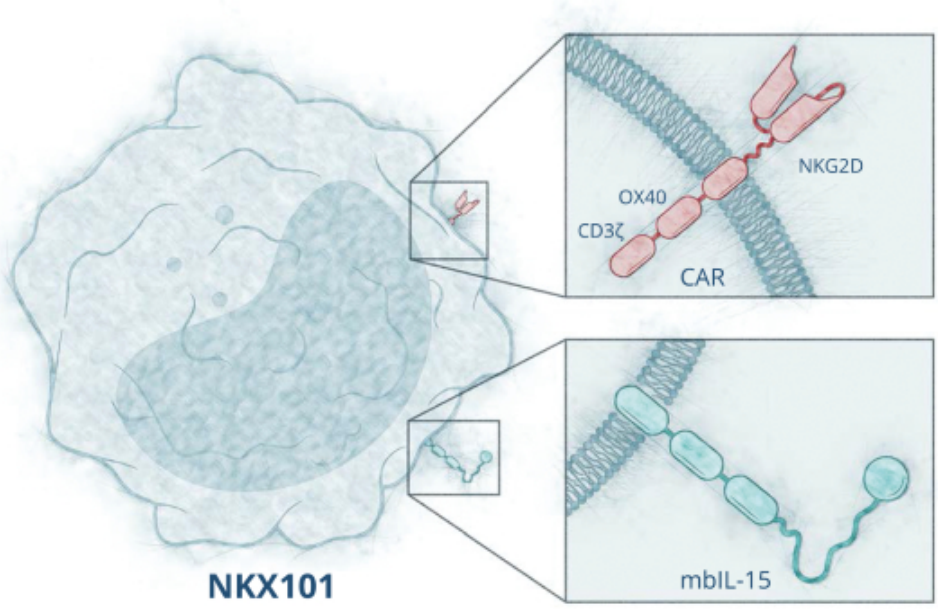


i.v.: intravenous administration. i.a.: intraarterial administration through the hepatic artery. IND: Investigational New Drug application.

NKX101

Our product candidate NKX101 consists of allogeneic, donor-derived and expanded NK cells that have been genetically engineered to express mbIL-15 along with a CAR containing an NKG2D activating receptor, an OX40 costimulatory domain and a CD3z signaling moiety. We have designed NKX101 to increase longevity, potency and activity as compared to non-engineered NK cells. NKG2D is the primary activating receptor for NK cells and functions by detecting eight known stress ligands, signals produced by cancerous or virally infected cells. The detection of these stress ligands by NKG2D is the primary basis for tumor surveillance by NK cells and is the basis of the mechanism of action for NKX101. We believe the activity of non-engineered NKs in treating cancer validates targeting NKG2D ligands through the NKG2D receptor as the mechanism of action for NKX101. We are planning to initiate a broad clinical program for NKX101 for both blood cancers and solid tumors in . Our initial indications include AML, MDS, liver cancer, a bile duct cancer known as cholangiocarcinoma, as well as surgically removed colon cancer cases where only liver metastases remain.

Schematic of NKX101



We created NKX101 based on our understanding of NK cell biology, including extensive comparison and optimization of different ways to enhance natural NKG2D signaling and targeting of cells which display NKG2D ligands. Based on our preclinical studies, levels of NKG2D are increased at least ten-fold in NKX101 as compared to non-engineered NK cells. Because NKG2D is the primary activating receptor for NK cells, through its detection of stress ligands displayed by cancerous cells, NKX101 is thereby designed to increase the natural cancer cell killing ability of NK cells. Although some cancer cells are able to evade detection and killing by NK cells through reducing the number or shedding of NKG2D ligands, thereby creating decoys, NKX101 maintains its ability to recognize tumor cells through increased numbers of NKG2D receptors and more potent signaling from those engineered receptors. Furthermore, we found in preclinical studies that the addition of mbIL-15 and the OX40 costimulatory domain each increase the activity of engineered NK cells. Because NKG2D is the primary activating receptor responsible for innate immune surveillance of cancerous cells, we believe

that NKX101 presents a broad opportunity to treat a variety of blood cancers and the larger category of solid tumors, which collectively represent approximately 90% of all cancer incidences in the United States.

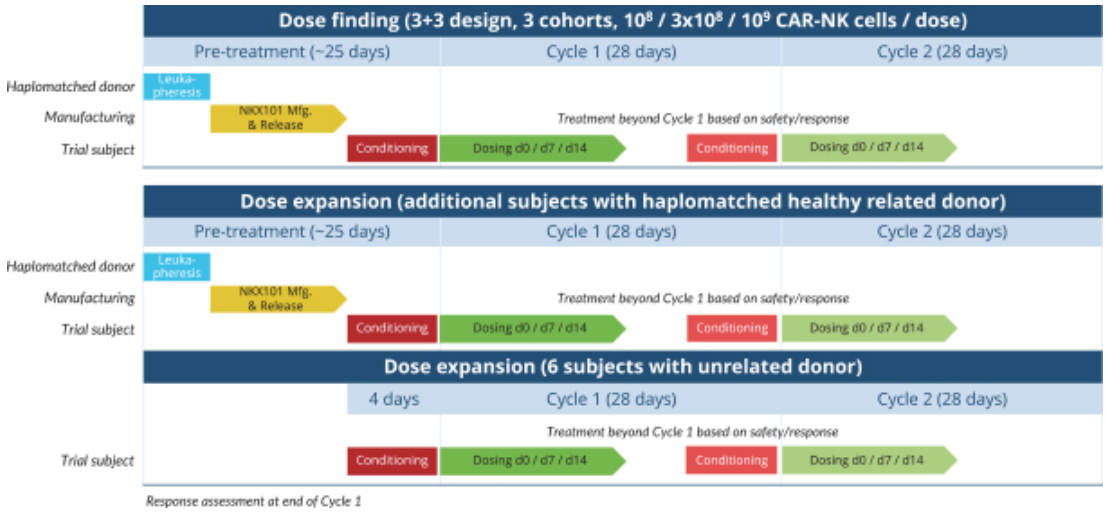
NKX101 for Blood Cancers

We are planning to submit an IND for NKX101 for the treatment of relapsed or refractory AML and higher-risk MDS in . If our IND is accepted by the FDA, we intend to initiate a clinical trial of NKX101 with the first patient treated in . According to the federal Surveillance, Epidemiology, and End Results, or SEER, Program database, the incidence of AML in the United States is approximately 21,000 cases per year, and newly-diagnosed patients have a five-year survival rate of only 28%. We believe there is a substantial unmet medical need for patients with relapsed or refractory AML and higher-risk MDS and that these diseases represent a significant market opportunity.

We are planning a Phase 1 clinical trial with standard dose-finding and dose expansion phases. Patients will receive lymphodepleting chemotherapy prior to administering NKX101 in order to allow our engineered NK cells the opportunity to kill cancerous cells without first being cleared by the patient's immune system. In 2019, we held a formal pre-IND meeting with the FDA where we provided the FDA our draft synopsis for the Phase 1 clinical trial and presented the FDA a number of questions for their response. We asked the FDA about the suitability of several components of our planned IND filing, including the manufacturing of NKX101, preclinical studies, and our proposed Phase 1 clinical trial design. We have generally updated our planned IND filing, manufacturing plans and Phase 1 clinical trial design to reflect discussion from this meeting. Our lymphodepleting chemotherapy is based upon the most commonly used regimen found in our systematic literature review of allogeneic cells, and is also similar to the lymphodepleting chemotherapy used for the two approved CAR-T therapies. The relationship between the degree of HLA matching and the clearance of donor NK cells by the patient's immune system has not been conclusively demonstrated. Therefore, for the subjects in the dose-finding phase, we are planning to manufacture patient-specific NKX101 from haploidentical donors.

Following the dose-finding phase, we intend to open a dose expansion phase of this trial. We will first confirm the tolerability of the dose for further development by treating additional subjects with patient-specific NKX101 from haploidentical donors to achieve at least six subjects at that dose. Subsequently, we plan to treat six subjects in the dose expansion phase with off-the-shelf NKX101. This will allow us to compare the clinical activity for the two different groups, and we expect to be able to establish that haploidentical cells are not necessary for clinical activity. The dosing schema is shown in the graphic below. Our starting dose of 100 million cells is based upon the established tolerability of non-engineered NK cells from academic literature.

Schematic of our Phase 1 trial for NKX101 in Blood Cancers



While we expect that the initial subjects treated with NKX101 in clinical studies will be hospitalized for a minimum of 24 hours observation after infusion, a favorable tolerability profile would allow administration of NKX101 in an outpatient setting. This could represent a significant competitive advantage for NKX101 and our engineered NK product candidates more generally, as compared to the approved CAR-T therapies.

NKX101 for Solid Tumors

We are also planning to evaluate NKX101 in patients with solid tumors. Our initial clinical trial will include patients with liver cancer, a bile duct cancer known as intrahepatic cholangiocarcinoma, as well as patients with surgically removed colon cancer where only liver metastases remain. These tumors represent an attractive opportunity for the initial solid tumor indication for NKX101 for several reasons, including the overexpression of NKG2D ligands in many liver cancers, the opportunity to deliver NKX101 directly to the liver and the substantial unmet medical need for the treatment of these cancers. According to the federal SEER database, the incidence of liver and intrahepatic cholangiocarcinoma in the U.S. is approximately 42,000 cases per year, and the five-year survival rate is only 18%.

We plan to deliver our engineered NK cells directly to the site of the tumor by injection into the hepatic artery, a standard technique for delivering anticancer drugs to the liver which has also been used for the delivery of CAR-T cells and unmodified NK cells to the liver. This method takes advantage of the differential blood supply in the liver, where tumor tissue is predominantly supplied by the hepatic artery and healthy liver is predominantly supplied by the portal vein. Therefore, this technique allows us to concentrate cells specifically to the tumor area. Because the liver to some degree naturally excludes the immune cells that can clear allogeneic NK cells, we are not currently planning for lymphodepleting chemotherapy prior to administration. However, we may choose to add this element based on data from this clinical trial.

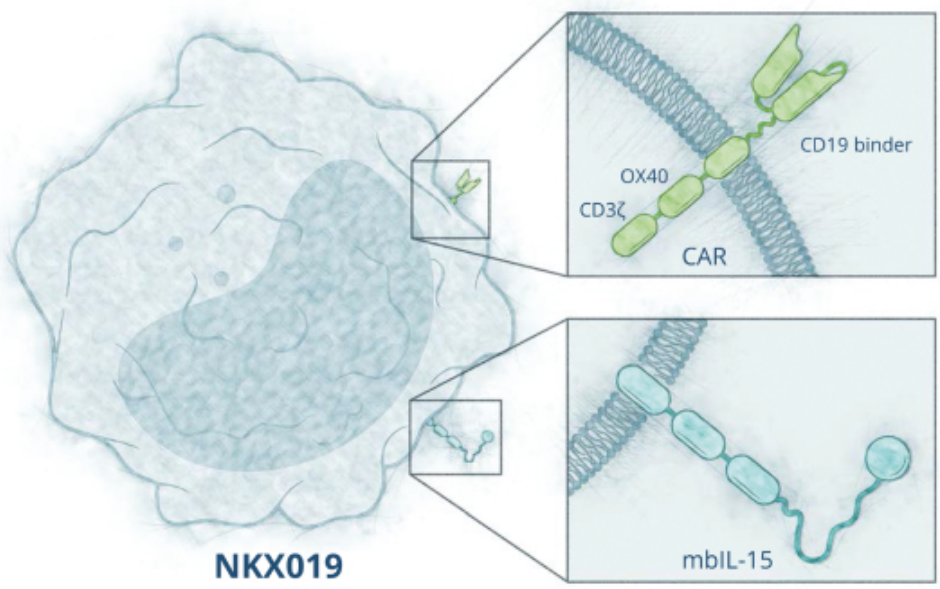
We are planning to file an IND amendment for this clinical program in , with the first patient receiving NKX101 by . The NKX101 Phase 1 trial in solid tumors may also incorporate a dose-finding and dose-expansion component.

If this program is successful, we believe that it would establish proof of concept for treating solid tumors with engineered NK cells, and enable us to evaluate a broader solid tumor clinical development program.

NKX019

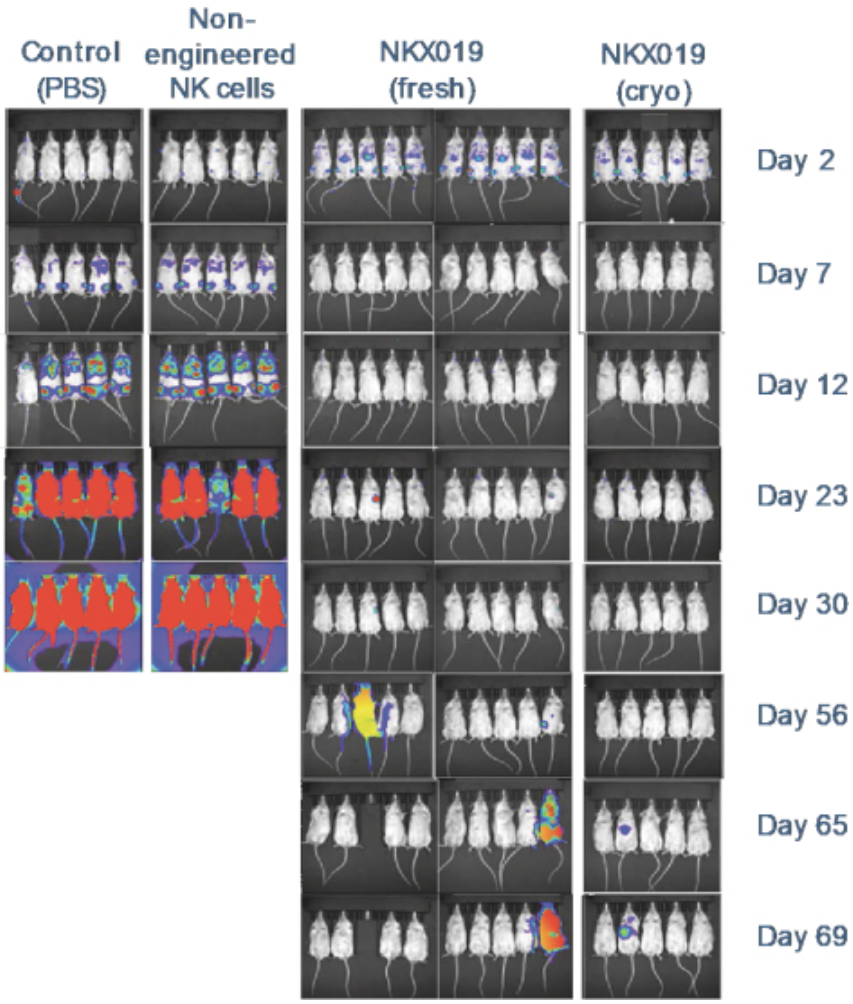
Our product candidate NKX019 is for the treatment of various B cell malignancies, including DLBCL, ALL, and several other B cell malignancies. NKX019 consists of allogeneic, donor-derived and expanded NK cells that have been genetically engineered to express mbIL-15 along with a CAR containing a CD19 binder, an OX40 costimulatory domain and a CD3ζ signaling moiety. We chose to target CD19 based on the clinical validation provided by Kymriah and Yescarta, which have both shown to improve remission rates and overall survival in patients with various B-cell malignancies, as well as the significant unmet medical need that remains for treating B cell malignancies despite these recent approvals. Furthermore, a recent publication by researchers at M.D. Anderson Cancer Center of a cohort of patients treated with a CAR-NK therapy targeting CD19 achieved a complete remission in seven of 11 of these patients.

Schematic of NKX019



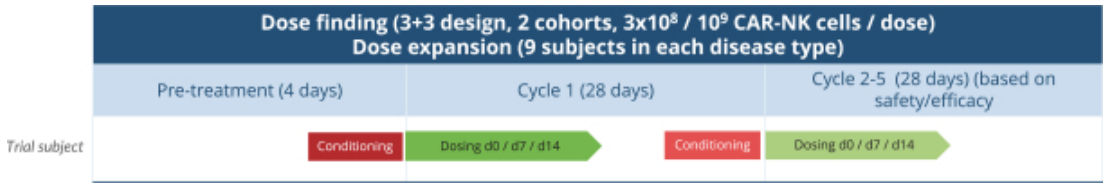
We are currently conducting preclinical studies for NKX019. We have demonstrated activity of NKX019 in a mouse model of leukemia, and have also shown that cryopreserved NKX019 administered after thawing maintains the anti-cancer activity of freshly-prepared NKX019.

***In vivo* Anti-Cancer Activity of Cryopreserved and Freshly-Prepared NKX019**



We expect to submit an IND for this product candidate in , with the first clinical trial subjects treated in . We will be evaluating different B cell malignancies in separate Phase 1 trials. The dosing schema for each of our NKX019 Phase 1 trials is shown below.

Schematic of our Phase 1 trial for NKX019 in B cell malignancies



We are currently planning to treat all clinical trial subjects with off-the-shelf NKX019 manufactured from healthy donors, which we expect will facilitate the pace of early enrollment in this clinical trial.

Additional Pipeline Candidates

Like NKX101 and NKX019, our third product candidate is a CAR-NK that incorporates all of the core elements of our NK cell engineering platform, along with certain new technologies we are currently developing. This product candidate targets a tumor antigen that is found on certain solid tumor cells as well as blood cancers. We expect to submit an IND for this product candidate in .

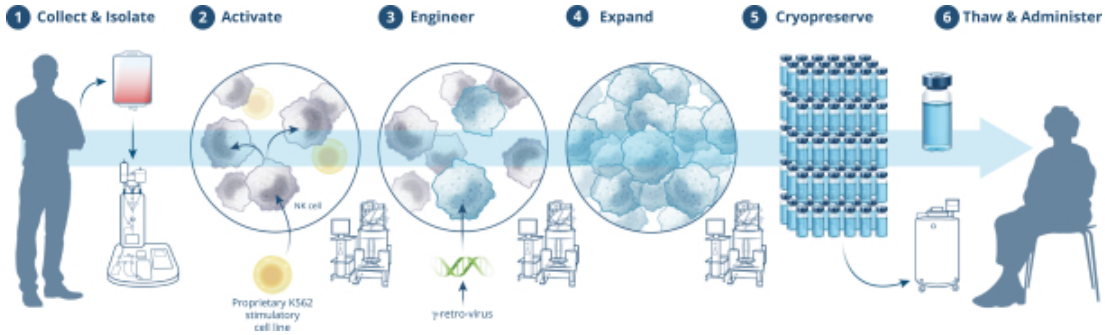
We are also developing a product candidate containing both CAR-NK cells and CAR-T cells to provide an allogeneic, off-the-shelf product candidate that combines the advantages of the innate and adaptive immune systems. We expect that our NK+T product candidates will also incorporate all of the core elements of our NK cell engineering platform. We are currently evaluating gene editing technologies to enable the production of allogeneic CAR-T cells with reduced risk of GVHD and enhanced resistance to immunosuppression. We are also evaluating a number of potential antigens and other targets for this product candidate. Our first NK+T product candidate could incorporate two different targets into the CAR-NK and CAR-T cells, based on the differing pharmacokinetic and pharmacodynamic profile of these two cell types.

Manufacturing

Our process for the generation of an allogeneic, off-the-shelf NK cell therapy requires a number of steps. To achieve a commercially viable product, we believe that each of these steps must be scalable, reproducible and cost-effective and must provide consistent cancer cell killing potency of our CAR-NK cells once these cells are frozen and then thawed. Therefore, we have focused on developing a manufacturing process that incorporates the following elements:

- a cell source which provides high numbers of easily characterized NK cells;
- expansion technology which increases the number of NK cells by orders of magnitude, without creating exhaustion;
- techniques for genetic engineering of NK cells which are cost-effective and which introduce a controlled and specified range of the number of copies of the gene into each cell;
- cryopreservation techniques that permit bulk CAR-NK cells to be frozen in individual doses; and
- techniques for thawing the frozen NK cell product that are easy to adopt in different clinical settings, and that provide consistent CAR-NK cell recovery, viability and potency.

Our overall manufacturing scheme is shown in the diagram below.



The source material for production of our off-the-shelf NK cell therapy product is NK cells collected from healthy donors by leukapheresis, the selective collection of white blood cells from plasma. We

then isolate the NK cells from the other cells in the leukapheresis product. Next, we selectively activate the NK cells by co-culture with our proprietary, engineered K562 stimulatory cell line. After initial expansion, we engineer the expanded NK cells using a g-retrovirus to express mbIL-15 and the CAR. We further expand the NK cells, followed by harvesting and cryopreservation to form the final cell product. For off-the-shelf administration, clinical sites will thaw the CAR-NK product candidate for administration to patients at the clinical site.

For the clinical supply of NKX101, we currently manufacture NKX101, the proprietary, engineered K562 stimulatory cell line, and the g-retrovirus at third-party contract manufacturing sites. We believe that establishing our own internal cGMP manufacturing capabilities will facilitate clinical product supply, lower the risk of manufacturing disruptions, and enable more cost-effective manufacturing for clinical and commercial supply of our product candidates. We are constructing a 2,700-square foot cGMP facility within our primary corporate location in South San Francisco, California. We currently expect to complete the construction of the first phase of this facility in and estimate the total expense to complete the construction, including laboratory and manufacturing equipment, will be approximately $6.0 million. By , after qualification including several test manufacturing runs, we expect to manufacture NKX019 at this cGMP facility. Starting in 2021, after completing a smaller, final phase of this buildout, we plan to manufacture the proprietary, engineered K562 cells and g-retrovirus as well as NKX101 at the same facility. We believe that this clinical cGMP facility will be capable of manufacturing approximately 24 batches per year and could supply our needs for our non-pivotal clinical trials.

We are also in the early stages of designing a separate, larger commercial cGMP manufacturing facility for manufacturing engineered NK cells, K562 cells and potentially g-retrovirus, for pivotal clinical trials as well as for eventual commercial supply. We may choose to begin construction of such a cGMP facility as early as 2021 based on early clinical results from the NKX101 and NKX019 clinical programs.

During our process development of NKX019 for cGMP manufacturing, we have performed five manufacturing runs with NK cells from four different donors. Over a 15-day period, on average we have produced NKX019 with greater than 3,000-fold expansion of the NK cell starting material. We believe that we can achieve comparable expansion efficiency for commercial production.

We believe that we can achieve a cost of manufacturing for commercial NKX101 and NKX019 at peak capacity of approximately $2,000 per dose, based on achieving 500 doses per manufacturing run at our highest planned Phase 1 dose of one billion CAR-NK cells per dose and on our current estimates for the costs of raw materials, consumables, rent, construction, equipment, labor and overhead.

Patents, Trademarks and Proprietary Technology

We protect our intellectual property rights and proprietary technology with a combination of patent rights, that we own or license in certain fields of use, trademark rights, confidentiality procedures and contractual provisions. We seek not only to protect our intellectual property rights and proprietary technology in select key global markets, but also to supplement our intellectual property portfolio with new filings and applications to enhance such protection and support commercialization of current and future product candidates. To that end, we continue to seek protection for our technological innovations and branding efforts by filing new patent and trademark applications when and where appropriate.

Our patent portfolio consists of a combination of issued patents and pending patent applications licensed from third parties, jointly owned with third parties, and assigned solely to us based on our ongoing development activities. Some of our issued patents and licensed patent applications are exclusively licensed to us in therapeutic fields of use from the National University of Singapore, St. Jude Children's Research Hospital, Inc., or both (collectively Licensors). As of April 30, 2020, the patent portfolio that is

assigned to us, jointly owned with others or licensed to us includes at least 5 issued utility patents and at least 60 pending utility patent applications.

At least three of the issued utility patents and at least 25 of the pending utility patent applications are related to our NK cell engineering platform, and include manufacturing process, treatment and compositions of matter claims. These issued utility patents include United States patents; these pending utility patent applications include applications in the United States, Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Japan, Mexico, New Zealand, the Russian Federation, Singapore, South Korea, and Ukraine. These issued utility patents and pending utility patent applications are licensed from Licensors. The estimated expiration dates of the issued utility patents are between approximately 2024 and 2035 (with certain commercially relevant patents extending through approximately 2035), and the estimated expiration dates of these pending utility patent applications are between approximately 2024 and 2038 (with certain commercially relevant patents extending through approximately 2035).

At least four of the issued utility patents and at least 45 of the pending utility patent applications are related to our NKX101 product, and include manufacturing process, treatment and compositions of matter claims. These issued utility patents include United States patents and are licensed from Licensors. These pending utility patent applications include applications in the United States, Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Japan, Mexico, New Zealand, the Russian Federation, Singapore, South Korea, Ukraine, and the Patent Cooperation Treaty, or PCT. Of these pending patent applications, at least 15 are owned or co-owned by us, with the remaining licensed from Licensors. The estimated expiration dates of the issued utility patents are between approximately 2024 and 2035 (with certain commercially relevant patents extending through approximately 2035), and the estimated expiration dates of these pending utility patent applications are between approximately 2024 and 2039 (with certain commercially relevant patents extending through approximately 2039).

At least three of the issued utility patents and at least 25 of the pending utility patent applications are related to our NKX019 product, and include manufacturing process, treatment and compositions of matter claims. These issued utility patents include United States patents and are licensed from Licensors. These pending utility patent applications include applications in the United States, Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Japan, Mexico, New Zealand, the Russian Federation, Singapore, South Korea, Ukraine, and the PCT. Of these pending patent applications, at least three are owned or co-owned by us, with the remaining licensed from Licensors. The estimated expiration dates of the issued utility patents are between approximately 2024 and 2035 (with certain commercially relevant patents extending through approximately 2035), and the estimated expiration dates of these pending utility patent applications are between approximately 2024 and 2040 (with certain commercially relevant patents extending through approximately 2040).

In August 2016, we entered into a license agreement with the Licensors. Pursuant to this license, the Licensors granted to us an exclusive, worldwide, royalty-bearing, sublicensable license under specified patents and patent applications related to NK cell technology in the field of therapeutics. Payments to the Licensors pursuant to the license agreement include single-digit royalty payments on commercial sales, a portion of any sublicensing revenue, patent expenses, license maintenance fees and milestone payments. The term of the license agreement extends until expiration of the last of the patent rights licensed to us by the Licensors, which is currently expected to occur in approximately 2039. We may terminate the license agreement at will upon 90 days' prior written notice to the Licensors. The Licensors may terminate the license agreement for certain conditions such as uncured material breach by us, the cession of our business, or our insolvency, liquidation, or receivership.

Our continuing research and development activities, technical expertise and contractual arrangements supplement our existing intellectual property protection and help us maintain our

competitive position, and we rely on trade secrets to protect our proprietary information and technologies, especially where we do not believe patent protection is appropriate or obtainable, or where such patents would be difficult to enforce. In order to maintain such trade secrets and other proprietary information, we rely in part on confidentiality agreements with our employees, consultants, contractors, outside scientific collaborators and other advisors.

We also protect our brand through trademark rights. As of April 30, 2020, we are the listed owner of two U.S. registered and pending trademarks and 20 foreign registered and pending trademarks. The trademarks NKARTA and ENGINEER, ENHANCE, EXPAND are filed trademarks that we own in the United States and certain foreign countries. In order to supplement the protection of our brand, we also have a registered internet domain name.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of pharmaceutical products. The processes for obtaining regulatory approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources.

FDA Approval Process

In the United States, the FDA regulates investigational drugs, including biological products, under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. Marketing authorization of a biological product via a biologics license application, or BLA, occurs under section 351 of the Public Health Service Act, or PHSA. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including imposition of a clinical hold, refusal by the FDA to approve applications, withdrawal of an approval, import/export delays, issuance of warning letters and other types of enforcement letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits or civil or criminal investigations and penalties brought by the FDA and the Department of Justice or other governmental entities. The clinical testing, manufacturing, labeling, storage, distribution, record keeping, advertising, promotion, import, export and marketing, among other things, of our product candidates are governed by extensive regulation by governmental authorities in the United States and other countries. The FDA, under the FDCA and PHSA, regulates biopharmaceutical products in the United States. The steps required before a product candidate may be approved for marketing in the United States generally include:

- preclinical laboratory tests and animal tests conducted under Good Laboratory Practices, or GLP;
- the submission to the FDA of an IND for human clinical testing, which must become effective before human clinical trials commence;
- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the product for each indication and conducted in accordance with Good Clinical Practices, or GCP;
- the preparation and submission to the FDA of a BLA;

- FDA acceptance, review and approval of the BLA, which might include an advisory committee review; and
- satisfactory completion of an FDA inspection of the manufacturing facilities at which the product, or components thereof, are made to assess compliance with cGMPs and in the case of cell-based advanced therapy, additionally, current Good Tissue Practices.

The testing and approval process typically requires many years and substantial effort and financial resources, and the receipt and timing of any approval is uncertain. The actual time required may vary substantially based upon the type, complexity, and novelty of the product or disease. For example, the FDA has, at times, taken longer than its usual 30-day window to complete its review of certain first-of-kind IND applications. In addition, the FDA may suspend clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unreasonable and significant health risk.

Preclinical and Human Clinical Trials in Support of a BLA

Preclinical studies generally include laboratory evaluations of product chemistry, formulation, and toxicity, as well as animal studies to assess the potential safety and bioactivity of the product candidate. The conduct of preclinical trials is subject to federal regulations and requirements including GLP regulations. The results of the preclinical studies, together with manufacturing information and analytical data, among other things, are submitted to the FDA as part of the IND, which must become effective before clinical trials may be commenced. The IND will become effective automatically 30 days after receipt by the FDA, unless the FDA raises concerns or questions about the conduct of the trials as outlined in the IND prior to that time. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can proceed. If outstanding concerns cannot be resolved, the FDA will place the clinical trial, or a portion of it, on clinical hold. A partial clinical hold stops new patients from enrolling in a clinical trial. A complete clinical hold further requires all patients currently enrolled to discontinue treatment with the product candidate being evaluated. The FDA may also initiate a clinical hold after the 30 days if, for example, significant public health risks arise during the trial, if FDA believes the study is not being conducted in accordance with FDA regulations, or if results from additional preclinical studies are required by the FDA to evaluate the potential risk and benefit to patients for such a trial. Clinical holds may be temporary or permanent.

Clinical trials involve the administration of the product candidate to human subjects under the supervision of qualified investigators in accordance with federal regulations, in compliance with GCP requirements, and in accordance with a protocol submitted to FDA as part of the IND detailing the objectives of the trial, the parameters used to monitor safety, and the effectiveness criteria, if any, to be evaluated. Each clinical trial and informed consent information must also be reviewed and approved by an independent IRB at each of the sites at which the trial will be conducted. The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions if it believes that the patients are subject to unacceptable risk.

Clinical trials to support BLAs for marketing approval are typically conducted in three sequential phases prior to approval, but the phases may overlap or be combined. These phases generally include the following:

Phase 1. Phase 1 clinical trials represent the initial introduction of a product candidate into human subjects. In Phase 1 trials of cellular therapies, the product candidate is tested for safety, including adverse effects.

Phase 2. Phase 2 clinical trials usually involve studies in a limited patient population to (i) evaluate the efficacy of the product candidate for specific indications, (ii) determine dosage tolerance and optimal dosage and (iii) identify possible adverse effects and safety risks.

Phase 3. If a product candidate is found to be potentially effective and to have an acceptable safety profile in Phase 2 clinical trials, the clinical trial program will be expanded to Phase 3 clinical trials to further demonstrate clinical efficacy, optimal dosage and safety within a larger number of patients, typically at geographically dispersed clinical trial sites.

Phase 4. Phase 4 clinical trials may be conducted after approval to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit in the case of drugs approved under accelerated approval regulations, or when otherwise requested by the FDA (post-approval commitments) or required by the FDA (post-approval requirements). Failure to promptly conduct any required Phase 4 clinical trials could result in enforcement action or withdrawal of approval.

A Phase 2/3 trial design is often used in the development of pharmaceutical and biological products. The trial includes Phase 2 elements, such as an early interim analysis of safety or activity, and Phase 3 elements, such as larger patient populations with less restrictive enrollment criteria. With appropriate statistical restrictions, an early interim analysis of clinical or physiologic activity and/or safety may provide for the trial to be stopped, changed or continued before a large number of patients have been enrolled, while still allowing all data from enrolled patients to count in the analysis used to support approval.

A pivotal trial is a clinical trial that is designed to meet regulatory requirements to demonstrate a product candidate's safety and efficacy to support the approval of the drug or biologic. Generally, pivotal trials are Phase 3 trials, but the FDA may accept results from any phase clinical trial if the design provides a well-controlled and reliable assessment of clinical benefit, particularly in situations in which there is an unmet medical need and the results are sufficiently robust.

The FDA, the IRB or the clinical trial sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Additionally, an independent group of qualified experts organized by the clinical trial sponsor, often known as a data safety monitoring board or committee, may oversee some clinical studies. Depending on the trial design, this group may provide authorization for whether or not a trial may move forward at designated check points based on access to certain data from the trial. We may also suspend or terminate a clinical trial based on evolving business objectives and the competitive climate.

Submission and Review of a BLA

The results of preclinical studies and clinical trials, together with detailed information on the product's manufacture, composition, quality, controls and proposed labeling, among other things, are submitted to the FDA in the form of a BLA, requesting approval to market the product. The cost of preparing and submitting a BLA is substantial. The application must also be accompanied by a significant user fee payment, which typically increases annually, although waivers may be granted in limited cases. Under an approved BLA, the applicant is also subject to an annual program fee. The FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the Agency's determination that it is adequately organized and sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has substantial discretion in the approval process and may refuse to accept an application or decide that the data are insufficient for approval and require additional preclinical, clinical or other studies.

Once a BLA has been accepted for filing, the FDA sets a user fee goal date that informs the applicant of the specific date by which the FDA intends to complete its review. The FDA has agreed to certain performance goals to complete the review of BLAs. This is typically ten months from the date that the FDA accepts the BLA for filing for standard review BLAs. Applications classified as Priority Review are reviewed within six months of the date the FDA accepts the BLA for filing. A BLA can be classified for Priority Review when the FDA determines the biologic product has the potential to treat a serious or life-threatening condition and, if approved, would be a significant improvement in safety or effectiveness compared to available therapies. The review process can be extended by FDA requests for additional information or clarification. The FDA reviews BLAs to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. The FDA may also refer applications for novel biologic products, or biologic products that present difficult questions of safety or efficacy, to be reviewed by an advisory committee—typically a panel that includes clinicians, statisticians and other experts—for review, evaluation, and a recommendation as to whether the BLA should be approved. The FDA is not bound by the recommendation of an advisory committee, but generally follows such recommendations.

Before approving a BLA, the FDA typically will inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facilities comply with cGMP. Additionally, the FDA will typically inspect one or more clinical trial sites for compliance with GCP and integrity of the data supporting safety and efficacy.

During the approval process, the FDA also will determine whether a REMS is necessary to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the application must submit a proposed REMS, and the FDA will not approve the application without an approved REMS, if required. A REMS can include medication guides, communication plans for healthcare professionals, and elements to assure a product's safe use, or ETASU. An ETASU can include, but is not limited to, special training or certification for prescribing or dispensing the product, dispensing the product only under certain circumstances, special monitoring, and the use of patient-specific registries. A REMS can substantially increase the costs of obtaining approval. The FDA could also require a special warning, known as a boxed warning, to be included in the product labeling in order to highlight a particular safety risk. The FDA may delay approval of a BLA if applicable regulatory criteria are not satisfied and/or the FDA requires additional testing or information. The FDA may require substantial post-marketing testing and surveillance to monitor safety or efficacy of a product.

On the basis of the FDA's evaluation of the BLA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA will issue either an approval of the BLA or a Complete Response Letter, detailing the deficiencies in the submission and the additional testing or information required for reconsideration of the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the BLA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. An approval letter authorizes commercial marketing and distribution of the biologic with specific prescribing information for specific indications. Even with submission of this additional information, the FDA may ultimately decide that the application does not satisfy the regulatory criteria for approval.

Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing. Changes to some of the conditions established in an approved BLA, including changes in indications, product labeling, manufacturing processes or facilities, require submission and FDA approval of a new BLA or BLA supplement before the change can be implemented. A BLA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing BLA supplements as it does in reviewing BLAs.

Expedited Review, Accelerated Approval Programs, and Breakthrough Therapy Designation

A sponsor may seek approval of its drug candidate under programs designed to accelerate FDA's review and approval of BLAs. For example, the FDA may grant Fast Track Designation to a drug intended for treatment of a serious or life-threatening disease or condition that has potential to address unmet medical needs for the disease or condition. The key benefits of fast track designation are the eligibility for priority review, rolling review (submission of portions of an application before the complete marketing application is submitted) and accelerated approval, if the application meets relevant criteria. Under the accelerated approval program, the FDA may approve a BLA on the basis of either 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. The FDA generally requires post-marketing studies or completion of ongoing studies after marketing authorization to verify the drug's clinical benefit in relationship to the surrogate endpoint or ultimate outcome in relationship to the clinical benefit.

Based on results of the Phase 3 clinical trials or trials submitted in a BLA, upon the request of an applicant, the FDA may grant the BLA a priority review designation, which sets the target date for FDA action on the application at six months after the FDA accepts the application for filing. The FDA grants priority review where there is evidence that the proposed drug would be a significant improvement in the safety or effectiveness of the treatment, diagnosis or prevention of a serious condition. If the criteria for priority review are not met, the application is subject to the standard FDA review period of ten months after FDA accepts the application for filing. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

In addition, a sponsor may seek FDA designation of its drug candidate as a breakthrough therapy if the drug can, alone or in combination with one or more other drugs, treat a serious or life threatening disease or condition and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. A breakthrough therapy designation allows companies to work earlier, more closely, and frequently with the FDA, and they may be eligible for priority review and accelerated approval. The sponsor of a new biologic product candidate may request that the FDA designate the candidate for a specific indication as a Breakthrough Therapy concurrent with, or after, the submission of the IND for the biologic product candidate. The FDA must determine if the biological product qualifies for Breakthrough Therapy designation within 60 days of receipt of the sponsor's request.

Special Protocol Assessment

A company may reach an agreement with FDA under the SPA process as to the required design and size of clinical trials intended to form the primary basis of an efficacy claim. Under the FDCA and FDA guidance implementing the statutory requirement, an SPA is generally binding upon the FDA except in limited circumstances, such as if the FDA identifies a substantial scientific issue essential to determining safety or efficacy after the clinical trial begins, public health concerns emerge that were unrecognized at the time of the protocol assessment, the sponsor and FDA agree to the change in writing, or if the clinical trial sponsor fails to follow the protocol that was agreed upon with the FDA.

Regenerative Medicine Advanced Therapies and Priority Medicine Designation

Cell-based advanced therapies intended to treat, modify, reverse or cure a serious medical condition can receive RMAT designation from the FDA once preliminary clinical evidence has been obtained demonstrating the therapy has the potential to address unmet medical needs for the condition. Similar to breakthrough therapy designation, the RMAT allows companies developing regenerative medicine therapies to work earlier, more closely, and frequently with the FDA, and RMAT-

designated products may be eligible for priority review and accelerated approval. Interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. The timing of a sponsor's request for designation and FDA response are the same as for the breakthrough therapy designation program. Like the other expedited development programs previously mentioned, RMAT designation does not change the scientific or medical standard for approval or the quality of evidence necessary to support approval. In Europe, the EMA can grant PRIority MEdicine, or PRIME, designation to support development of product candidates that may address unmet needs and improve quality of life, based on the potential to benefit patients from early clinical data.

Disclosure of Clinical Trial Information

Sponsors of clinical trials of FDA-regulated products, including biological products, are required to register and disclose certain clinical trial information on the website www.clintrials.gov. Information related to the product, patient population, phase of investigation, trial sites and investigators, and other aspects of a clinical trial are then made public as part of the registration. Sponsors are also obligated to disclose the results of their clinical trials after completion. Disclosure of the results of clinical trials can be delayed in certain circumstances for up to two years after the date of completion of the trial. Competitors may use this publicly available information to gain knowledge regarding the progress of clinical development programs as well as clinical trial design.

Orphan Drugs

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug intended to treat a rare disease or condition affecting fewer than 200,000 individuals in the United States, or in other limited cases. Orphan drug designation must be requested before submitting a BLA. If the FDA grants orphan drug designation, the identity of the biological product and its potential orphan disease 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, though companies developing orphan drugs may be eligible for certain incentives, including tax credits for qualified clinical testing. In addition, a BLA for a product that has received orphan drug designation is not subject to a prescription drug user fee unless the application includes an indication other than the rare disease or condition for which the drug was designated.

Generally, if a product that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications to market the same active moiety for the same indication for seven years, except in limited circumstances, such as another drug's showing of clinical superiority over the drug with orphan exclusivity. A product can be considered clinically superior if it is safer, more effective or makes a major contribution to patient care. Competitors, however, may receive approval of different active moieties for the same indication or obtain approval for the same active moiety for a different indication. In some cases, orphan drug status is contingent on a product with an orphan drug designation demonstrating that it is clinically superior to a previously approved product or products.

Pediatric Information

Under the Pediatric Research Equity Act, or PREA, NDAs or BLAs or supplements to NDAs or BLAs must contain data to assess the safety and effectiveness of the biological product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the biological product is safe and effective. The FDA may grant full or partial waivers, or deferrals, for submission of data. Unless otherwise required by regulation, PREA does not apply to any biological product with orphan product designation except a product with a new active ingredient that is a molecularly targeted cancer product intended for the treatment of an adult cancer and

directed at a molecular target determined by FDA to be substantially relevant to the growth or progression of a pediatric cancer that is subject to an NDA or BLA submitted on or after August 18, 2020.

Additional Controls for Biologics

To help reduce the increased risk of the introduction of adventitious agents, the PHSA emphasizes the importance of manufacturing controls for products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend biologics licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction or spread of communicable diseases within the United States.

After a BLA is approved, the product may also be subject to official lot release as a condition of approval. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the lot manufacturing history and the results of all of the manufacturer's tests performed on the lot. The FDA may also perform certain confirmatory tests on lots of some products, such as viral vaccines, before allowing the manufacturer to release the lots for distribution. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products. As with drugs, after approval of a BLA, biologics manufacturers must address any safety issues that arise, are subject to recalls or a halt in manufacturing, and are subject to periodic inspection after approval.

Biosimilars

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, creates an abbreviated approval pathway for biological products shown to be highly similar to or interchangeable with an FDA-licensed reference biological product. Biosimilarity sufficient to reference a prior FDA-approved product requires that there be no differences in conditions of use, route of administration, dosage form, and strength, and no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency. Biosimilarity must be shown through analytical trials, animal trials, and a clinical trial or trials, unless the Secretary of Health and Human Services waives a required element. A biosimilar product may be deemed interchangeable with a previously approved product if it meets the higher hurdle of demonstrating that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. To date, a small number of biosimilar products and no interchangeable products have been approved under the BPCIA. Complexities associated with the larger, and often more complex, structures of biological products, as well as the process by which such products are manufactured, pose significant hurdles to biosimilar product implementation, which is still being evaluated by the FDA.

A reference biologic is granted 12 years of exclusivity from the time of first licensure, or BLA approval, of the reference product, and no application for a biosimilar can be submitted for four years from the date of licensure of the reference product. The first biologic product submitted under the biosimilar abbreviated approval pathway that is determined to be interchangeable with the reference product has exclusivity against a finding of interchangeability for other biologics for the same condition of use for the lesser of (i) one year after first commercial marketing of the first interchangeable biosimilar, (ii) 18 months after the first interchangeable biosimilar is approved if there is no patent challenge, (iii) 18 months after resolution of a lawsuit over the patents of the reference biologic in favor of the first interchangeable biosimilar applicant, or (iv) 42 months after the first interchangeable biosimilar's application has been approved if a patent lawsuit is ongoing within the 42-month period.

Post-Approval Requirements

Approved drugs and biologics that are manufactured or distributed in the United States pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the Internet. Biologics may be marketed only for the approved indications and in a manner consistent with the provisions of the approved labeling and reporting of adverse experiences with the product.

The FDA may impose a number of post-approval requirements as a condition of approval of a BLA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance programs to further assess and monitor the product's safety and effectiveness after commercialization or the FDA may place conditions on an approval that could restrict the distribution or use of the product. The FDA may also require a REMS, which could involve requirements for, among other things, medication guides, special trainings for prescribers and dispensers, patient registries and elements to assure safe use.

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

Once an approval is granted, the FDA may issue enforcement letters or withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Corrective action could delay product distribution and require significant time and financial expenditures. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information, imposition of post-market studies or clinical trials to assess new safety risks or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

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

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have

improperly promoted off-label uses may be subject to significant liability, including investigation by federal and state authorities.

Foreign Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical trials or marketing of the product in foreign countries and jurisdictions. Although many of the issues discussed above with respect to the United States apply similarly in the context of the European Union and other geographies, the approval process varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Coverage, Reimbursement and Pricing

Significant uncertainty exists as to the coverage and reimbursement status of any products for which we may obtain regulatory approval. In the United States and foreign markets, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the availability of coverage and the adequacy of reimbursement from third-party payors. Third-party payors include government authorities and private entities, such as managed care organizations, private 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 reimbursement rate that the payor will pay for the product. Third-party payors may limit coverage to specific products on an approved list, or formulary, which might not include all of the FDA-approved products for a particular indication. Moreover, a third-party payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. For example, the payor's reimbursement payment rate may not be adequate or may require co-payments that patients find unacceptably high. Additionally, coverage and reimbursement for products can differ significantly from payor to payor. 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. Further, some third-party payors may require pre-approval of coverage for new or innovative devices or drug therapies before they provide reimbursement for use of such therapies.

Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of products and services, in addition to their safety and efficacy. To obtain coverage and reimbursement for any product that might be approved for sale, we may need to conduct expensive pharmaco-economic studies to demonstrate the medical necessity and cost-effectiveness of our product. These studies will be in addition to the studies required to obtain regulatory approvals. If third-party payors do not consider a product to be cost-effective compared to other available therapies, they may not cover the product after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow a company to sell its products at a profit. Thus, obtaining and maintaining reimbursement status is time-consuming and costly.

The U.S. and foreign governments regularly consider reform measures that affect healthcare coverage and costs. For example, the U.S. and state legislatures have shown significant interest in implementing cost containment programs to limit the growth of government-paid health care costs,

including price controls, restrictions on reimbursement and requirements for substitution of generic products for branded prescription products. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the ACA, contains provisions that may reduce the profitability of products, including, for example, increased rebates for products sold to Medicaid programs, extension of Medicaid rebates to Medicaid managed care plans, mandatory discounts for certain Medicare Part D beneficiaries and annual fees based on pharmaceutical companies' share of sales to federal health care programs. The Centers for Medicare and Medicaid Services, or CMS, may develop new payment and delivery models, such as bundled payment models. Adoption of government controls and measures, and tightening of restrictive policies in jurisdictions with existing controls and measures, could limit payments for our products.

The marketability of any products 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, the focus on cost containment measures, particularly in the United States, has increased and we expect will continue to increase the pressure on pharmaceutical pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if we attain favorable coverage and reimbursement status for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

European Union Coverage Reimbursement and Pricing

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that drug products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular drug candidate to currently available therapies, or so called health technology assessments, in order to obtain reimbursement or pricing approval.

For example, the European Union provides options for its member states to restrict the range of drug products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union member states may approve a specific price for a drug product or may instead adopt a system of direct or indirect controls on the profitability of the company.

Healthcare Laws and Regulations

Physicians, other healthcare providers, and third-party payors will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors are and will be subject to various federal, state and foreign fraud and abuse laws and other healthcare laws and regulations. These laws and regulations may impact, among other things, our arrangements with third-party payors, healthcare professionals who participate in our clinical research programs, healthcare professionals and others who purchase, recommend or prescribe our approved products, and our proposed sales, marketing, distribution and education programs. The U.S. federal and state healthcare laws and regulations that may affect our ability to operate include, without limitation, the following:

- The federal Anti-Kickback Statute, which prohibits persons from, among other things, knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federally funded healthcare programs, such as Medicare and Medicaid. The term "remuneration" has been broadly interpreted to include anything of value;
- The federal civil and criminal false claims laws, including, without limitation, the federal civil monetary penalties law and the civil False Claims Act (which can be enforced by private

citizens through qui tam actions), prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment of federal funds, and knowingly making, or causing to be made, a false record or statement material to a false or fraudulent claim to avoid, decrease or conceal an obligation to pay money to the federal government;

- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which creates federal criminal laws that prohibit, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, which imposes certain obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information without the appropriate authorization by entities subject to the law, such as certain healthcare providers, health plans and healthcare clearinghouses and their respective business associates who use, disclose, store or otherwise process HIPAA-protected health information on their behalf;
- The federal transparency requirements under the Physician Payments Sunshine Act, created under the ACA, which requires certain manufacturers of drugs, devices, biologics and medical supplies reimbursed under Medicare, Medicaid or the Children's Health Insurance Program, or CHIP, to report to HHS information related to payments and other transfers of value provided to physicians and teaching hospitals and physician ownership and investment interests;
- Analogous state laws and regulations, such as state anti-kickback and false claims laws, that impose similar restrictions and may apply to items or services reimbursed by non-governmental third-party payors, including private insurers;
- State laws that require pharmaceutical companies to implement compliance programs, comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or to track and report gifts, compensation and other remuneration provided to physicians and other health care providers;
- State and local laws requiring the registration of pharmaceutical sales representatives;
- State health information privacy and data breach notification laws, which govern the collection, use, disclosure and protection of health-related and other personal information, many of which differ from each other in significant ways and often are not pre-empted by HIPAA, thus complicating compliance efforts; and
- State unfair and deceptive trade practices statutes, pursuant to which significant statutory fines and penalties can be imposed against pharmaceutical companies alleged to have engaged in consumer fraud.

We will be required to spend substantial time and money to ensure that our business arrangements with third parties comply with applicable healthcare laws and regulations. Recent healthcare reform legislation has strengthened these federal and state healthcare laws. For example, the ACA amends the intent requirement of the federal Anti-Kickback Statute and criminal healthcare fraud statutes to clarify that liability under these statutes does not require a person or entity to have actual knowledge of the statutes or a specific intent to violate them. Moreover, the ACA provides that the government may assert 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 civil False Claims Act. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

If we are found to be in violation of these laws, we may be subject to criminal, civil and administrative sanctions including monetary penalties, damages, fines, disgorgement, individual

imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of noncompliance with these laws, and reputational harm, in which case we may be required to curtail or restructure our operations. Moreover, we expect that there will continue to be federal and state laws and regulations, proposed and implemented, that could impact our future operations and business.

Healthcare Reform

The legislative landscape in the United States continues to evolve. There have been a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the United States federal and state levels that seek to reduce healthcare costs. In March 2010, the ACA was enacted, which includes measures that have significantly changed health care financing by both governmental and private insurers. The provisions of the ACA of importance to the pharmaceutical and biotechnology industry are, among others, the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drug agents or biologic agents, which is apportioned among these entities according to their market share in certain government healthcare programs;
- an increase in the rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price for branded and generic drugs, respectively;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts to 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;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations, unless the drug is subject to discounts under the 340B drug discount program;
- 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;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements under the federal Physician Payments Sunshine Act for drug manufacturers to report information related to payments and other transfers of value made to physicians and teaching hospitals as well as ownership or investment interests held by physicians and their immediate family members;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct, comparative clinical effectiveness research, along with funding for such research;
- creation of the Independent Payment Advisory Board, which, if and when impaneled, will have authority to recommend certain changes to the Medicare program that could result in reduced payments for prescription drugs; and
- establishment of a Center for Medicare and Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Some of the provisions of the ACA have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the ACA, as well as recent efforts by the Trump

administration to repeal or replace certain aspects of the ACA. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. The Tax Cuts and Jobs Act of 2017 includes a provision repealing the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandates". Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA to increase from 50 percent to 70 percent the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Congress could consider other legislation to repeal or replace certain elements of the ACA.

In addition, other federal health reform measures have been proposed and adopted in the United States since the ACA was enacted. For example, as a result of the Budget Control Act of 2011, providers are subject to Medicare payment reductions of 2% per fiscal year which went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2027 unless additional Congressional action is taken. However, the Medicare sequester reductions under the Budget Control Act of 2011 will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. Further, the American Taxpayer Relief Act of 2012 reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments from providers from three to five years. The Medicare Access and CHIP Reauthorization Act of 2015 also introduced a quality payment program under which certain individual Medicare providers will be subject to certain incentives or penalties based on new program quality standards. Payment adjustments for the Medicare quality payment began in 2019. At this time, it is unclear how the introduction of the quality payment program will impact overall physician reimbursement under the Medicare program. Further, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which have resulted in several recent Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies for products. Further, the Trump administration released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase drug manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products, and reduce the out of pocket costs of drug products paid by consumers. The HHS has already started the process of soliciting feedback on some of these measures and, at the same, is immediately implementing others under its existing authority. While some proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs.

At the state level, individual states in the United States have also become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other

healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

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 Conservation and Recovery Act and the Toxic Substances Control Act, affect our business. These and other laws govern the use, handling and disposal of various biologic, chemical and radioactive substances used in, and wastes generated by, 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. Equivalent laws have been adopted in foreign countries that impose similar obligations.

Anti-Corruption Laws

The Foreign Corrupt Practices Act, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. §201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. These anti-corruption laws prohibit 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. This could become relevant in the conduct of international clinical trials where the sites for such trials may be a government-owned hospital. 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. Activities that violate the FCPA, even if they occur wholly outside the United States, can result in criminal and civil fines, imprisonment, disgorgement, oversight and debarment from government contracts.

Foreign Regulation

In addition to regulations in the U.S., we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our products to the extent we choose to develop or sell any products outside of the U.S. The approval process varies from country to country and the time may be longer or shorter than that required to obtain FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

Competition

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

Our known biopharmaceutical competitors developing allogeneic CAR-NK or CAR-T therapies currently include Allogene, Celyad, CRISPR Therapeutics, Fate Therapeutics, NantKwest, Precision BioSciences and Takeda, each of which has clinical-stage allogeneic programs, as well as numerous other biopharmaceutical companies including Astellas and Gilead with earlier-stage allogeneic programs. Furthermore, a number of companies are seeking to harness NK or T cell biology through engagers which seek to direct a patient's own NK or T cells to the site of a tumor. Such competitors

include Affimed, Amgen, Dragonfly Therapeutics, Innate Pharma, Servier and other biopharmaceutical companies. In addition, numerous academic institutions are conducting preclinical and clinical research in these areas. Furthermore, a number of biopharmaceutical companies and academic groups are focused on engineering other white blood cell types including NKT cells and gamma-delta T cells, which may offer some of the same advantages as engineered NK cells. Finally, research in immuno-oncology is one of the most active areas for the discovery and clinical development of new anticancer therapies in the biopharmaceutical industry. New approaches, such as bispecific antibodies, as well as refinements of existing modalities, such as immune checkpoint inhibitors, are constantly emerging.

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

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other 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. The key competitive factors affecting the success of all of our programs are likely to be their efficacy, safety, convenience, price and degree of reimbursement.

Facilities

Our facilities are located at two adjacent leased sites. The first, located at 6000 Shoreline Court, Suites 102, 204 and 325, South San Francisco, California, consists of 28,469 square feet of office and laboratory space and is primarily used for research, clinical, manufacturing and corporate activities. Our lease on this facility expires in the first quarter of 2029, and with an option to extend this lease for an additional seven years. The second site, located at 7000 Shoreline Court, South San Francisco, California, consists of 340 square feet of vivarium space and an additional 215 square feet of shared laboratory space, and is primarily used for preclinical research. Our lease on this facility expires April 2021 with options to renew for multiple one-year terms thereafter.

Employees

As of April 30, 2020, we had 62 full-time employees, 27 of whom have Ph.D. or M.D. degrees. Of these full-time employees, 53 employees are engaged in research and development activities and 9 employees are engaged in finance, business development and other general and administrative functions. We have no collective bargaining agreements with our employees and we have not experienced any work stoppages. We consider our relations with our employees to be good.

Legal Proceedings

From time to time, we may become involved in litigation or other legal proceedings relating to claims arising from the ordinary course of business. There are currently no claims or actions pending against us that, in the opinion of our management, are likely to have a material adverse effect on our business, results of operations, financial condition or growth prospects. There are ongoing *ex parte* re-examinations for one of our patents.

On August 1, 2018, a third party requested *ex parte* re-examination of certain claims of U.S. Patent No. 9,511,092, which relates generally to chimeric receptor complexes that bind certain specific natural

killer cell ligands and methods of using natural killer cells. U.S. Patent No. 9,511,092 does not relate to our current product candidates but may relate to future product candidates or alternative technologies. This first re-examination by the USPTO is currently pending. On August 2, 2019, a third party requested an *ex parte* re-examination on the remaining claims of U.S. Patent No. 9,511,092. This second re-examination by the USPTO is currently pending. Although we plan to vigorously protect our intellectual property rights, as with all legal proceedings, there can be no guarantee as to the outcome, and, regardless of the merits of third-party challenges, such proceedings are time-consuming and costly. As a result of such re-examinations, our rights under the relevant patents could be narrowed or lost, and in the course of such proceedings, we may incur substantial costs and our the time and attention of our management may be diverted from the development and commercialization of our product candidates.

MANAGEMENT

Executive Officers and Directors

The following table sets forth information regarding our executive officers, directors and key employee as of April 30, 2020:

Name	Age	Position(s) Held
Executive Officers and Employee Directors		
Paul Hastings	60	President, Chief Executive Officer and Director
Nadir Mahmood, Ph.D.	40	Chief Business Officer
Matthew Plunkett, Ph.D.	48	Chief Financial Officer
Kanya Rajangam, M.D., Ph.D.	46	Chief Medical Officer
James Trager, Ph.D.	57	Chief Scientific Officer
Key Employee		
Ralph Brandenberger, Ph.D.	51	Vice President, Technical Operations
Non-Employee Directors		
Ali Behbahani, M.D.(1)(3)	44	Chairman and Director
Tiba Aynechi, Ph.D.(2)	44	Director
Fouad Azzam, Ph.D.(1)	53	Director
Michael Dybbs, Ph.D.(2)(3)	45	Director
Simeon George, M.D.(2)	43	Director
Leone Patterson, MBA(1)	57	Director
Zachary Scheiner, Ph.D.(3)	43	Director
Laura Shawver, Ph.D.	62	Director

(1) Member of the audit committee.

(2) Member of the compensation committee.

(3) Member of nominating and corporate governance committee.

Executive Officers and Employee Directors

Paul Hastings has served as our President, Chief Executive Officer and a member of our board of directors since February 2018. Prior to that, Mr. Hastings served as the President, Chief Executive Officer and Director of OncoMed Pharmaceuticals, Inc., from January 2006 until January 2018. In August 2013, he was elected chairman of the board of directors of OncoMed, Inc., or OncoMed, and served in that role until January 2018. Prior to joining OncoMed, Mr. Hastings was President, Chief Executive Officer and Director of QLT, Inc., a publicly traded biotechnology company dedicated to the development and commercialization of innovative ocular products, from February 2002 to September 2006. From 2000 to 2002, Mr. Hastings served as President, Chief Executive Officer and Director of Axys Pharmaceuticals, Inc., which was acquired by Celera Corporation in 2001. From 1999 to 2001, Mr. Hastings served as President of Chiron Biopharmaceuticals, a division of Chiron Corporation. From 1998 to 1999, Mr. Hastings was President and Chief Executive Officer of LXR Biotechnology. From 1994 to 1998, Mr. Hastings held a variety of management positions of increasing responsibility at Genzyme Corporation, including President of Genzyme Therapeutics Europe and President of Worldwide Therapeutics. From October 2012 to September 1, 2016, Mr. Hastings served on the board of directors of Relypsa, a publicly traded biotechnology company, where he served as chairman of its compensation committee and a member of its nominating and corporate governance committee. From September 2008 to November 2009, Mr. Hastings also served as chairman of the board of directors of Proteolix, Inc., which was acquired by Onyx Pharmaceuticals in 2009. From November 2000 to November 2007, Mr. Hastings also served on the board of directors of ViaCell, Inc., a publicly traded biotechnology company that was sold to Perkin Elmer in 2007. Mr. Hastings currently serves as Lead

Director of Pacira Biosciences, Inc., a publicly traded biotechnology company, as a Director and chair of the compensation committee of ViaCyte, Inc., a privately held regenerative medicine company developing novel cell replacement therapies, and as the Vice Chair and a member of the Executive Committee of the Biotechnology Innovation Organization. Mr. Hastings received a B.S. degree in pharmacy from the University of Rhode Island. We believe Mr. Hastings' qualifications to sit on our board includes extensive experience in the pharmaceutical and biotechnology industries.

Nadir Mahmood, Ph.D. has served as our Chief Business Officer since September of 2019, and as our Senior Vice President, Corporate Development from May 2018 to September 2019. Prior to joining our company, Dr. Mahmood served as the Senior Director, Corporate Development at Second Genome, Inc., a privately held biopharmaceutical company, from December 2016 to May 2017, and as the Director, External Alliances at Second Genome, Inc. from March 2012 to December 2016. From September 2011 to March 2012, he was an independent consultant. Dr. Mahmood was an Equity Research Fellow in Global Investment Research at Goldman Sachs, Inc. from January 2011 to July 2011. Prior to joining Goldman Sachs, he conducted postdoctoral research as a Research Associate at the Scripps Research Institute in La Jolla, CA from August 2009 to January 2011. Dr. Mahmood began his career as Staff Scientist at Kythera Biopharmaceuticals, Inc. (which was acquired by Allergen), from July 2007 to July 2009. He received a B.S. degree in biochemistry from the University of Texas at Austin and a Ph.D. in cell regulation from the University of Texas Southwestern Medical Center at Dallas.

Matthew Plunkett, Ph.D. has served as our Chief Financial Officer since September 2019, and as our Senior Vice President and Chief Financial Officer from November 2018 to September 2019. Previously Dr. Plunkett was Chief Financial and Business Officer of Medeor Therapeutics, Inc., a clinical-stage biotechnology company**,** from September 2017 to November 2018. Prior to that, he was the Chief Business Officer at CTI BioPharma Corp., a publicly held biopharmaceutical company, from December 2015 to August 2017, and Executive Vice President, Corporate Development from September 2012 to December 2015. From November 2011 to August 2012, he was the Chief Financial Officer of the California Institute for Regenerative Medicine. Dr. Plunkett was the Vice President and Chief Financial Officer of iPierian, Inc. (which was acquired by Bristol-Myers Squibb) from July 2009 to April 2011. From December 2000 to July 2009, Dr. Plunkett held positions at Oppenheimer & Co. Inc. and its U.S. predecessor, CIBC World Markets Corp., including serving as Managing Director, Head of West Coast Biotechnology from December 2008 to July 2009, and Executive Director, Head of West Coast Biotechnology from January 2008 to December 2008. He began his scientific career at Sunesis Pharmaceuticals, Inc., where he worked from 1998 to 2000, and at Axys Pharmaceuticals, Inc., where he worked from 1996 to 1998. Dr. Plunkett received his B.S. degree in chemistry from Harvey Mudd College and a Ph.D. in organic chemistry from the University of California, Berkeley.

Kanya Rajangam, M.D., Ph.D. has served as our Chief Medical Officer since September 2019, and as our Senior Vice President and Chief Medical Officer from December 2018 to September 2019. Previously, Dr. Rajangam was Senior Vice President and Chief Medical Officer at Atara Biotherapeutics, Inc., a publicly held allogeneic T-cell immunotherapy company, from August 2017 to September 2018. She was Chief Medical Officer at Cleave Biosciences from December 2016 to July 2017 and Vice President of Clinical Development from June 2015 to December 2016. Previously, she was Executive Director at Nektar Therapeutics, a publicly held biopharmaceutical company, from March 2015 to May 2015. Prior to that, she held positions of increasing responsibility at Onyx Pharmaceuticals, Inc. from April 2011 to February 2015, including as Senior Medical Director. Before that, she served at Exelixis, Inc. from January 2008 to April 2011 in positions of increasing responsibility, including as Associate Medical Director. She was a research scientist at Baxter Healthcare, Inc. from November 2006 to December 2007. Dr. Rajangam received her medical degree from St. John's Medical College Bangalore University in 1996, and subsequently completed her

general surgical residency at PGIMER, Chandigarh, India. She received a Ph.D. in biomedical engineering from Northwestern University in 2006.

James Trager, Ph.D. has served as our Chief Scientific Officer since December 2019 and as our Senior Vice President, Research & Development from September 2016 to December 2019. He previously served at Dendreon from September 2003 to August 2016 in roles of increasing responsibility, including as Vice President of Research and Development from 2014 to 2016. Dr. Trager began his career at Geron Corp., where from 1995 to 2003, he worked in Research and in Quality Control. Dr. Trager received a B.A. degree in philosophy from St. John's College in New Mexico. After graduating from St. John's College, Dr. Trager served two years as a Peace Corps volunteer in the Central African Republic. He received his Ph.D. in Molecular Biology and Biochemistry from the University of California, Berkeley.

Key Employee

Ralph Brandenberger, Ph.D. has served as our Vice President Technical Operations since January 2020, as our Vice President Development & Manufacturing from January 2019 to January 2020, and as Senior Director, Process Development & Manufacturing from April 2018 to January 2019. Prior to joining our company, he served as Senior Director Process Development at Neurona Therapeutics, a privately held pre-clinical stage cell therapy company, from May 2016 to March 2018. From November 2012 to April 2016, he held positions at Baxter Healthcare, a publicly held healthcare company primarily focusing on products to treat hemophilia, kidney disease, immune disorders and other chronic and acute medical conditions, and its spinoff Baxalta, including as Head of Technical Operations at the Hayward, CA location. From August 2001 to June 2012 he held positions of increasing responsibility at Geron Corp., a publicly held clinical stage stem cell therapy company, including as Director of Process Sciences. Dr. Brandenberger started his scientific career at Celera Genomics, a genetic sequencing company which was acquired by Quest Diagnostics, where he worked from August 2000 to August 2001. Prior to joining Celera Genomics, Dr. Brandenberger conducted post-doctoral research at the Howard Hughes Medical Institute at the University of California in San Francisco, from June 1996 to August 2000. Dr. Brandenberger received his M.S. in Biology II (Biochemistry, Molecular Biology and Biophysical Chemistry) and Ph.D. in Cell Biology from the Biocenter, University of Basel, Switzerland.

Non-Employee Directors

Ali Behbahani, M.D. has served as our Chairman since August 2019, and on our board of directors since October 2015. Dr. Behbahani joined New Enterprise Associates, Inc., or NEA, in 2007 and is a General Partner on the healthcare team. Dr. Behbahani also currently serves as a member of the board of directors of CRISPR Therapeutics AG, Adaptimmune Therapeutics, Genocea Biosciences, Inc., Black Diamond Therapeutics, Inc., Oyster Point Pharma, Inc., and several other privately held companies. Prior to joining NEA, Dr. Behbahani served as a consultant in business development at The Medicines Company, a pharmaceutical company. In addition, Dr. Behbahani formerly served as a Venture Associate at Morgan Stanley and as a Healthcare Investment Banking Analyst at Lehman Brothers. Dr. Behbahani received an M.D. from the University of Pennsylvania School of Medicine, an M.B.A. from the Wharton School of the University of Pennsylvania and a B.S. in Biomedical Engineering, Electrical Engineering and Chemistry from Duke University. We believe Dr. Behbahani's experience in the biopharmaceutical industry, as well as his experience as a member on the boards of directors of multiple companies in the industry, qualifies him to serve on our Board.

Tiba Aynechi, Ph.D. has served on our board of directors since October 2015. Dr. Aynechi is employed as a senior partner at Novo Ventures (US) Inc., which provides certain consultancy services to Novo Holdings A/S, a Danish limited liability company that manages investments and financial assets. Novo Holdings A/S is a holder of 5% or more of our capital stock. Previously, from June 2006

to March 2010, Dr. Aynechi was employed by Burrill & Company LLC, a financial firm specializing in biotechnology and life sciences investment, in various positions, including from January 2009 to March 2010 as a director in merchant banking where she was responsible for regional and cross-border mergers and acquisitions, licensing, and financing transactions. Dr. Aynechi currently serves as a director at Mirum Pharmaceutics, Inc., a Nasdaq listed clinical-stage biopharmaceutical company. Previously, she served as a director at iRhythm Technologies, Inc., a Nasdaq listed digital healthcare company, from May 2014 to April 2017, and as a director of AnaptysBio, Inc., a biotechnology company, from April 2015 until its initial public offering in January 2017. She has also served as a member of the board of directors of several private biotechnology and medical device companies. Dr. Aynechi received her B.S. in physics from the University of California, Irvine. She received her Ph.D. in biophysics from the University of California, San Francisco, where her research involved developing computational methods for drug discovery. We believe Dr. Aynechi is qualified to serve on our board of directors because of her scientific training and business experience, including experience as a venture capitalist and serving on the boards of directors of various healthcare and life science companies.

Fouad Azzam, Ph.D. has served on our board of directors since August 2019. Dr. Azzam joined and became a General Partner of LSP, one of Europe's leading healthcare investment firms, in 2007. Prior to joining LSP, Dr. Azzam was the Managing Director of Eastman Ventures, the investment arm of Eastman Chemical Company. Prior to his role at Eastman Ventures, Dr. Azzam held senior leadership positions at Eastman Chemical including roles in Innovation, Corporate Strategy, Corporate Development (M&A) and New Business Development. Dr. Azzam currently serves as a Director at several private companies. Dr. Azzam received a B.S., M.S. and Ph.D. in Chemical Engineering from the University of Akron. He received an M.B.A. in Finance & Strategy from the State University of New York at Buffalo. We believe that Dr. Azzam is qualified to serve on our board of directors because of his extensive experience in the life sciences industry, his service on the boards of directors of other life sciences companies and his investing experience.

Michael Dybbs, Ph.D. has served on our board of directors since August 2019. Dr. Dybbs is currently a partner at Samsara BioCapital, where he has worked since March 2017. Prior to joining Samsara, Dr. Dybbs was a partner at New Leaf Venture Partners, L.L.C., where he worked from May 2009 until September 2016. Before joining New Leaf Venture Partners, L.L.C., Dr. Dybbs was a principal at the Boston Consulting Group. Dr. Dybbs currently serves on the board of Sutro Biopharma, Inc. and as a director of several private companies. Dr. Dybbs previously served on the boards of directors of Versartis, Inc. and Dimension Therapeutics, Inc. Dr. Dybbs received an A.B. in biochemical sciences from Harvard College and a Ph.D. in molecular biology from the University of California, Berkeley, where he was awarded a Howard Hughes Medical Institute fellowship. We believe that Dr. Dybbs is qualified to serve on our board of directors due to his experience in the life sciences industry and the venture capital industry, and his leadership and management experience.

Simeon George, M.D. has served on our board of directors since February 2020, and from July 2015 to September 2017. Dr. George joined S.R. One, Limited in September 2007 as an Associate and later became Partner, and since February 2019 has served as Chief Executive Officer. From 2006 to 2007, Dr. George was a consultant at Bain & Company, and in 2004 he was an investment banker at Goldman Sachs and Merrill Lynch. Dr. George currently serves on the boards of directors of the following public companies: Bird Rock Bio (since May 2009), CRISPR Therapeutics (since April 2015), eFFECTOR Therapeutics (since May 2013), Principia Biopharma Inc. (since February 2011), and Turning Point Therapeutics, Inc. (since May 2017). Dr. George also served on the boards of directors of HTG Molecular Diagnostics, Inc., from June 2011 until October 2015, Genocea Biosciences, Inc., from February 2009 to December 2014, and Semprus BioSciences (which was acquired by Teleflex in 2012) Dr. George received his B.A. in neuroscience from the Johns Hopkins University, where he graduated Phi Beta Kappa. He received his M.D. from the University of Pennsylvania School of

Medicine and his M.B.A. (Mayer Scholar) from the Wharton School of the University of Pennsylvania. We believe that Dr. George is qualified to serve on our board of directors due to his experience in the life sciences industry and the venture capital industry, and his leadership and management experience.

Leone Patterson, MBA has served on our board of directors since April 2020. Ms. Patterson currently serves as the president, chief executive officer, and a director of Adverum Biotechnologies, Inc., a public clinical-stage gene therapy company targeting unmet medical needs for serious ocular and rare diseases. Ms. Patterson joined Adverum in June 2016 as chief financial officer and has served as chief executive officer since May 2018, director since October 2018, and president since December 2019. Ms. Patterson has 20 years of experience in the biotechnology industry. Previously, Ms. Patterson served as the chief financial officer of Diadexus, Inc., a publicly traded diagnostics company developing and commercializing products that aid in the prediction of cardiac disease risk, from May 2015 to June 2016. Diadexus voluntarily filed for Chapter 7 bankruptcy in June 2016 while Ms. Patterson was its chief financial officer. Prior to that, Ms. Patterson was vice president and chief financial officer of Transcept Pharmaceuticals, Inc. from June 2012 until it was acquired by Paratek Pharmaceuticals Inc. in October 2014. Previously, Ms. Patterson served as vice president and global corporate controller of NetApp, Inc., from November 2010 to June 2012. In addition, Ms. Patterson was vice president of finance at Exelixis, Inc., from July 2007 to November 2010. Earlier in her career, Ms. Patterson worked at Novartis AG as vice president of global business planning and analysis after working at Chiron, which was acquired by Novartis AG. Ms. Patterson began her career at KPMG working in the firm's audit practice. Ms. Patterson earned a B.S. in Business Administration and Accounting from Chapman University and an Executive M.B.A. from St. Mary's College. Ms. Patterson is also a Certified Public Accountant (inactive status). We believe that Ms. Patterson is qualified to serve on our board of directors due to her experience in the life sciences industry, and her leadership, financial and management experience.

Zachary Scheiner, Ph.D. has served on our board of directors since February 2020. Dr. Scheiner joined RA Capital Management, L.P. in April 2015 as an associate, became an analyst in April 2017, and has been a principal since December 2017. Prior to joining RA Capital, Dr. Scheiner was a science officer at the California Institute for Regenerative Medicine (CIRM), where he worked from September 2008 to March 2015. Dr. Scheiner currently serves as a director at two privately held companies. Dr. Scheiner received his B.S. in Molecular Biophysics and Biochemistry from Yale University in 1997, and his Ph.D. in Neurobiology and Behavior from the University of Washington in 2007. We believe that Dr. Scheiner is qualified to serve on our board of directors due to his experience in the life sciences industry and his investing experience.

Laura Shawver, Ph.D., has served on our board of directors since March 2020. Dr. Shawver was most recently president, chief executive officer and director of Synthorx, Inc., a publicly traded clinical-stage biotechnology company focused on engineered biologics for cancer and autoimmune disorders, from November of 2017 through its acquisition by Sanofi in January 2020. She was also the chief executive officer of Cleave Biosciences, Inc., a privately held biotechnology company working on developing novel protein homeostasis inhibitors for the treatment of cancer, from September 2011 to March 2019. Previously, Dr. Shawver was Entrepreneur in Residence for 5AM Ventures, an early stage venture capital firm focused on building next-generation life science companies, from October 2010 to August 2011, chief executive officer of Phenomix Corporation, a privately held biotechnology company, from June 2002 to September 2010, and president of SUGEN, Inc., a clinical-stage company focused on development of protein kinase inhibitors, from October 2000 to May 2002 after holding various positions there since 1992, while SUGEN was a publicly traded company until its acquisition by Pharmacia and Upjohn Company, Inc in 1999. Dr. Shawver began her drug development career in 1989 at Triton Biosciences, Inc. (later Berlex Biosciences Inc.), which was acquired by Schering AG in 1990. She has extensive operational, drug development and regulatory expertise, and has also assisted a number of biotechnology companies with drug development and corporate development

activities. Currently, Dr. Shawver serves on the board of directors of the privately held biotechnology company Relay Therapeutics, a position she has held since March 2017, and she has previously served on the board of directors of Cornerstone Therapeutics (later Chiesi USA, Inc.), a specialty pharmaceutical company focused on commercializing products for the U.S. hospital and adjacent specialty markets, from June 2012 to February 2014. Dr. Shawver is the founder of The Clearity Foundation, a non-profit corporation striving to improve the survival and quality of life of women with ovarian cancer. Dr. Shawver holds a B.S. in microbiology and a Ph.D. in pharmacology, both from the University of Iowa. We believe that Dr. Shawver is qualified to serve on our board of directors due to her expertise and experience in the biotechnology and pharmaceutical industries, including her experience as an executive and director and her educational background.

Family Relationships and Other Arrangements

There are no family relationships or other arrangements among our directors and executive officers.

Board of Directors

Our business and affairs are managed under the direction of our board of directors. Our board of directors consists of nine directors, eight of whom qualify as “independent” under the listing standards of The Nasdaq Stock Market LLC, or Nasdaq. Pursuant to our certificate of incorporation as in effect immediately prior to this offering and amended and restated voting agreement, our current directors were elected as follows: Mr. Hastings was elected by the holders of our common stock to the seat reserved for the person serving as our Chief Executive Officer; Drs. Azzam and Dybbs were elected by holders of our Series B Preferred Stock; Drs. Scheiner, Aynechi and Behbahani were elected by the holders of our Series A Preferred Stock and Dr. Shawver and Ms. Patterson were elected by the holders of our common stock and Preferred Stock, voting together as a single class.

The amended and restated voting agreement will terminate and the provisions of our current certificate of incorporation by which our directors were elected will be amended and restated in connection with this offering. After this offering, the number of directors will be fixed by our board of directors, subject to the terms of our Certificate of Incorporation and Bylaws that will become effective immediately prior to the completion of this offering. Each of our current directors will continue to serve as a director until the election and qualification of such director’s successor, or until such director’s earlier death, resignation or removal.

Director Independence

Under The Nasdaq Marketplace Rules, or the Nasdaq Listing Rules, independent directors must comprise a majority of our board of directors as a public company within one year of listing.

Our board of directors has undertaken a review of the independence of each director. Based on information provided by each director concerning the director’s background, employment and affiliations, our board of directors has determined that, with the exception of Mr. Hastings, none of our directors have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that all directors are “independent” as that term is defined under the Nasdaq Listing Rules. In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section titled “Certain Relationships and Related Party Transactions.”

Committees of our Board of Directors

Our board of directors has established an audit, a compensation, and a nominating and governance committee. The composition, duties and responsibilities of these committees set forth

below will be effective upon consummation of this offering. Each committee shall operate under a written charter adopted by our board of directors effective upon the consummation of this offering, a copy of which will be available on our website upon the completion of this offering. Our board of directors may from time to time establish certain other committees to facilitate the management of our business.

Audit Committee

Our audit committee is responsible for, among other matters:

- appointing, approving compensation arrangements, retaining, evaluating, terminating and overseeing our independent registered public accounting firm;
- discussing with our independent registered public accounting firm its independence from us;
- reviewing with our independent registered public accounting firm the matters required to be reviewed by applicable auditing requirements;
- approving all audit and permissible non-audit services to be performed by our independent registered public accounting firm;
- overseeing the financial reporting process and discussing with management and our independent registered public accounting firm the interim and annual financial statements that we file with the Securities and Exchange Commission, or SEC;
- reviewing and monitoring our internal controls, disclosure controls and procedures and compliance with legal and regulatory requirements; and
- establishing procedures for the confidential anonymous submission of concerns regarding questionable accounting, internal controls, auditing and federal securities law matters.

Our audit committee consists of Fouad Azzam and Ali Behbahani. Upon consummation of the offering, our audit committee will consist of Fouad Azzam, Ali Behbahani and Leone Patterson, with Leone Patterson serving as chairman. Rule 10A-3 of the Exchange Act and Nasdaq Listing Rules require us to have one independent audit committee member upon the listing of our common stock on Nasdaq, a majority of independent directors within 90 days of the date of listing and all independent audit committee members within one year of the date of listing. We intend to comply with the independence requirements within the time periods specified. Our board of directors has determined that Leone Patterson is an “audit committee financial expert” as defined by applicable SEC rules and has the requisite financial sophistication as defined under the applicable Nasdaq rules and regulations.

Compensation Committee

Our compensation committee is responsible for, among other matters:

- reviewing compensation goals, policies, plans and programs for our executive officers;
- reviewing and approving the compensation of our executive officers;
- reviewing and approving employment agreements and other similar arrangements between us and our executive officers;
- reviewing and recommending to our board of directors the compensation to be provided to our directors; and
- appointing and overseeing any compensation consultants.

Our compensation committee consists of Simeon George, Tiba Aynechi and Michael Dybbs, with Michael Dybbs serving as chairman. As determined by our board of directors, the composition of our compensation committee will meet the requirements for independence under current rules and regulations of the SEC and Nasdaq, and each member of the compensation committee will also be a “non-employee director,” as defined pursuant to Rule 16b-3 promulgated under the Exchange Act.

Nominating and Governance Committee

Our nominating and governance committee is responsible for, among other matters:

- identifying individuals qualified to become members of our board of directors, consistent with criteria approved by our board of directors;
- overseeing the organization of our board of directors to discharge the board's duties and responsibilities properly and efficiently;
- developing and recommending to our board of directors a set of corporate governance guidelines and principles; and
- reviewing and approving related person transactions.

Our nominating and governance committee consists of Ali Behbahani, Michael Dybbs and Zachary Scheiner, with Ali Behbahani serving as chairman. The composition of our nominating and governance committee will meet the requirements for independence under current rules and regulations of the SEC and Nasdaq upon the consummation of this offering.

Compensation Committee Interlocks and Insider Participation

Upon establishment, none of the members of our compensation committee is, or was in fiscal 2019, an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Non-Employee Director Compensation

We did not pay any compensation or grant any equity awards to any of our non-employee directors during the fiscal year ended December 31, 2019. None of our non-employee directors held any outstanding equity awards as of December 31, 2019. Non-employee directors may be reimbursed for travel, food, lodging and other expenses directly related to their activities as directors. Directors who also serve as employees receive no additional compensation for their service as directors. During fiscal year 2019, Paul J. Hastings, our president and chief executive officer, was an employee as well as a member of our board of directors and did not receive any additional compensation for service as a director. See the section titled "Executive Compensation" for information about the compensation for Mr. Hastings for the fiscal year ended December 31, 2019.

In connection with this offering, we expect to adopt a new compensation program for our non-employee directors. The specific terms of this program are under review by our board of directors.

Code of Business Conduct and Ethics

We will adopt, effective upon the consummation of this offering, a written code of business conduct and ethics that will apply to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions. A copy of the code will be available on our website, www.nkartax.com. We intend to disclose any amendments to the code, or any waivers of its requirements, on our website to the extent required by the applicable rules and exchange requirements.

EXECUTIVE COMPENSATION

We provide our executives with an annual base salary as a fixed, stable form of compensation, and we have granted our executives stock options to provide an additional incentive to grow our business and further link the interests of our executives with those of our stockholders. We also provided certain cash incentive opportunities to our executives for 2019 as noted below. We have also entered into offer letters with certain of our executives that provide for severance benefits upon certain terminations of employment.

Our board of directors reviews (and after this offering, our compensation committee will review) our executive officers' overall compensation packages on an annual basis or more frequently as it deems warranted. In connection with this offering, we expect to reevaluate and potentially make changes to our executive compensation policies and programs in order to help ensure we continue to attract and retain highly talented executives and provide appropriate incentives to create additional value for our stockholders.

As an emerging growth company and a smaller reporting company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined under the Securities Act and smaller reporting company, which require compensation disclosure for our principal executive officer and the two most highly compensated executive officers other than our principal executive officer. The table below sets forth the annual compensation for services rendered during 2019 by these executive officers, also referred to as our named executive officers, or NEOs.

Summary Compensation Table—Fiscal Year 2019

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	Non-Qualified Deferred Compensation Earnings ($)	All Other Compensation ($)(3)	Total ($)
Paul J. Hastings *President and Chief Executive Officer*	2019	543,375	–	–	2,086,077	232,293	–	8,400	2,870,145
Dr. Kanya Rajangam *Chief Medical Officer*	2019	422,100	–	–	629,979	139,650	–	8,400	1,200,129
Dr. Matthew Plunkett *Chief Financial Officer*	2019	342,876	–	–	589,147	116,375	–	8,400	1,056,798

(1) Represents the aggregate grant date fair value of the stock options awarded to the named executive officer in fiscal year 2019. These values have been determined under the principles used to calculate the value of equity awards for purposes of our financial statements. For a discussion of the assumptions and methodologies used to calculate the amounts referred to above, please see the discussion of option awards contained in Note 11, Share-Based Compensation, to our financial statements included elsewhere in this prospectus. The amounts reported in this column reflect the accounting cost for these stock options and do not correspond to the actual economic value that may be received by the named executive officer upon exercise of the stock options. As described below, the Company granted each of our NEOs an option during 2019 that would vest only if certain performance goals were achieved. The grant date fair value of each of these options was determined assuming that the maximum performance level would be achieved.

(2) Represents amounts paid to our NEOs under our cash incentive program for fiscal year 2019 based on achievement of certain financial and operational performance objectives established by our board of directors.

(3) Represents Company contributions to the NEO's account under our 401(k) plan.

Outstanding Equity Awards as of December 31, 2019

The following table provides information regarding outstanding stock options held by each of our NEOs as of December 31, 2019, including the vesting dates for the portions of these awards that had

not vested as of that date. Our NEOs did not hold any outstanding equity awards other than options as of that date.

	Option Awards					Stock Awards	
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)
Paul J. Hastings	94,250[1]	1,413,750[1]	–	$ 1.05	09/05/2029	–	–
	–		1,353,000[2]	$ 1.05	09/05/2029	–	–
	–	–	–	–	–	371,042[3]	$341,358.64
Dr. Kanya Rajangam	28,625[1]	429,375[1]	–	$ 1.05	09/05/2029	–	–
	–		406,000[2]	$ 1.05	09/05/2029	–	–
	50,000[4]	150,000[4]	–	$ 0.11	12/06/2028	–	–
Dr. Matthew Plunkett	26,812[1]	402,188[1]	–	$ 1.05	09/05/2029	–	–
	–		379,000[2]	$ 1.05	09/05/2029	–	–
		85,000[5]	–	$ 0.11	12/06/2028	49,896[5]	$ 45,904.32

(1) These options were granted September 5, 2019 and vest in 48 equal monthly installments from October 5, 2019 through September 5, 2023.

(2) These options were granted September 5, 2019 and vest in 48 equal monthly installments beginning on the date on which the performance condition set forth in the applicable option agreement is achieved.

(3) On December 24, 2018, Mr. Hastings acquired 685,000 shares upon exercise of an option prior to the time it had vested. The shares acquired by Mr. Hastings vested as to 25% of the shares on February 20, 2019 and vest as to the remaining 75% of the shares in 36 equal monthly installments from March 20, 2019 through February 20, 2022.

(4) This option was granted December 6, 2018 and vested as to 25% of the option on December 3, 2019 and vests as to the remaining 75% in 36 equal monthly installments from January 3, 2020 through December 3, 2022.

(5) This option was granted December 6, 2018 and vested as to 25% of the option on November 29, 2019 and vests as to the remaining 75% in 36 equal monthly installments from December 29, 2019 through November 29, 2022. On December 24, 2018, Dr. Plunkett exercised a portion of the option and acquired 100,000 unvested shares, 50,104 of which had vested as of December 31, 2019 and the remaining 49,896 of which were unvested and will vest in 13 monthly installments through January 29, 2021. The balance of this option (which covers 85,000 shares) will vest in monthly installments thereafter through November 29, 2022.

2019 Equity Grants

On September 5, 2019, each of the NEOs received an option to purchase shares of our common stock (1,508,000 for Mr. Hastings; 458,000 for Dr. Rajangam; 429,000 for Dr. Plunkett) at a price of $1.05 per share, which our board of directors determined was the fair market value of the shares on the grant date. The shares subject to the option will vest in 48 equal monthly installments, subject to the NEO's continued service with the Company through each such vesting date. If the NEO is terminated by the Company without cause or by the NEO for good reason (as such terms are defined in the NEO's offer letter), in either case on or within 12 months following a change in control of the Company (as defined in the 2015 Plan), 100% of the then outstanding shares subject to the option will become vested.

Also on September 5, 2019, each of the NEOs received an option to purchase shares of our common stock (1,353,000 for Mr. Hastings; 406,000 for Dr. Rajangam; 379,000 for Dr. Plunkett) at a price of $1.05 per share, which our board of directors determined was the fair market value of the shares on the grant date. Each option agreement provides that vesting of the option is contingent on the achievement of a performance milestone set forth in the agreement (which relates to the achievement of a financing goal or certain operational objectives). If the milestone is achieved, the

shares subject to the option will vest in 48 equal monthly installments thereafter, subject to the executive's continued service with the Company through each such vesting date. If the NEO is terminated by the Company without cause or by the NEO for good reason (as such terms are defined in the NEO's offer letter), in either case on or within 12 months following a change in control of the Company (as defined in the 2015 Plan), 100% of the then outstanding shares subject to the option will become vested.

Non-Equity Incentive Plan Compensation

Each of the NEOs was awarded a cash bonus for 2019 based on attainment of certain financial and operational objectives established by our board of directors for 2019. The 2019 target bonus amounts for each NEO were 45% for Mr. Hastings, 35% for Dr. Rajangam and 35% for Dr. Plunkett. In November 2019, our board of directors assessed the Company's achievements against the performance objectives and approved bonuses in the amount of 95% of each NEO's target bonus amount. These amounts are reported in the Summary Compensation Table above in the column "Non-Equity Incentive Plan Compensation."

Executive Employment and Severance Agreements

We have entered into offer letters with each of the NEOs. The letters do not have a specified term and provide that the NEO's employment with the Company is at-will. Each letter provides for the NEO to receive a base salary and to participate in the Company's annual bonus program and benefit plans made available to employees generally. Mr. Hastings' current base salary is $559,676, and his current target bonus is 45% of base salary. Dr. Rajangam's current base salary is $432,600, and her current target bonus is 35% of base salary. Dr. Plunkett's current base salary is $360,500, and his current target bonus is 35% of base salary. Each letter also provides that the NEO will receive a stock option in connection with joining the Company equal to a certain percentage of the Company's fully diluted shares outstanding (5% for Mr. Hastings, 1.5% for Dr. Rajangam and 1.4% for Dr. Plunkett**)** and a stock option to purchase additional shares following the closing of the Company's next equity financing raising at least $20 million, which together with the initial option grant will equal the same percentage of the Company's fully diluted shares outstanding noted above.

Each offer letter also provides for the NEO to receive severance benefits if the NEO is terminated by the Company without cause or by the NEO for good reason (as such terms are defined in the offer letter). On such a termination, the NEO would be entitled to cash severance equal to the sum of (1) a specified number of months of the NEO's base salary (12 months for Mr. Hastings, 6 months for Dr. Rajangam and 6 months for Dr. Plunkett) and (2) reimbursement for the cost of the NEO's COBRA premiums for the applicable severance period. In addition, if such termination occurred within 12 months after a change in control of the Company (as defined in the Company's equity incentive plan), the NEO's outstanding stock options granted by the Company would fully vest upon the NEO's termination. In each case, the NEO's right to receive the severance benefits described above is subject to the NEO's providing a release of claims in favor of the Company.

Equity Incentive Plans

As of December 31, 2019, our employees, consultants and directors held outstanding stock options granted under our 2015 Equity Incentive Plan for the purchase of up to 8,619,425 shares of our common stock. As of December 31, 2019, those options were vested with respect to 491,929 shares and were unvested with respect to 8,127,496 shares. The exercise prices of those options ranged from $0.0001 per share to $1.29 per share with a maximum term of 10 years from the applicable date of grant. In addition, certain options previously granted by the Company were exercised prior to the vesting date of the option (with the shares acquired remaining subject to the option's original vesting schedule). As of December 31, 2019, 489,339 of the shares acquired pursuant to the exercise of unvested options remained outstanding and unvested.

The following sections provide more detailed information concerning our benefit plans and, with respect to our equity compensation plans, the shares that are available for future awards under these plans. Each summary below is qualified in its entirety by the full text of the relevant plan document, which has been filed with the SEC as an exhibit to the Form S-1 Registration Statement of which this prospectus is a part and is available through the SEC's website at http://www.sec.gov.

2015 Equity Incentive Plan

In July 2015, we adopted the 2015 Equity Incentive Plan, or the 2015 Plan. Under the 2015 Plan, we are generally authorized to grant options to purchase shares of our common stock to our employees, directors, officers and consultants and those of our subsidiaries. Options under the 2015 Plan are either incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, or nonqualified stock options. All options granted under the plan expire no later than ten years from their date of grant. As of December 31, 2019, we had reserved 11,319,803 shares of our common stock for issuance under the 2015 Plan and 1,538,806 shares remained available for future grant. No new awards will be granted under the 2015 Plan after the consummation of the offering.

Our board of directors, or a committee appointed by the board of directors, administers the 2015 Plan. As is customary in incentive plans of this nature, the number of shares subject to outstanding awards under the 2015 Plan and the exercise prices of those awards, are subject to adjustment in the event of changes in our capital structure, reorganizations and other extraordinary events. In the event we are a party to a merger or consolidation, the board of directors may provide for outstanding options to either be assumed by the acquirer or successor entity or, if not assumed, to be fully vested and cancelled upon the transaction.

Our board of directors may amend or terminate the 2015 Plan at any time; provided, that amendments to the 2015 Plan that impair the rights of a holder of an outstanding award under the 2015 Plan are subject to the board of directors obtaining written consent from such individual. The 2015 Plan requires that certain amendments specified in the plan be submitted to stockholders for their approval.

2020 Performance Incentive Plan

We expect our board of directors to adopt a 2020 Performance Incentive Plan, or the 2020 Plan, prior to the consummation of this offering to provide an additional means through the grant of awards to attract, motivate, retain and reward selected employees and other eligible persons. We also intend to obtain approval of this plan from our stockholders prior to the consummation of this offering. The below summary of the 2020 Plan is what we expect the terms of the plan will be. Employees, officers, directors and consultants that provide services to us or one of our subsidiaries may be selected to receive awards under the 2020 Plan.

Our compensation committee will administer the 2020 Plan. The compensation committee will have broad authority to:

- select participants and determine the types of awards that they are to receive;
- determine the number of shares that are to be subject to awards and the terms and conditions of awards, including the price (if any) to be paid for the shares or the award and establish the vesting conditions (if applicable) of such shares or awards;
- cancel, modify or waive our rights with respect to, or modify, discontinue, suspend or terminate any or all outstanding awards, subject to any required consents;
- construe and interpret the terms of the 2020 Plan and any agreements relating to the plan;
- accelerate or extend the vesting or exercisability or extend the term of any or all outstanding awards subject to any required consent;

- subject to the other provisions of the 2020 Plan, make certain adjustments to an outstanding award and authorize the termination, conversion, substitution or succession of an award; and
- allow the purchase price of an award or shares of our common stock to be paid in the form of cash, check or electronic funds transfer, by the delivery of previously-owned shares of our common stock or by a reduction of the number of shares deliverable pursuant to the award, by services rendered by the recipient of the award, by notice and third party payment or cashless exercise on such terms as the administrator may authorize or any other form permitted by law.

A total of shares of our common stock will be authorized for issuance with respect to awards granted under the 2020 Plan. The share limit will automatically increase on the first trading day in January of each year (commencing with 2021) by an amount equal to lesser of (1) % of the total number of outstanding shares of our common stock on the last trading day in December in the prior year, (2) shares, or (3) such lesser number as determined by our board of directors. Any shares subject to awards that are not paid, delivered or exercised before they expire or are canceled or terminated, fail to vest, as well as shares used to pay the purchase or exercise price of awards or related tax withholding obligations, will become available for other award grants under the 2020 Plan. As of the date of this prospectus, no awards have been granted under the 2020 Plan, and the full number of shares authorized under the 2020 Plan is available for award purposes.

Awards under the 2020 Plan may be in the form of incentive or nonqualified stock options, stock appreciation rights, stock bonuses, restricted stock, stock units and other forms of awards including cash awards. Awards under the plan generally will not be transferable other than by will or the laws of descent and distribution, except that the plan administrator may authorize certain transfers.

Nonqualified and incentive stock options may not be granted at prices below the fair market value of the common stock on the date of grant. Incentive stock options must have an exercise price that is at least equal to the fair market value of our common stock, or 110% of fair market value of our common stock or incentive stock option grants to any 10% owner of our common stock, on the date of grant. The maximum term of options and stock appreciation rights granted under the plan is 10 years. These and other awards may also be issued solely or in part for services. Awards are generally paid in cash or shares of our common stock. The plan administrator may provide for the deferred payment of awards and may determine the terms applicable to deferrals.

As is customary in incentive plans of this nature, the number and type of shares available under the 2020 Plan and any outstanding awards, as well as the exercise or purchase prices of awards, will be subject to adjustment in the event of certain reorganizations, mergers, combinations, recapitalizations, stock splits, stock dividends or other similar events that change the number or kind of shares outstanding, and extraordinary dividends or distributions of property to the stockholders. In no case (except due to an adjustment referred to above or any repricing that may be approved by our stockholders) will any adjustment be made to a stock option or stock appreciation right award under the 2020 Plan (by amendment, cancellation and regrant, exchange or other means) that would constitute a repricing of the per-share exercise or base price of the award.

Generally, and subject to limited exceptions set forth in the 2020 Plan, if we dissolve or undergo certain corporate transactions such as a merger, business combination or other reorganization, or a sale of all or substantially all of its assets, all awards then-outstanding under the 2020 Plan will become fully vested or paid, as applicable, and will terminate or be terminated in such circumstances, unless the plan administrator provides for the assumption, substitution or other continuation of the award. The plan administrator also has the discretion to establish other change in control provisions with respect to awards granted under the 2020 Plan. For example, the administrator could provide for the acceleration of vesting or payment of an award in connection with a corporate event that is not described above and provide that any such acceleration shall be automatic upon the occurrence of any such event.

Our board of directors may amend or terminate the 2020 Plan at any time, but no such action will affect any outstanding award in any manner materially adverse to a participant without the consent of the participant. Plan amendments will be submitted to stockholders for their approval as required by applicable law or any applicable listing agency. The 2020 Plan is not exclusive—our board of directors and compensation committee may grant stock and performance incentives or other compensation, in stock or cash, under other plans or authority.

The plan will terminate on , 2030. However, the plan administrator will retain its authority until all outstanding awards are exercised or terminated.

2020 Employee Stock Purchase Plan

We expect our board of directors to adopt a 2020 Employee Stock Purchase Plan, or the ESPP, prior to the consummation of this offering to provide an additional means to attract, motivate, retain and reward employees and other eligible persons by allowing them to purchase additional shares of our common stock. We also intend to obtain approval of this plan from our stockholders prior to the consummation of this offering. The below summary of the ESPP is what we currently expect the terms of the plan will be. The ESPP will become effective immediately upon the signing of the underwriting agreement for this offering.

The ESPP is designed to allow our eligible employees and the eligible employees of our participating subsidiaries to purchase shares of our common stock, at semi-annual intervals, with their accumulated payroll deductions.

Share Reserve. A total of shares of our common stock will initially be available for issuance under the ESPP. The share limit will automatically increase on the first trading day in January of each year by an amount equal to lesser of (1) % of the total number of outstanding shares of our common stock on the last trading day in December in the prior year, (2) shares, or (3) such lesser number as determined by our board of directors.

Offering Periods. The ESPP will have a series of successive six-month offering periods with a new offering period beginning on the first business day of and each year and ending on the last business day of the immediately following or , respectively. However, the initial offering period will begin on the first business day of and end on the last business day of . The ESPP provides flexibility for the plan administrator to establish, in advance of a particular offering period, a different duration for that offering period or for that offering period to consist of one or more purchase periods.

Eligible Employees. Individuals scheduled to work more than 20 hours per week for more than five calendar months per year may join an offering period on the start date of that period. Employees may participate in only one offering period at a time.

Payroll deductions. A participant may contribute up to 15% of his or her cash earnings through payroll deductions, and the accumulated deductions will be applied to the purchase of shares on each semi-annual purchase date. Unless otherwise provided in advance by the administrator, the purchase price per share will be equal to 85% of the fair market value per share on the start date of the offering period or, if lower, 85% of the fair market value per share on the semi-annual purchase date. In no event may any participant purchase more than shares on any purchase date.

Change in Control. If we are acquired by merger or sale of all or substantially all of our assets or more than 50% of our voting securities, then all outstanding purchase rights will automatically be exercised on or prior to the effective date of the acquisition, unless the plan administrator provides for the rights to be settled in cash or exchanged or substituted on the transaction. Unless otherwise

provided in advance by the plan administrator, the purchase price will be equal to 85% of the market value per share on the start date of the offering period in which the acquisition occurs or, if lower, 85% of the fair market value per share on the purchase date.

Other plan provisions. No new offering periods will commence on or after , 2030. The board of directors may at any time amend, suspend or discontinue the ESPP. However, certain amendments may require stockholder approval.

Defined Contribution Plans

As part of our overall compensation program, we provide all full-time employees, including our NEOs, with the opportunity to participate in a defined contribution 401(k) plan. Our 401(k) plan is intended to qualify under Section 401 of the Internal Revenue Code so that employee contributions and income earned on such contributions are not taxable to employees until withdrawn. Employees may elect to defer a percentage of their eligible compensation (not to exceed the statutorily prescribed annual limit) in the form of elective deferral contributions to our 401(k) plan. Our 401(k) plan also has a “catch-up contribution” feature for employees aged 50 or older (including those who qualify as “highly compensated” employees) who can defer amounts over the statutory limit that applies to all other employees. We also make a safe harbor non-elective contributions to each employee’s account under the plan equal to 3% of the employee’s eligible compensation.

PRINCIPAL STOCKHOLDERS

The following provides certain information regarding the beneficial ownership of our common stock as of April 30, 2020, and as adjusted to reflect the sale of common stock offered by us in this offering with respect to:

- each person known by us to beneficially own 5% or more of the outstanding shares of our common stock;
- each member of our board of directors upon the consummation of this offering;
- all of our current directors and executive officers as a group; and
- the members of our board of directors upon the consummation of this offering and our executive officers as a group.

Unless otherwise noted below, the address of each beneficial owner listed in the table below is 6000 Shoreline Court, Suite 102, South San Francisco, CA 94080.

We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that each person or entity named in the table below has sole voting and investment power with respect to all shares of common stock that he, she or it beneficially owns, subject to applicable community property laws.

Applicable percentage of beneficial ownership prior to this offering is based on 34,895,111 shares of common stock outstanding as of April 30, 2020 assuming the conversion of all outstanding shares of redeemable convertible preferred stock into shares of common stock and the exercise of all options vested and exercisable within 60 days of such date. Applicable percentage ownership after this offering is based on shares of common stock to be outstanding after this offering, after giving effect to the issuance of shares of our common stock that we expect to be sold in this offering and the exercise of all options vested and exercisable within 60 days after this offering.

Name of Beneficial Owner	Shares of Common Stock Beneficially Owned Before Offering		Shares of Common Stock Beneficially Owned After Offering Assuming No Exercise of the Underwriters' Option		Shares of Common Stock Beneficially Owned After Offering Assuming Full Exercise of the Underwriters' Option	
	Shares	%	Shares	%	Shares	%
5% Stockholders:						
Dario Campana	5,000,000	14.3				
Entities affiliated with New Enterprise Associates(1)	4,732,861	13.6				
Novo Holdings A/S(2)	4,732,860	13.6				
S.R. One, Limited(3)	4,732,860	13.6				
Entities affiliated with RA Capital(4)	3,673,801	10.5				
Samsara BioCapital, L.P.(5)	2,571,660	7.4				
Entities affiliated with Deerfield(6)	2,296,126	6.6				
LSP 6 Holding C.V.(7)	2,296,125	6.6				
Directors and Named Executive Officers:						
Tiba Aynechi(8)	–	*				
Fouad Azzam(9)	–	*				
Ali Behbahani(10)	–	*				
Michael Dybbs(11)	–	*				
Simeon George(12)	4,732,860	13.6				
Paul Hastings(13)	967,750	2.8				
Kanya Rajangam(14)	160,874	*				
Leone Patterson	–	*				
Matthew Plunkett(15)	219,188	*				
Zachary Scheiner(16)	–	*				
Laura Shawver	–	*				
All directors and executive officers as a group (13 persons)(17)	6,484,609	18.6				

(*) Represents beneficial ownership of less than 1%.

(1) Consists of 4,722,281 shares held of record by New Enterprise Associates 15, L.P. and 10,580 shares held of record by NEA Ventures 2016, L.P. The shares directly held by New Enterprise Associates 15, L.P. (NEA 15) are indirectly held by NEA Partners 15, L.P. (Partners 15), which is the sole general partner of NEA 15; NEA 15 GP, LLC (NEA 15 LLC), which is the sole general partner of Partners 15; and each of the individual managers of NEA 15 LLC. The individual Managers of NEA 15 LLC (the "NEA 15 Managers") are Forest Baskett, Anthony A. Florence, Mohamad Makhzoumi, Joshua Makower, Scott D. Sandell, and Peter Sonsini. NEA Partners 15, NEA 15 LLC, and the NEA 15 Managers share voting and dispositive power with regard to the shares owned directly by NEA 15. The securities directly held by NEA Ventures 2016, L.P. ("Ven 2016") are indirectly held by Karen P. Welsh, the general partner of Ven 2016. All indirect holders of the above referenced shares disclaim beneficial ownership of all applicable shares except to the extent of their actual pecuniary interest therein. The address for New Enterprise Associates

15, L.P. and NEA Ventures 2016, L.P. is c/o New Enterprise Associates, Inc., 1954 Greenspring Drive, Suite 600, Timonium, Maryland 21093.

(2) Consists of 4,732,860 shares of common stock issuable upon conversion of the convertible preferred stock held by Novo Holdings A/S, or Novo. The board of directors of Novo, which is currently comprised of Jeppe Christiansen, Steen Riisgaard, Lars Rebien Sørensen, Jean-Luc Butel, Viviane Monges and Francis Cuss, has shared voting and investment power with respect to the shares held by Novo and may exercise such control only with the support of a majority of the members of the Novo board of directors. As such, no individual member of the Novo board of directors is deemed to hold any beneficial ownership or reportable pecuniary interest in the shares held by Novo. Dr. Aynechi, a member of our board of directors, is employed as a senior partner at Novo Ventures (US) Inc., which provides certain consultancy services to Novo, and Dr. Aynechi is not deemed to have beneficial ownership of the shares held by Novo. The address for Novo is Tuborg Havnevej 19, DK-2900 Hellerup, Denmark.

(3) Consists of 4,732,860 shares of common stock issuable upon conversion of preferred stock held by S.R. One, Limited. Dr. George, the chief executive officer of S.R. One Limited, is a member of our board of directors. The address of S.R. One, Limited is 161 Washington Street, Suite 500, Conshohocken, PA 19428.

(4) Consists of 2,333,570 shares held of record by RA Capital Healthcare Fund, L.P., 918,450 shares held of record by RA Capital Nexus Fund, L.P. and 421,781 shares held of record by Blackwell Partners LLC—Series A. RA Capital Management, L.P. is the investment manager for RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund, L.P., and Blackwell Partners LLC—Series A. The general partner of RA Capital Management, L.P. is RA Capital Management GP, LLC, of which Dr. Peter Kolchinsky and Mr. Rajeev Shah are the managing members. As such, RA Capital Management, L.P., RA Capital Management GP, LLC, Dr. Kolchinsky, and Mr. Shah may be deemed indirect beneficial owners of the shares held by, RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund, L.P., and Blackwell Partners LLC—Series A. RA Capital Management, L.P., RA Capital Management GP, LLC, Dr. Kolchinsky, and Mr. Shah expressly disclaim beneficial ownership over all shares held by RA Capital Healthcare Fund, L.P. and RA Capital Nexus Fund, L.P. except to the extent of their pecuniary interest therein, and disclaim any pecuniary interest in the shares held by Blackwell Partners LLC—Series A. The address for RA Capital Healthcare Fund, L.P. and RA Capital Nexus Fund, L.P. is 200 Berkeley Street, 18th Floor, Boston, MA 02116, and the address for Blackwell Partners LLC—Series A is 280 S. Magnum Street, Suite 210, Durham, NC 27701.

(5) Consists of 2,571,660 shares owned by Samsara BioCapital, L.P., or Samsara LP. The general partner of Samsara LP is Samsara BioCapital GP, LLC, or Samsara LLC. Voting and dispositive decisions with respect to the shares held by Samsara LP are made by Dr. Srinivas Akkaraju, MD, Ph.D., a manager of Samsara GP LLC, and, accordingly, Dr. Akkaraju may be deemed to beneficially own the shares held by Samsara LP. The address of the principal business and office of Samsara LP and its affiliates is 628 Middlefield Road, Palo Alto, CA 94301.

(6) Consists of 1,148,063 shares held of record by Deerfield Private Design Fund IV, L.P. and 1,148,063 shares held of record by Deerfield Partners, L.P. Deerfield Mgmt IV, L.P. is the general partner of Deerfield Private Design Fund IV, L.P. Deerfield Mgmt, L.P. is the general partner of Deerfield Partners, L.P. Deerfield Management Company, L.P. is the investment manager of each of Deerfield Private Design Fund IV, L.P. and Deerfield Partners, L.P. Mr. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt IV, L.P., Deerfield Mgmt, L.P. and Deerfield Management Company, L.P. Mr. Flynn, Deerfield Mgmt IV, L.P and Deerfield Management Company, L.P. may be deemed to beneficially own the shares held by Deerfield Private Design Fund IV, L.P. Mr. Flynn, Deerfield Mgmt, L.P. and Deerfield Management Company, L.P. may be deemed to beneficially own the shares held by Deerfield Partners, L.P. The address of each of Deerfield Private Design Fund IV, L.P. and Deerfield Special Situations Fund, L.P. is c/o Deerfield Management Company, L.P., 780 Third Avenue, 37th Floor, New York, New York 10017.

(7) LSP 6 Holding C.V. is a limited partnership according to Dutch law, registered with the Dutch Chamber of Commerce under number 75057085. The sole general partner of LSP 6 Holding C.V. is LSP 6 Management B.V., a limited liability company according to Dutch law, registered with the Dutch Chamber of Commerce under number 70869057. The individual directors of LSP 6 Management B.V. are Martijn Kleijwegt (Dutch), René Robert Kuijten (Dutch) and Joachim Günter Rothe (German). Two of these directors jointly can represent LSP 6 Management B.V. and as such have voting or dispositive control over the shares held by LSP 6 Holding C.V. The business address of both LSP 6 Holding C.V. and LSP 6 Management B.V. is Johannes Vermeerplein 9, (1071 DV) Amsterdam, the Netherlands.

(8) Dr. Aynechi is employed as a senior partner at Novo Ventures (US) Inc., which provides certain consultancy services to Novo Holdings A/S. Dr. Aynechi does not have any voting or dispositive control over the shares held by Novo Holdings A/S referenced in footnote 1 above.

(9) Dr. Azzam is affiliated with LSP 6 Holding C.V. Dr. Azzam does not have individual voting or dispositive control over the shares held by LSP 6 Holding C.V. referenced in footnote 7 above.

(10) Dr. Behbahani is affiliated with New Enterprise Associates. Dr. Behbahani does not have voting or dispositive control over the shares held by the entities affiliated with New Enterprise Associates referenced in footnote 3 above.

(11) Dr. Dybbs is a manager of Samsara GP LLC, however he does not have or share voting or dispositive power over the shares held by Samsara LP.

(12) Consists of 4,732,860 shares of common stock issuable upon conversion of preferred stock held by S.R. One, Limited. Dr. George, the chief executive officer of S.R. One Limited, may be deemed to beneficially own the shares held by S.R. One, Limited.

(13) Consists of 685,000 common shares and 282,750 shares issuable pursuant to outstanding options to purchase our common stock which are exercisable within 60 days of April 30, 2020.

(14) Consists of 160,874 shares issuable pursuant to outstanding options to purchase our common stock which are exercisable within 60 days of April 30, 2020.

(15) Consists of 138,750 common shares and 80,438 shares issuable pursuant to outstanding options to purchase our common stock which are exercisable within 60 days of April 30, 2020.

(16) Dr. Scheiner is employed as a principal at RA Capital Management, L.P. Dr. Scheiner does not have individual voting or dispositive control over the shares held by RA Capital referenced in footnote 4 above.

(17) Consists of 5,829,776 common shares and 654,833 shares issuable to our current directors and executive officers pursuant to outstanding options to purchase our common stock which are exercisable within 60 days of April 30, 2020.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a summary of transactions since January 1, 2017, to which we were or are a party in which the amount involved exceeded or exceeds $120,000 and in which any of our directors, executive officers, holders of more than 5% of any class of our voting securities or any member of the immediate family of, or person sharing the household with, any of the foregoing persons, had or will have a direct or indirect material interest, other than compensation arrangements with directors and executive officers, which are described under “Executive Compensation” and “Management— Non-Employee Director Compensation.”

Series A Preferred Stock Financing

In December 2017, we issued an aggregate of 6,170,349 shares of our Series A convertible preferred stock at a price per share of $2.069. The shares of Series A convertible preferred stock will convert into an equivalent number of shares of common stock immediately prior to the completion of this offering. See the section titled “Principal Stockholders” for more details regarding the shares held by certain of these entities. The table below sets forth the number of shares of Series A convertible preferred stock sold to our directors, executive officers or holders of more than 5% of any class of our capital stock since July 2015:

Name	Number of Shares of Series A Convertible Preferred Stock	Aggregate Purchase Price($)
Battersea Biotech, LLC(1)	5,877,716	$ 11,328,802.74
Glaxo Group Limited(2)	292,633	$ 514,640.41

(1) Tiba Aynechi, one of our directors, was the Manager and a director of Battersea Biotech, LLC that was dissolved on December 31, 2017, and for which S.R. One Limited acted as the liquidator. In connection with the dissolution, 5,877,716 shares of Series A convertible preferred stock held by Battersea Biotech, LLC were distributed to Novo Holdings A/S, S.R. One, Limited, New Enterprise Associates 15, L.P., NEA Ventures 2016, L.P., John Nehra Revocable Trust UAD 9/23/09, and WS Investment Company LLC (2015A).

(2) Glaxo Group Limited is an indirect wholly owned subsidiary of GlaxoSmithKline plc, which beneficially owns the shares held by Glaxo Group Limited. S.R. One, Limited is an indirect, wholly owned subsidiary of GlaxoSmithKline plc. Simeon George is the chief executive officer of S.R. One, Limited and a member of our board of directors.

Series B Preferred Stock Financing

From August 2019 to October 2019, we issued an aggregate of 21,113,624 shares of our Series B convertible preferred stock at a price per share of $2.37935. The shares of Series B convertible preferred stock will convert into an equivalent number of shares of common stock immediately prior to the completion of this offering. The table below sets forth the number of shares of Series B convertible preferred stock sold to our directors, executive officers or holders of more than 5% of any class of our capital stock since July 2015:

Name	Number of Shares of Series B Convertible Preferred Stock	Aggregate Purchase Price($)
Samsara BioCapital, L.P.(1)	2,571,660	6,118,879.23
Novo Holdings A/S(2)	2,788,512	6,634,847.80
SR One, Limited(3)	2,788,512	6,634,847.80
New Enterprise Associates 15, L.P.(4)	2,788,512	6,634,847.80
Entities affiliated with RA Capital(5)	3,673,801	8,741,258.42
Entities affiliated with Deerfield.(6)	2,296,126	5,463,287.40
John Nehra Revocable Trust(7)	36,738	87,412.57
LSP 6 Holding C.V.(8)	2,296,125	5,463,285.02

(1) Michael Dybbs, a member of our board of directors, is a manager of Samsara BioCapital GP, LLC, the general partner of Samsara BioCapital, L.P. Samsara BioCapital L.P. is a holder of 5% or more of our capital stock.

(2) Tiba Aynechi, a member of our board of directors, is employed as a senior partner at Novo Ventures (US) Inc., which provides certain consultancy services to Novo Holdings A/S. Dr. Aynechi does not have any voting or dispositive control over the shares held by Novo Holdings A/S. Novo Holdings A/S is a holder of 5% or more of our capital stock.

(3) Simeon George, a member of our board of directors, is the chief executive officer of S.R. One, Limited. S.R. One, Limited is a holder of 5% or more of our capital stock.

(4) Ali Behbahani, a member of our board of directors, is a general partner at New Enterprise Associates. New Enterprise Associates 15, L.P. is a holder of 5% or more of our capital stock. Dr. Behbahani has no voting or dispositive power over any of the shares held directly by New Enterprise Associates 15, L.P.

(5) Affiliates of RA Capital holding our securities whose shares are aggregated for purposes of reporting share ownership information are RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund, L.P., and Blackwell Partners LLC – Series A, and they collectively hold 5% or more of our capital stock. Zachary Scheiner, a member of our board of directors, is a principal at RA Capital Management, L.P.

(6) Consists of 1,148,063 shares held by Deerfield Partners, L.P. (which were transferred from Deerfield Special Situations Fund, L.P. on January 1, 2020) and 1,148,063 shares held by Deerfield Private Design Fund IV, L.P. Shares held by entities affiliated with Deerfield Management Company, L.P. holding our securities are aggregated for the sole purpose of reporting share ownership information herein. In aggregate, such entities hold 5% or more of our capital stock.

(7) John Nehra, a beneficiary of the John Nehra Trust. is a former general partner and current special retired partner at New Enterprise Associates. New Enterprise Associates 15, L.P. is a holder of 5% or more of our capital stock. New Enterprise Associates 15, L.P. is a holder of 5% or more of our capital stock.

(8) Fouad Azzam, a member of our board of directors, is a general partner at Life Sciences Partner (LSP). LSP 6 Holding C.V. is a holder of 5% or more of our capital stock.

Investors' Rights Agreement

We have entered into an investors rights agreement with certain holders of our convertible preferred stock, including the stockholders with which certain of our directors are affiliated. As of April 30, 2020, the holders of 27,283,973 shares of our common stock, including the shares of common stock issuable upon the conversion of our convertible preferred stock, are entitled to rights with respect to the registration of their shares under the Securities Act pursuant to the investors right agreement. For a description of these registration rights, see "Description of Capital Stock—Registration Rights."

Voting Agreement

We are party to a voting agreement under which certain holders of our capital stock, including entities with which certain of our directors are affiliated, have agreed to vote their shares in a certain way on certain matters, including with respect to the election of directors, and certain holders have the right to have a designated representative present at meetings of our board of directors. Upon the completion of this offering, the voting agreement will terminate and none of our stockholders will have any special rights regarding the election or designation of members of our board of directors or the voting of our capital stock.

Indemnification of Officers and Directors

Our Certificate of Incorporation and Bylaws, each as expected to be in effect upon the completion of this offering, will provide that we shall indemnify each of our directors and officers to the fullest extent permitted by the Delaware General Corporation Law. For further information, see the section entitled "Description of Capital Stock—Indemnification and Limitations on Directors' Liability."

Review, Approval or Ratification of Transactions with Related Persons

Prior to the consummation of this offering, our full board of directors has the primary responsibility for reviewing and approving transactions with related parties. Following consummation of this offering, the audit committee of our board of directors will have the responsibility for reviewing and approving transactions with related parties. Our audit committee charter will provide that the audit committee shall review and approve in advance or ratify any related party transactions.

We will adopt, effective upon the consummation of this offering, a formal written policy providing that our executive officers, directors, nominees for election as directors, beneficial owners of more than 5% of any class of our voting stock, any member of the immediate family of any of the foregoing persons, and any firm, corporation or other entity in which any of the foregoing persons is employed, is a general partner or principal or in a similar position, or in which such person has a 5% or greater beneficial ownership interest, is not permitted to enter into a transaction with us without the consent of our audit committee, subject to the exceptions described below. In approving or rejecting any such proposal, our audit committee is to consider the relevant facts and circumstances available and deemed relevant to our audit committee, including whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related party's interest in the transaction. Our audit committee is expected to determine that certain transactions will not require audit committee approval, including certain employment arrangements of executive officers, director compensation, transactions with another company at which a related party's only relationship is as a non-executive employee or beneficial owner of less than 5% of that company's shares, transactions where a related party's interest arises solely from the ownership of our common stock and all holders of our common stock received the same benefit on a pro rata basis, and transactions available to all employees generally.

DESCRIPTION OF CAPITAL STOCK

General

We plan to amend and restate our certificate of incorporation, or, as amended and restated, our Certificate of Incorporation and our by-laws, or as amended and restated, our By-laws in connection with the completion of this offering. Below is a summary of the material terms and provisions of our Certificate of Incorporation and our By-laws as expected to be in effect and affecting the rights of our stockholders upon the completion of this offering, as well as relevant provisions of Delaware law affecting the rights of our stockholders. This summary does not purport to be complete and is qualified in its entirety by the provisions of our Certificate of Incorporation, our By-laws and the Delaware General Corporation Law, or DGCL. Copies of our Certificate of Incorporation and By-laws have been or will be filed with the SEC as exhibits to the registration statement of which this prospectus forms a part.

Authorized Capital

Upon the completion of this offering, our authorized capital stock will consist of shares of common stock, par value $0.0001 per share and shares of preferred stock, par value $0.0001 per share.

As of April 30, 2020, there were 6,431,822 shares of common stock outstanding, held by approximately 15 stockholders of record, 6,170,349 shares of Series A preferred stock outstanding, held by approximately 7 stockholders of record, and 21,113,624 shares of Series B preferred stock outstanding, held by approximately 15 stockholders of record. Assuming the conversion of the preferred stock owned by our existing stockholders into 27,283,973 shares of our common stock immediately upon effectiveness of our Certificate of Incorporation, there would have been 33,715,795 shares (not including 9,204,950 shares of common stock issuable upon the exercise of outstanding stock options since March 31, 2020 and unvested shares issued pursuant to the early exercise of stock options which are subject to potential forfeiture) of common stock outstanding, held by approximately stockholders of record and no shares of preferred stock outstanding.

In connection with this offering, we expect to consummate a -for- reverse stock split of our common stock.

Common Stock

Voting Rights. The holders of our common stock will be entitled to one vote per share on all matters submitted to a vote of stockholders; provided, however, that, except as otherwise required by law, holders of common stock, as such, shall not be entitled to vote on any amendment to our Certificate of Incorporation that relates solely to the terms of one or more outstanding series of preferred stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to our Certificate of Incorporation or the DGCL. Holders of our common stock will not have cumulative voting rights in the election of directors. Accordingly, the holders of a majority of the combined voting power of our common stock could, if they so choose, elect all the directors.

Dividend Rights. Holders of our common stock will be entitled to participate pro rata with holders of preferred stock with respect to dividends if, as and when declared by our board of directors, out of our legally available assets, in cash, property, shares of our common stock or other securities, after payments of dividends required to be paid on outstanding preferred stock, if any.

Liquidation Rights and Distributions in Connection with Mergers or Other Business Combinations. Upon our liquidation, dissolution or winding up, any business combination or a sale

or disposition of all or substantially all of our assets, the assets legally available for distribution to our stockholders will be distributable ratably among the holders of the common stock, subject to prior satisfaction of all outstanding debts and other liabilities and the payment of liquidation preferences, if any, on any outstanding preferred stock.

Other Matters. Our Certificate of Incorporation will not entitle holders of our common stock to preemptive or conversion rights or other subscription rights. There will be no redemption or sinking fund provisions applicable to our common stock. The common stock may not be subdivided or combined in any manner unless the conversion price of any other class that is convertible to common stock is increased or decreased, as applicable, in the same proportion. All outstanding shares of our common stock are, and the shares of common stock offered in this offering will be, fully paid and non-assessable.

Authorized but Unissued Preferred Stock

We have million shares of blank check preferred stock authorized for issuance by our Certificate of Incorporation. Unless required by law or by the rules and regulations of any stock exchange on which our common stock may be listed, the authorized shares of preferred stock will be available for issuance without further action by our stockholders. Our Certificate of Incorporation will authorize our board of directors to establish, from time to time, the number of shares to be included in each series of preferred stock, and to fix the designation, powers, privileges, preferences, and relative participating, optional or other rights, if any, of the shares of each series of preferred stock, and any of its qualifications, limitations or restrictions. Our board of directors also will be able to increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series of preferred stock then outstanding, without any further vote or action by the stockholders.

The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the existence of unissued and unreserved common stock or preferred stock may enable our board of directors to issue shares to persons friendly to current management, which could render more difficult or discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, and could thereby protect the continuity of our management and possibly deprive stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

Registration Rights

Upon the completion of this offering, the holders of approximately shares of our common stock, or their transferees, will be entitled to the registration rights set forth below with respect to the registration of the resale of such shares under the Securities Act. We refer to these shares as registrable securities. The holders of these registrable securities possess these registration rights pursuant to the terms of our investors' rights agreement by and among us and certain of our stockholders.

Demand registration rights. Upon the completion of this offering, the holders of registrable securities will be entitled to certain demand registration rights. At any time after 180 days following the completion of this offering, the holders of the majority of the registrable securities have the right to demand that we file a registration statement with respect to offerings of common stock, having an aggregate offering price, net of underwriter's discounts and expenses, of at least $5 million. We may postpone the filing of a registration statement once in a twelve-month period for up to 60 days if, in the good-faith judgment of our board of directors, such filing would be materially detrimental to us, and the underwriters of an underwritten offering will have the right, subject to certain restrictions, to limit the number of shares registered by these holders for reasons relating to the marketing of the shares.

Piggyback registration rights. In connection with this offering, holders of registrable securities were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering. If we propose to register any of our securities for public sale in another offering, the holders of registrable securities will be entitled to certain "piggyback" registration rights under the Investors' Rights Agreement allowing the holders to include their shares in such registration. However, this right does not apply to demand registrations, Form S-3 registrations, registrations on any form that does not permit secondary sales, and registrations relating to any of our employee benefit plans, the offer and sale of debt securities, or a corporate reorganization or other transaction under Rule 145 of the Securities Act. Subject to certain restrictions, the underwriters of any underwritten offering will have the right to limit the number of shares registered by these holders for reasons relating to the marketing of the shares, but not below 30% of the total number of shares included in the registration statement.

S-3 registration rights. After the completion of this offering, the holders of approximately shares of registrable securities will be entitled to certain Form S-3 registration rights. If we are eligible to file a registration statement on Form S-3, any holder of these registrable securities then outstanding can request that we register the offer and sale of their shares of our common stock on a registration statement on Form S-3 so long as the request covers securities the anticipated aggregate public offering price of which, before payment of underwriting discounts and commissions, is at least $1,000,000. These stockholders may make an unlimited number of requests for registration on a registration statement on Form S-3. However, we will not be required to effect a registration on Form S-3 if we have effected two such registrations within the twelve-month period preceding the date of the request and such registrations have been ordered or declared effective. Additionally, if our board of directors determines in its good-faith judgment that it would be seriously detrimental to us to effect such a registration, we have the right to defer such registration, not more than once in any twelve-month period, for a period of up to 60 days.

Registration expenses. Except for underwriting discounts, selling commissions, and stock transfer taxes, we will pay all expenses incurred by holders of shares registered in connection with the registrations described above, including fees and disbursements of our legal counsel for and the reasonable fees and disbursements of one legal counsel for the selling holders. However, subject to limited exceptions, we will not pay for any expenses of any demand or Form S-3 registration if the request is subsequently withdrawn by the holders or if the applicable proceeds requirement of a demand or Form S-3 registration is not met.

Expiration of registration rights. The registration rights described above will expire with respect to any particular holder of registrable securities on the earlier of (i) five years after the completion of this offering, (ii) when such stockholder is able to sell all of its registrable securities pursuant to Rule 144 of the Securities Act or a similar exemption in any 90-day period, or (iii) the closing of a deemed liquidation event, as defined in our restated certificate of incorporation.

Holders of substantially all of our registrable securities have signed agreements with the underwriters or us prohibiting the exercise of their registration rights for 180 days following the date of this prospectus. These agreements are described below under the section entitled "Underwriters."

Indemnification and Limitations on Directors' Liability

Section 145 of the DGCL grants each Delaware corporation the power to indemnify any person who is or was a director, officer, employee or agent of a corporation, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of serving or having served in any such capacity, if he or she acted in good faith in a manner

reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. A Delaware corporation may similarly indemnify any such person in actions by or in the right of the corporation if he or she acted in good faith in a manner reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification may be made in respect of any claim, issue or matter as to which the person shall have been adjudged to be liable to the corporation unless and only to the extent that the Delaware Court of Chancery or the court in which the action was brought determines that, despite adjudication of liability, but in view of all of the circumstances of the case, the person is fairly and reasonably entitled to indemnity for expenses which the Delaware Court of Chancery or other court shall deem proper.

Section 102(b)(7) of the DGCL enables a corporation in its certificate of incorporation, or an amendment thereto, to eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for violations of the director's fiduciary duty as a director, except (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the DGCL (providing for director liability with respect to unlawful payment of dividends or unlawful stock purchases or redemptions) or (iv) for any transaction from which a director derived an improper personal benefit. Our Certificate of Incorporation will provide for such limitation of liability.

Our Certificate of Incorporation and By-laws indemnify our directors and officers to the full extent permitted by the DGCL and our Certificate of Incorporation also allows our board of directors to indemnify other employees. This indemnification extends to the payment of judgments in actions against officers and directors and to reimbursement of amounts paid in settlement of such claims or actions and may apply to judgments in favor of the corporation or amounts paid in settlement to the corporation. This indemnification also extends to the payment of attorneys' fees and expenses of officers and directors in suits against them where the officer or director acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. This right of indemnification is not exclusive of any right to which the officer or director may be entitled as a matter of law and shall extend and apply to the estates of deceased officers and directors.

In addition to the indemnification required in our Certificate of Incorporation and By-laws, we have also entered into director indemnity agreements and officer indemnity agreements, which provide for the indemnification of our directors and officers for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were our agents.

We maintain a directors' and officers' insurance policy. The policy insures directors and officers against unindemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses us for those losses for which we have lawfully indemnified the directors and officers. The policy contains various exclusions that are normal and customary for policies of this type.

We believe that the limitation of liability and indemnification provisions in our Certificate of Incorporation, By-laws director indemnity agreements and officer indemnity agreements are necessary to attract and retain qualified directors and officers. However, these provisions and agreements may discourage derivative litigation against directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers as required or allowed by these limitation of liability and indemnification provisions.

At present, there is no pending litigation or proceeding involving any of our directors, officers, employees or agents as to which indemnification is sought from us, nor are we aware of any threatened litigation or proceeding that may result in an indemnification claim.

Forum Selection Clause

Our Certificate of Incorporation provides that, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the sole and exclusive forum for any stockholder (including any beneficial owner) to bring (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or employees to us or to our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL or our Certificate of Incorporation or By-laws, or (iv) any action asserting a claim governed by the internal affairs doctrine, will be a state court located within the State of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware); in all cases subject to the court's having personal jurisdiction over the indispensable parties named as defendants. This exclusive forum provision is intended to apply to claims arising under Delaware state law and is not intended to apply to claims brought pursuant to the Exchange Act or the Securities Act, or any other claim for which the federal courts have exclusive jurisdiction. This exclusive forum provision will not relieve us of our duties to comply with the federal securities laws and the rules and regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations. Our Certificate of Incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the foregoing provisions. See "Risk Factors—Risks Related to this Offering and Our Common Stock—Our Certificate of Incorporation includes a forum selection clause, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us."

Anti-Takeover Effects of Delaware Law, Our Certificate of Incorporation and Our By-laws

Certain provisions of Delaware law, our Certificate of Incorporation and our By-laws could make the acquisition of us more difficult and could delay, defer or prevent a tender offer or other takeover attempt that a stockholder might consider to be in its best interest, including takeover attempts that might result in the payment of a premium to stockholders over the market price for their shares. These provisions also may promote the continuity of our management by making it more difficult for a person to remove or change the incumbent members of our board of directors.

Authorized but Unissued Shares; Undesignated Preferred Stock. The authorized but unissued shares of our common stock will be available for future issuance without stockholder approval except as required by law or by any stock exchange on which our common stock may be listed. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, acquisitions and employee benefit plans. In addition, our board of directors may authorize, without stockholder approval, the issuance of up to million shares of preferred stock with voting rights or other rights or preferences designated from time to time by our board of directors. The existence of authorized but unissued shares of common stock or preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

No Cumulative Voting. Our Certificate of Incorporation provides that stockholders are not permitted to cumulate votes in the election of directors.

Special Meetings of Stockholders. Our By-laws provides that special meetings of our stockholders may be called only by our board of directors, the Chairperson of our board of directors,

our Chief Executive Officer or President, or by one or more of our stockholders holding shares in the aggregate entitled to cast not less than 10% of the votes at that meeting.

Stockholder Action by Written Consent. Pursuant to Section 228 of the DGCL, any action required to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice and without a vote if a consent or consents in writing, setting forth the action so taken, is signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares of our stock entitled to vote thereon were present and voted, unless our certificate of incorporation provides otherwise. Our Certificate of Incorporation precludes stockholder action by written consent.

Advance Notice Requirements for Stockholder Proposals and Nomination of Directors. Our By-laws require stockholders seeking to bring business before an annual meeting of stockholders, or to nominate individuals for election as directors at an annual or special meeting of stockholders, to provide timely notice in writing. Our By-laws also specify requirements as to the form and content of a stockholder's notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our meetings of stockholders. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the potential acquirer's own slate of directors or otherwise attempting to obtain control of us.

Section 203 of the Delaware General Corporation Law. We are subject to Section 203 of the DGCL, which provides that, subject to certain stated exceptions, a corporation may not engage in a business combination with any "interested stockholder" (as defined below) for a period of three years following the time that such stockholder became an interested stockholder, unless:

- prior to such time the board of directors of the corporation approved either the business combination or transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by persons who are directors and also officers and employee stock plans in which participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer;
- at or subsequent to such time, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent; or
- by the affirmative vote of 66⅔% of the outstanding voting stock which is not owned by the interested stockholder.

An "interested stockholder" is any person (other than the corporation and any direct or indirect majority-owned subsidiary) who owns 15% or more of the outstanding voting stock of the corporation or is an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of the corporation at any time within the three-year period immediately prior to the date of determination, and the affiliates and associates of such person.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be .

Listing

We intend to apply to list our common stock on the Nasdaq Global Market under the symbol "NKTX."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for shares of our common stock. Future sales of shares of our common stock in the public market after this offering, and the availability of shares for future sale, could adversely affect the market prices prevailing from time to time. As described below, only a limited number of shares of common stock will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nonetheless, sales of substantial amounts of our common stock in the future, or the perception that these sales could occur, could adversely affect prevailing market prices for our common stock and could impair our future ability to raise equity capital.

Immediately prior to the closing of this offering, all outstanding shares of preferred stock will be converted into 27,283,973 shares of common stock, and upon the closing of this offering, a total of shares of common stock will be outstanding (which includes 9,204,950 shares of common stock issuable upon the exercise of outstanding stock options since April 30, 2020), assuming the underwriters do not exercise their option to purchase additional shares. Of these shares, shares of common stock sold in this offering will be freely tradable in the public market without restriction or further registration under the Securities Act, unless these shares are held by "affiliates," as that term is defined in Rule 144 under the Securities Act.

The remaining outstanding shares of our common stock will be deemed "restricted securities" as that term is defined under Rule 144. Restricted securities may be sold in the public market only if their offer and sale is registered under the Securities Act or if the offer and sale of those securities qualify for an exemption from registration, including exemptions provided by Rules 144 and 701 under the Securities Act, which are summarized below.

As a result of the lock-up agreements and market stand-off provisions described below and the provisions of Rules 144 or 701, and assuming no exercise of the underwriters' option to purchase additional shares, the shares of our common stock that will be deemed "restricted securities" will be available for sale in the public market following the completion of this offering as follows:

Date	Number of Shares
On the date of this prospectus (consisting of the shares sold in this offering)	
Beginning 180 days after the date of this prospectus	

Lock-up Agreements

We and all of our directors and officers, and the holders of substantially all of our outstanding securities, have agreed with the underwriters that, for a period of 180 days following the date of this prospectus, subject to certain exceptions, we and they will not, directly or indirectly, offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of or hedge any of our shares of common stock, or any options or warrants to purchase any shares of our common stock, or any securities convertible into, or exchangeable for or that represent the right to receive shares of our common stock. Cowen and Company, LLC, in its sole discretion, may at any time release all or any portion of the shares from the restrictions in such agreements.

The lock-up agreements do not contain any pre-established conditions to the waiver by the representative of the underwriters on behalf of the underwriters of any terms of the lock-up agreements. Any determination to release shares subject to the lock-up agreements would be based on a number of factors at the time of determination, including but not necessarily limited to the market price of the common stock, the liquidity of the trading market for the common stock, general market conditions, the number of shares proposed to be sold and the timing, purpose and terms of the proposed sale.

Rule 144

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell their securities provided that (1) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale, (2) we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale and (3) we are current in our Exchange Act reporting at the time of sale.

Persons who have beneficially owned restricted shares of our common stock for at least six months, but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after the completion of this offering (calculated on the basis of the assumptions described above and assuming no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options); and
- the average weekly trading volume of our common stock on the Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Such sales by affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

In general, under Rule 701 a person who purchased shares of our common stock pursuant to a written compensatory plan or contract and who is not deemed to have been one of our affiliates during the immediately preceding 90 days may sell these shares in reliance upon Rule 144, but without being required to comply with the notice, manner of sale, public information requirements or volume limitation provisions of Rule 144. Rule 701 also permits affiliates to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required to wait until 90 days after the date of this prospectus before selling such shares pursuant to Rule 701. As of April 30, 2020, options exercisable for shares of our outstanding common stock had been issued in reliance on Rule 701. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Registration Statement on Form S-8

We intend to file a registration statement on Form S-8, which will become effective immediately upon filing, under the Securities Act to register all of the shares of common stock issuable under our outstanding options or reserved for issuance under our compensatory stock plans. Shares covered by the Form S-8 will then be eligible for sale in the public markets, subject to vesting restrictions, any applicable lock-up agreements described below and Rule 144 limitations applicable to affiliates. All shares of our common stock will be subject to the lock-up agreements or market stand-off provisions described below.

Market Stand-Off Provisions

Our investors' rights agreement with our founders and holders of our redeemable convertible preferred stock contains a market stand-off provision prohibiting our founders and these stockholders from directly or indirectly selling, offering to sell, contracting to sell, granting any option to purchase or otherwise transferring or disposing of any Company securities for a period of up to 180 days following the effective date of the registration statement relating to this offering, subject to certain conditions.

Registration Rights

Upon the completion of this offering, the holders of an aggregate of shares of our common stock, based on shares of common stock outstanding as of April 30, 2020, or their transferees, will be entitled to rights with respect to the registration of their shares of common stock under the Securities Act. Registration of these shares under the Securities Act will result in these shares becoming freely tradable immediately upon the effectiveness of such registration, subject to the restrictions of Rule 144 and the lock-up agreements. For a further description of these rights, see the section entitled “Description of Capital Stock—Registration Rights.”

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following discussion is a summary of the material U.S. federal income tax considerations to you if you are a non-U.S. Holder (as defined below) with respect to the purchase, ownership and disposition of common stock issued pursuant to this offering, but it does not purport to be a complete analysis of all potential tax effects that may apply to you. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, existing and proposed U.S. Treasury regulations promulgated thereunder, published administrative rulings and judicial decisions, all as in effect as of the date of this prospectus. These laws are subject to change and to differing interpretation, possibly with retroactive effect. Any change or differing interpretation could alter the tax consequences described in this prospectus. We have not sought and do not currently intend to seek any ruling from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position regarding the tax consequences of the purchase, ownership and disposition of the common stock.

We assume in this discussion that you hold your common stock as a “capital asset” within the meaning of section 1221 of the Code. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to you in light of your particular circumstances, including the impact of the alternative minimum tax or the unearned income Medicare contribution tax. In addition, this discussion also does not address the special tax rules applicable to particular non-U.S. holders, including, without limitation:

- tax-exempt organizations or governmental organizations;
- brokers, dealers or traders in securities;
- banks, insurance companies and other financial institutions;
- persons that hold our common stock as part of a hedging or conversion transaction or as part of a short-sale or straddle;
- controlled foreign corporations, passive foreign investment companies and companies that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities treated as partnerships for U.S. federal income tax purposes (and investors therein);
- taxpayers who have elected mark-to-market accounting;
- persons that receive common stock as compensation for the performance of services; and
- U.S. expatriates and certain former citizens or long-term residents of the United States.

In general, a non-U.S. holder means a beneficial owner of our common stock (other than a partnership or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) that, for U.S. federal income tax purposes, is not:

- an individual citizen or resident of the United States;
- a corporation (or other entity treated as a corporation) created or organized under the laws of the United States or of any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if (1) a U.S. court can exercise primary supervision over the trust’s administration and one or more U.S. persons have the authority to control all of the trust’s substantial decisions or (2) the trust has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

If a partnership (or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in such partnership will generally depend on the status of the partner and the activities of the partnership. If you are a partner or partnership holding our common stock, you should consult your own tax advisor regarding the tax consequences of the purchase, ownership and disposition of our common stock.

You should consult your own tax advisors with respect to the U.S. federal, state, local and non-U.S. income and other tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on Our Common Stock

Distributions, if any, on our common stock will generally constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated first as reducing your adjusted basis in your common stock, and, to the extent it exceeds such adjusted basis, as capital gain from the sale or exchange of such common stock.

Subject to the discussion below regarding backup withholding and FATCA, dividends paid to you on our common stock that are not effectively connected with the conduct of a trade or business within the United States will generally be subject to withholding of U.S. federal income tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

You will be entitled to a reduction in or an exemption from withholding on dividends either (a) as a result of an applicable income tax treaty or (b) because you hold our common stock in connection with the conduct of a trade or business within the United States and those dividends are effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, you must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which you reside or are established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. If you do not timely provide the applicable withholding agent with the required certification, but otherwise qualify for a reduced rate under an applicable income tax treaty, you may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to you are effectively connected with your conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, you maintain a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided that you provide appropriate certification, as described above), you will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, if you are a corporation, you may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on your effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items.

You are urged to consult your tax advisor regarding your entitlement to benefits under a relevant income tax treaty.

Sale, Exchange or Other Taxable Disposition of Our Common Stock

You will generally not be subject to U.S. federal income tax or withholding tax (subject to the discussions below on backup withholding and FATCA) on any gain realized upon your sale, exchange or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with your conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained by you, in which case, you will generally be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to U.S. persons, and, if you are a foreign corporation, the branch profits tax described above in "Distributions on Our Common Stock" may also apply;
- you are an individual that is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case, you will generally be subject to a 30% tax on the net gain derived from the disposition, which may be offset by U.S. source capital losses realized during the same taxable year, if any; or
- we are, or have been, at any time during the five-year period preceding such disposition (or your holding period, if shorter) a "U.S. real property holding corporation" for U.S. federal income tax purposes, unless (1) our common stock is regularly traded on an established securities market and (2) you hold no more than 5% of our outstanding common stock, directly or indirectly, actually or constructively. Although there can be no assurance, we believe that we are not currently, and do not anticipate becoming, a U.S. real property holding corporation.

Foreign Accounts Tax Compliance Act

Under the provisions of the Code referred to as FATCA, U.S. withholding tax may also apply to certain types of payments made to "foreign financial institutions," as specially defined under such rules, and certain other non-U.S. entities. The legislation imposes a 30% withholding tax on dividends on our common stock paid to a foreign financial institution or to a foreign non-financial entity, unless (1) the foreign financial institution undertakes certain diligence and reporting obligations or (2) the foreign non-financial entity either certifies it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner. In addition, if the payee is a foreign financial institution, it must enter into an agreement with the U.S. Treasury or, in the case of a foreign financial institution in a jurisdiction that has entered into an intergovernmental agreement with the United States, complies with the requirements of such agreement. You should consult your tax advisor regarding FATCA.

Backup Withholding and Information Reporting

We must report annually to the IRS and to you the gross amount of the dividends on our common stock paid to you and the tax withheld, if any, with respect to such dividends. You will have to comply with specific certification procedures to establish that you are not a U.S. person, as defined for U.S. federal income tax purposes, in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock and certain other types of payments.

Information reporting and backup withholding will generally apply to the proceeds of your disposition of our common stock effected by or through the U.S. office of any broker, U.S. or foreign, unless you certify your status as a non-U.S. holder and satisfy certain other requirements, or otherwise establish an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to you where the transaction is effected outside the United States through a non-U.S. office of a broker. However, dispositions effected through a non-U.S. office of a broker deriving more than a specified percentage of its income from U.S. sources or having certain other connections to the United States will generally be subject to information reporting, unless you certify your status as a non-U.S. holder and satisfy certain other requirements, or otherwise establish

an exemption. You should consult your own tax advisors regarding the application of the information reporting and backup withholding rules to you. Copies of information returns may be made available to the tax authorities of the country in which you reside or are incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to you may be allowed as a credit against your U.S. federal income tax liability, if any, and may entitle you to a refund, provided that the required information is timely furnished to the IRS.

UNDERWRITING

We and the underwriters for the offering named below have entered into an underwriting agreement with respect to the common stock being offered. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase from us the number of shares of our common stock set forth opposite its name below. Cowen and Company, LLC, Evercore Group L.L.C, and Stifel, Nicolaus & Company, Incorporated are the representatives of the underwriters.

Underwriter	Number of Shares
Cowen and Company, LLC	
Evercore Group L.L.C.	
Stifel, Nicolaus & Company, Incorporated	
Mizuho Securities USA LLC	
Total	

The underwriting agreement provides that the obligations of the underwriters are subject to certain conditions precedent and that the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased, other than those shares covered by the overallotment option described below. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act of 1933, as amended, and to contribute to payments the underwriters may be required to make in respect thereof.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel and other conditions specified in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Overallotment Option to Purchase Additional Shares. We have granted to the underwriters an option to purchase up to 15% of the offering additional shares of common stock at the public offering price, less the underwriting discount. This option is exercisable for a period of 30 days. The underwriters may exercise this option solely for the purpose of covering overallotments, if any, made in connection with the sale of common stock offered hereby. To the extent that the underwriters exercise this option, the underwriters will purchase additional shares from us in approximately the same proportion as shown in the table above.

Discounts and Commissions. The following table shows the public offering price, underwriting discount and commissions and proceeds, before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

We estimate that the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately $ and are payable by us. We have also agreed to reimburse the underwriters for up to $30,000 for their FINRA counsel fee. In accordance with FINRA Rule 5110, this reimbursed fee is deemed underwriting compensation for this offering.

		Total	
	Per Share	No Exercise of Over-Allotment	Full Exercise of Over Allotment
Public offering price			
Underwriting discount			
Proceeds, before expenses, to us			

The underwriters propose to offer the shares of common stock to the public at the public offering price set forth on the cover of this prospectus. The underwriters may offer the shares of common stock to securities dealers at the public offering price less a concession not in excess of $ per share. If all of the shares are not sold at the public offering price, the underwriters may change the offering price and other selling terms.

Discretionary Accounts. The underwriters do not intend to confirm sales of the shares to any accounts over which they have discretionary authority.

Market Information. Prior to this offering, there has been no public market for shares of our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In addition to prevailing market conditions, the factors to be considered in these negotiations will include:

- the history of, and prospects for, our company and the industry in which we compete;
- our past and present financial information;
- an assessment of our management; its past and present operations, and the prospects for, and timing of, our future revenues;
- the present state of our development; and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

We have applied for the quotation of our common stock on the Nasdaq Global Market under the symbol “NKTX.”

Stabilization. In connection with this offering, the underwriters may engage in stabilizing transactions, overallotment transactions, syndicate covering transactions, penalty bids and purchases to cover positions created by short sales.

- Stabilizing transactions permit bids to purchase shares of common stock so long as the stabilizing bids do not exceed a specified maximum, and are engaged in for the purpose of preventing or retarding a decline in the market price of the common stock while the offering is in progress.
- Overallotment transactions involve sales by the underwriters of shares of common stock in excess of the number of shares the underwriters are obligated to purchase. This creates a

syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the overallotment option. In a naked short position, the number of shares involved is greater than the number of shares in the overallotment option. The underwriters may close out any short position by exercising their overallotment option and/or purchasing shares in the open market.

- Syndicate covering transactions involve purchases of common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared with the price at which they may purchase shares through exercise of the overallotment option. If the underwriters sell more shares than could be covered by exercise of the overallotment option and, therefore, have a naked short position, the position can be closed out only by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that after pricing there could be downward pressure on the price of the shares in the open market that could adversely affect investors who purchase in the offering.
- Penalty bids permit the representatives to reclaim a selling concession from a syndicate member when the common stock originally sold by that syndicate member is purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of our common stock. These transactions may be effected on the Nasdaq Stock Market, in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

Lock-Up Agreements. Pursuant to certain “lock-up” agreements, we and our executive officers, directors and substantially all our other stockholders, have agreed, subject to certain exceptions, not to offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of or announce the intention to otherwise dispose of, or enter into any swap, hedge or similar agreement or arrangement that transfers, in whole or in part, the economic consequence of ownership of, directly or indirectly, or make any demand or request or exercise any right with respect to the registration of, or file with the SEC a registration statement under the Securities Act relating to, any common stock or securities convertible into or exchangeable or exercisable for any common stock without the prior written consent of Cowen and Company, LLC for a period of 180 days after the date of the pricing of the offering. The foregoing prohibition does not apply to shares of Common Stock acquired by any of the following in this offering or in market transactions after the date of this offering.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for common stock. The exceptions permit us, among other things and subject to restrictions, to: (a) issue common stock or options pursuant to employee benefit plans, (b) issue common stock upon exercise of outstanding options or warrants, (c) issue securities in connection with acquisitions or similar transactions, or (d) file registration statements on Form S-8. The exceptions permit parties to the “lock-up” agreements, among other things and subject to restrictions, to: (a) make certain gifts, (b) if the party is an individual, make transfers for estate planning purposes, to the party’s immediate family, by will, testamentary document or interstate succession, (c) if the party is a corporation, partnership, limited liability company or other business entity, make transfers to any

shareholders, partners, members of, or owners of similar equity interests in, the party, or to an affiliate of the party, if such transfer is not for value, (d) if the party is a corporation, partnership, limited liability company or other business entity, make transfers in connection with the sale or transfer of all of the party's capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the party's assets, in any such case not undertaken for the purpose of avoiding the restrictions imposed by the "lock-up" agreement, (e) participate in tenders involving the acquisition of a majority of our stock, (f) enter into certain trading plans, and (g) make transfers to us to satisfy certain tax withholding obligations or pursuant to certain employment agreements. In addition, the lock-up provision will not restrict broker-dealers from engaging in market making and similar activities conducted in the ordinary course of their business.

Cowen and Company, LLC, in its sole discretion, may release our common stock and other securities subject to the lock-up agreements described above in whole or in part at any time. When determining whether or not to release our common stock and other securities from lock-up agreements, Cowen and Company, LLC will consider, among other factors, the holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time of the request. In the event of such a release or waiver for one of our directors or officers, Cowen and Company, LLC shall provide us with notice of the impending release or waiver at least three business days before the effective date of such release or waiver and we will announce the impending release or waiver by issuing a press release at least two business days before the effective date of the release or waiver. If Cowen releases shares from the lock up for a shareholder, each of the following shareholders shall also be allowed to sell a pro rata amount of shares into the market, subject to certain exceptions:

Canada. The common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

United Kingdom. In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Switzerland. The securities will not be offered, directly or indirectly, to the public in Switzerland and this prospectus does not constitute a public offering prospectus as that term is understood pursuant to article 652a or 1156 of the Swiss Federal Code of Obligations.

European Economic Area. In relation to each Member State of the European Economic Area (each, a "Member State"), no shares have been offered or will be offered pursuant to the offering to the public in that Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Member State at any time under the following exemptions under the Prospectus Regulation:

1. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
2. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriters; or
3. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require the Company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the underwriters and the Company that it is a "qualified investor" within the meaning of Article 2(e) of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Member State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters have been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer to the public" in relation to shares in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Israel. In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728—1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728—1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the "Addressed Investors"); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728—1968, subject to certain conditions (the "Qualified Investors"). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed

Investors. The company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728—1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728—1968. In particular, we may request, as a condition to be offered common stock, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728—1968 and the regulations promulgated thereunder in connection with the offer to be issued common stock; (iv) that the shares of common stock that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728—1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728—1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

Hong Kong. The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong), or the SFO, of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong), or the CO, or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made thereunder.

Singapore. Each underwriter has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each underwriter has represented and agreed that it has not offered or sold any shares or caused the shares to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares or cause the shares to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, whether directly or indirectly, to any person in Singapore other than:

1. to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time, or the SFA) pursuant to Section 274 of the SFA;
2. to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or
3. otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

We have not authorized and do not authorize the making of any offer of securities through any financial intermediary on our behalf, other than offers made by the underwriters and their respective affiliates, with a view to the final placement of the securities as contemplated in this document. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of shares on our behalf or on behalf of the underwriters.

Electronic Offer, Sale and Distribution of Shares. A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representatives may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Other Relationships. Certain of the underwriters and their affiliates have provided, and may in the future provide, various investment banking, commercial banking and other financial services for us and our affiliates for which they have received, and may in the future receive, customary fees.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by O'Melveny & Myers LLP, San Francisco, California. Shearman & Sterling LLP, Menlo Park, California, is acting as counsel to the underwriters.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements at December 31, 2018 and 2019, and for the years then ended, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements) appearing elsewhere herein. We have included our financial statements in this prospectus and elsewhere in the registration statement in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or document referred to are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. You may read and copy the registration statement, including the exhibits and schedules thereto, at the Public Reference Section of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's Public Reference Room and the website of the SEC referred to above. We also maintain a website at www. www.nkartatx.com. Upon completion of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

NKARTA, INC.

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Nkarta, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Nkarta, Inc. (the Company) as of December 31, 2018 and 2019, the related statements of operations and comprehensive loss, convertible preferred stock and stockholders' (deficit) equity and cash flows for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2019, as applicable, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

The Company's Ability to Continue as a Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses and negative cash flows from operations and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

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

We have served as the Company's auditor since 2019.

/s/ Ernst & Young LLP

Redwood City, California
April 17, 2020

NKARTA, INC.

BALANCE SHEET

	December 31,		Pro Forma Stockholders' Equity as of December 31, 2019
	2018	2019	(Unaudited)
Assets			
Current assets			
Cash and cash equivalents	$ 7,866,674	$ 20,606,849	
Short-term investments, available-for-sale	–	16,384,273	
Receivable from GSK	150,000	–	
Prepaid expenses and other current assets	211,706	473,922	
Total current assets	8,228,380	37,465,044	
Restricted cash	89,813	268,535	
Property and equipment, net	1,287,105	3,079,525	
Operating lease right-of-use assets	–	7,143,570	
Other long-term assets	–	455,078	
Total assets	$ 9,605,298	$ 48,411,752	
Liabilities and stockholders' (deficit) equity			
Current liabilities			
Accounts payable	$ 367,172	$ 1,881,665	
Operating lease liabilities, current portion	–	1,515,813	
Preferred stock purchase right liability	–	1,477,645	
Accrued and other current liabilities	1,709,467	3,334,637	
Total current liabilities	2,076,639	8,209,760	
Long-term deferred rent	128,916	–	
Operating lease liabilities, net of current portion	–	5,780,394	
Other long-term liabilities	86,444	89,227	
Total liabilities	2,291,999	14,079,381	
Commitments			
Convertible preferred stock, $0.0001 par value; 54,350,179 shares authorized at December 31, 2019; 6,170,349 and 27,283,973 issued and outstanding shares at December 31, 2018 and December 31, 2019, respectively; aggregate liquidation preference of $63,003,153 at December 31, 2019; no shares authorized, issued and outstanding, pro forma (unaudited)	12,709,293	59,814,882	$ –
Stockholders' (deficit) equity			
Common stock, $0.0001 par value; 71,919,982 shares authorized at December 31, 2019; 4,557,813 and 5,922,233 shares issued and 6,280,313 and 6,411,572 shares outstanding at December 31, 2018 and 2019, respectively; 33,206,206 shares issued and 33,695,545 shares outstanding, pro forma (unaudited)	456	592	3,321
Additional paid-in capital	187,457	1,178,778	60,990,931
Accumulated other comprehensive loss	–	(2,139)	(2,139)
Accumulated deficit	(5,583,907)	(26,659,742)	(26,659,742)
Total stockholders' (deficit) equity	(5,395,994)	(25,482,511)	$ 34,332,371
Total liabilities and stockholders' (deficit) equity	$ 9,605,298	$ 48,411,752	

See accompanying notes to financial statements

NKARTA, INC.

STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Year ended December 31,	
	2018	2019
Collaboration revenue	$ 6,550,000	$ 115,385
Operating expenses		
Research and development	4,252,210	17,216,955
General and administrative	2,654,239	5,246,960
Total operating expenses	6,906,449	22,463,915
Loss from operations	(356,449)	(22,348,530)
Other income (expense):		
Change in fair value of preferred stock purchase right liability	–	1,317,582
Change in fair value of derivative liability	–	858,331
Loss from extinguishment of debt	–	(752,167)
Interest expense	–	(472,819)
Interest income	81,946	304,106
Other income, net	–	17,662
Total other income (expense)	81,946	1,272,695
Net loss	$ (274,503)	$ (21,075,835)
Comprehensive loss:		
Net loss	$ (274,503)	$ (21,075,835)
Other comprehensive loss	–	(2,139)
Comprehensive loss	$ (274,503)	$ (21,077,974)
Net loss per share, basic and diluted	$ (0.07)	$ (3.89)
Weighted average shares outstanding, basic and diluted	3,940,474	5,411,362
Pro forma net loss per share, basic and diluted (unaudited)		$ (1.13)
Pro forma weighted average shares outstanding, basic and diluted (unaudited)		18,599,999

See accompanying notes to financial statements

NKARTA, INC.

STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

	Convertible Preferred Stock		Common Stock		Additional paid-in capital	Accumulated deficit	Accumulated Other Comprehensive Loss	Total
	Shares	Amount	Shares	Amount				
Balance, January 1, 2018	6,170,349	$12,709,293	3,062,500	$ 306	$ 3,830	$ (5,309,404)	$ –	$ (5,305,268)
Vesting of shares of common stock subject to repurchase	–	–	1,250,000	125	–	–	–	125
Stock option exercises	–	–	245,313	25	1,114	–	–	1,139
Share-based compensation expense	–	–	–	–	182,513	–	–	182,513
Net loss	–	–	–	–	–	(274,503)		(274,503)
Balance, December 31, 2018	6,170,349	$12,709,293	4,557,813	$ 456	$ 187,457	$ (5,583,907)	$ –	$ (5,395,994)
Beneficial conversion feature upon issuance of convertible promissory notes	–	260,871	–	–	–	–	–	–
Reacquisition of beneficial conversion feature upon settlement of promissory notes	–	(144,928)	–	–	–	–	–	–
Issuance of Series B convertible preferred stock upon conversion of promissory notes	2,621,181	6,236,712	–	–	–	–	–	–
Issuance of Series B convertible preferred stock, net of issuance costs	18,492,443	43,548,161	–	–	–	–	–	–
Series B preferred stock purchase right liability upon issuance of Series B convertible preferred stock	–	(2,795,227)	–	–	–	–	–	–
Vesting of shares of common stock subject to repurchase	–	–	1,312,153	131	41,175	–	–	41,306
Stock option exercises	–	–	52,267	5	3,168	–	–	3,173
Share-based compensation expense	–	–	–	–	946,978	–	–	946,978
Unrealized loss on short-term investments	–	–	–	–	–	–	(2,139)	(2,139)
Net loss	–	–	–	–	–	(21,075,835)	–	(21,075,835)
Balance, December 31, 2019	27,283,973	$59,814,882	5,922,233	$ 592	$ 1,178,778	$(26,659,742)	$ (2,139)	$(25,482,511)

See accompanying notes to financial statements

NKARTA, INC.

STATEMENT OF CASH FLOWS

	Year ended December 31,	
	2018	2019
Cash flows from operating activities		
Net loss	$ (274,503)	$ (21,075,835)
Adjustments to reconcile net loss to net cash used in operating activities:		
Share-based compensation expense	182,513	946,978
Depreciation and amortization	183,214	400,641
Accretion/amortization of investments, net	–	(19,142)
Change in fair value of preferred stock purchase right liability	–	(1,317,582)
Change in fair value of derivative liability	–	(858,331)
Non-cash loss from extinguishment of debt	–	752,167
Non-cash interest expense	–	472,818
Non-cash lease expense	–	152,638
Changes in operating assets and liabilities:		
Accounts receivable, prepaid expenses and current assets	(14,824)	(463,265)
Accounts payable and accrued and other liabilities	689,708	2,641,957
Deferred revenue	(5,950,000)	–
Net cash used in operating activities	(5,183,892)	(18,366,956)
Cash flows from investing activities		
Purchase of property and equipment	(757,880)	(1,928,301)
Purchase of investments	–	(16,367,270)
Net cash used in investing activities	(757,880)	(18,295,571)
Cash flows from financing activities		
Proceeds from issuance of convertible notes, net of issuance costs	–	5,986,001
Proceeds from issuance of convertible preferred stock and Series B preferred stock purchase right liability, net of issuance costs	–	43,548,161
Proceeds from stock option exercise	1,139	3,173
Proceeds from early exercise of stock options	86,350	44,089
Net cash provided by financing activities	87,489	49,581,424
Net (decrease) increase in cash and cash equivalents	(5,854,283)	12,918,897
Cash, cash equivalents, and restricted cash beginning of year	13,810,770	7,956,487
Cash, cash equivalents, and restricted cash end of year	$ 7,956,487	$ 20,875,384
Reconciliation of cash, cash equivalents and restricted cash to the balance sheet		
Cash and cash equivalents	$ 7,866,674	$ 20,606,849
Restricted cash	89,813	268,535
Total cash, cash equivalents and restricted cash	$ 7,956,487	$ 20,875,384
Supplemental disclosure of cash flow information:		
Non-cash investing activities:		
Acquisition of property and equipment	$ 399,224	$ 264,760
Non-cash financing activities		
Deferred offering costs included in accrued expenses	$ –	$ 104,030

See accompanying notes to financial statements

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

1. Organization and Description of Business

Nkarta, Inc. ("Nkarta" or the "Company") was incorporated in the state of Delaware in July 2015. The Company is a private biopharmaceutical company developing engineered Natural Killer ("NK") cells to fight cancer. The Company is focused on leveraging the natural potent power of NK cells to identify and kill abnormal cells and recruit adaptive immune effectors to generate responses that are specific and durable. Nkarta is combining its NK expansion platform technology with proprietary cell engineering technologies to generate an abundant supply of NK cells, engineer enhanced NK cell recognition of tumor targets, and improve persistence for sustained activity in the body for the treatment of cancer. Nkarta's goal is to develop off-the-shelf NK cell therapy product candidates to improve outcomes for patients.

Liquidity

As of December 31, 2019, the Company has devoted substantially all of its efforts to organizing and staffing, business planning, raising capital, and conducting preclinical studies, and has not realized substantial revenues from its planned principal operations. In addition, the Company has a limited operating history, has incurred operating losses since inception and expects that it will continue to incur net losses into the foreseeable future as it continues its research and development activities. As of December 31, 2019, the Company had an accumulated deficit of $26.7 million and cash, cash equivalents, restricted cash and investments of $37.3 million. The Company will require additional cash funding to continue to execute its strategic plan and fund operations beyond October 31, 2020. These factors raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements have been prepared assuming the Company will continue as a going concern. This basis of accounting contemplates the recovery of the Company's assets and the satisfaction of liabilities in the normal course of business and does not include any adjustments to reflect the possible future effects of the recoverability and classification of assets or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

The Company will seek to obtain additional capital through debt or equity financings or other arrangements to fund operations; however, there can be no assurance that the Company will be able to raise needed capital under acceptable terms, if at all. The sale of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to currently outstanding shares of common stock. Issued debt securities may contain covenants and limit the Company's ability to pay dividends or make other distributions to stockholders. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued.

2. Basis of Presentation and Significant Accounting Policies

Basis of Presentation

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

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

Unaudited Pro Forma Financial Information

The unaudited pro forma stockholders' equity as of December 31, 2019 assumes the conversion of all outstanding shares of convertible preferred stock into 27,283,973 shares of common stock immediately prior to the completion of the Company's planned initial public offering ("IPO"). The shares of common stock issuable and the proceeds expected to be received in the IPO are excluded from such pro forma financial information. Pro forma basic and diluted net loss per share has been computed to give effect to the conversion of all outstanding convertible preferred stock into shares of common stock. The unaudited pro forma net loss per share for the year ended December 31, 2019, was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of convertible preferred stock into shares of common stock, as if such conversion had occurred at the beginning of the period, or their issuance dates, if later.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the Company's financial statements and accompanying notes. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, preclinical studies, fair value of assets and liabilities, convertible preferred stock, share-based compensation and income taxes. Management bases its estimates on historical experience, knowledge of current events and actions it may undertake in the future that management believes to be reasonable under the circumstances. Actual results may differ from these estimates and assumptions.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentration of credit risk, consist primarily of cash, cash equivalents and short-term investments. The Company maintains cash, cash equivalents and short-term investments with various high credit quality and are invested through banks and other financial institutions in the United States. Such deposits may be in excess of federally insured limits. Management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. The Company has not experienced any losses on deposits since inception.

Other Comprehensive Loss

Other comprehensive loss includes certain changes in equity from non-owner sources that are excluded from net loss, specifically, unrealized gains and losses on available-for-sale investments and the related tax impact.

Fair Value of Financial Instruments

The accounting guidance defines fair value, establishes a consistent framework for measuring fair value, and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as an exit price representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Observable inputs such as quoted prices in active markets;

Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

The carrying amounts of accounts receivable, prepaid expenses, accounts payable, and accrued liabilities are reasonable estimates of their fair value due to the short term nature of these accounts.

Cash and Cash Equivalents

The Company considers all highly liquid investments with insignificant interest rate risk and an original maturity of three months or less at the date of purchase to be cash equivalents. Cash includes demand deposits held in readily available checking accounts at a federally insured financial institution. Cash equivalents consist of money market funds.

Available-for-Sale Investments

The Company defines investments as income-yielding securities that can be readily converted to cash, and classifies such investments as available-for-sale. The Company carries these securities at fair value, and reports unrealized gains and losses as a separate component of accumulated other comprehensive loss. The cost of debt securities is adjusted for amortization of purchase premiums and accretion of discounts to maturity. Such amortization and accretion is included in interest income. Realized gains and losses on sales of securities and declines in the fair value of securities judged to be other than temporary are included in other income or expense. The cost of securities sold is based on the specific identification method. Interest on available-for-sale securities is included in interest income

Restricted Cash

The Company is required to maintain a letter of credit related to their office and lab space lease. This cash is the collateral for that letter of credit and per the terms of the lease must remain in place until two months after the termination of the lease. As the remaining term of the lease as of December 31, 2019 is greater than one year, the related restricted cash has been classified as non-current.

Property and Equipment, Net

Property and equipment, which consist of leasehold improvements, furniture and fixtures, research equipment, computers and software, and construction in-progress related to facilities construction are stated at cost less accumulated depreciation. Depreciation and amortization is calculated using the straight-line method over the estimated useful lives of the assets, which ranges from three to five years. Leasehold improvements are amortized over the remaining life of the lease for leasehold improvements at the time the asset is placed into service.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

Impairment of Long-Lived Assets

The carrying value of long-lived assets, including property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the asset may not be recoverable. An impairment loss is recognized when the total of estimated future undiscounted cash flows, expected to result from the use of the asset and its eventual disposition, are less than its carrying amount. Impairment, if any, would be assessed using discounted cash flows or other appropriate measures of fair value. Through December 31, 2019, there have been no such impairment losses.

Deferred Offering Costs

The Company has deferred offering costs consisting of legal, accounting and other fees and costs directly attributable to its planned initial public offering ("IPO"). The deferred offering costs will be offset against the proceeds received upon the completion of the planned IPO. In the event the planned IPO is terminated, all of the deferred offering costs will be expensed within the Company's statements of operations and comprehensive loss. As of December 31, 2019, $0.1 million of deferred offering costs were recorded within other long-term assets on the balance sheet. No such costs were included on the balance sheet as of December 31, 2018.

Revenue Recognition

Revenue is recognized in accordance with ASC 606 when a customer obtains control of promised goods or services. The Company applies the following five steps to recognize revenue: (i) identify the contract with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to performance obligations in the contract; and (v) determine the recognition period.

The Company evaluates its performance obligations to determine whether each item represents a good or service that is distinct or has the same pattern of transfer as other deliverables. A deliverable is considered distinct if the customer can benefit from the good or service independently of other goods/services either in the contract or that can be obtained elsewhere, and the entity's promise to transfer the good or service to the customer is separately identifiable from other promises in the contact. If the deliverable is not considered distinct, the Company combines such deliverables and accounts for them as a single performance obligation. The Company allocates the consideration to each deliverable at the inception of the arrangement based on the transaction price.

The Company's Collaboration Agreement (as defined in Note 3) included both fixed and variable consideration. Fixed payments, such as those for upfront fees or separate deliverables were included in the transaction price at their stand-alone selling price, while variable consideration, such as milestone and royalty payments, were estimated and then evaluated for constraints at the inception of the contract and evaluated on a periodic basis thereafter. Given the contingent and uncertain nature of the Company's development and regulatory milestones, the related milestone payments potentially due to the Company were not recognized.

The Company recognizes consideration allocated to a performance obligation as the performance obligation is satisfied, and the determination as to whether consideration is recognized over time or at a point in time is made at the contract execution.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

Research and Development Costs

Research and development costs primarily consist of salaries and other personnel-related expenses, including associated share-based compensation, consulting fees, lab supplies, and facilities costs, as well as fees paid to other entities that conduct research and development activities on behalf of the Company. Research and development costs are expensed as incurred.

Commitments

The Company recognizes a liability with regard to loss contingencies when it believes it is probable a liability has occurred and the amount can be reasonably estimated. If some amount within a range of loss appears at the time to be a better estimate than any other amount within the range, the Company accrues that amount. When no amount within the range is a better estimate than any other amount the Company accrues the minimum amount in the range. The Company has not recorded any such liabilities as of December 31, 2019.

Leases

At the commencement date of a lease, the Company recognizes lease liabilities which represent its obligation to make lease payments, and right-of-use assets (“ROU assets”) which represent its right to use the underlying asset during the lease term. The lease liability is measured at the present value of lease payments over the lease term. As the Company’s leases typically do not provide an implicit rate, the Company uses an incremental borrowing rate based on the information available at the lease commencement date. The ROU asset is measured at cost, which includes the initial measurement of the lease liability and initial direct costs incurred by the Company and excludes lease incentives. Lease liabilities are recorded in accrued liabilities and operating lease liabilities, noncurrent. ROU assets are recorded in operating lease ROU assets.

Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Operating lease expense is recognized on a straight-line basis over the lease term. Lease agreements that contain both lease and non-lease components are generally accounted for separately. The Company does not recognize lease liabilities and ROU assets for short-term leases with terms of twelve months or less.

Preferred Stock Purchase Right

The Company at times enters into convertible preferred stock financings where, in addition to the initial closing, investors agree to buy, and the Company agrees to sell, additional shares of that convertible preferred stock at a fixed price in the event that certain agreed upon milestones are achieved or at the election of investors. The Company evaluates this purchase right and assesses whether it meets the definition of a freestanding instrument and, if so, determines the fair value of the purchase right liability and records it on the balance sheet with the remainder of the proceeds raised being allocated to convertible preferred stock. The preferred stock purchase right liability is revalued at each reporting period with changes in the fair value of the liability recorded as change in fair value of preferred stock purchase right in the statements of operations and comprehensive loss. The preferred stock purchase right liability is revalued at settlement and the resultant fair value is then reclassified to convertible preferred stock at that time.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

Income Taxes

Income taxes have been accounted for using the asset and liability method. Under the asset and liability method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates applicable to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance against deferred tax assets is recorded if, based upon the weight of all available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

Share-Based Compensation

Share-based compensation expense represents the cost of the grant date fair value of employee, officer, director, and non-employee stock option grants, estimated in accordance with the applicable accounting guidance, recognized on a straight-line basis over the vesting period. The vesting period generally approximates the expected service period of the awards. Forfeitures are recognized and accounted for as they occur.

The fair value of stock options is estimated using a Black-Scholes option pricing model on the date of grant. This method requires certain assumptions be used as inputs, such as the fair value of the underlying common stock, expected term of the option before exercise, expected volatility of the Company's common stock, expected dividend yield, and a risk-free interest rate. Options granted during the year have a maximum contractual term of ten years. The Company has limited historical stock option activity and therefore estimates the expected term of stock options granted using the simplified method, which represents the average of the contractual term of the stock option and its weighted-average vesting period. The expected volatility of stock options is based upon the historical volatility of a number of publicly traded companies in similar stages of clinical development. The Company has historically not declared or paid any dividends and does not currently expect to do so in the foreseeable future. The risk-free interest rates used are based on the U.S. Department of Treasury ("U.S. Treasury") yield in effect at the time of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the expected term of the stock options.

In September and November of 2019, the Company granted performance-based and service-based options that require the achievement of a Series B Milestone Closing (Note 13) before the options can be eligible for service vesting conditions. The Series B Milestone Closing refers to provisions within the Series B Convertible Preferred Stock Purchase Agreement (Note 13) that potentially obligate the Company to sell, outside of its control, an additional 27,066,206 shares of Series B convertible preferred stock at $2.37935 per share (as adjusted for stock recapitalizations, splits and the like), for expected gross proceeds of $64.4 million, upon the achievement of a milestone. If the milestone is not achieved prior to the Company's initial public offering, the holders may elect to purchase these shares prior to the completion of the initial public offering. If the shares are not purchased prior to the completion of the initial public offering, then this right to purchase these shares automatically expires. The Company evaluates the portion of the awards that are probable to vest quarterly until the performance criteria are met. The fair value of options with a performance and service condition is determined based on the fair value of the Company's common stock on the date of

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

grant. As of December 31, 2019, the Company considered the Series B Milestone Closing condition to be probable.

Common Stock Valuation

Due to the absence of an active market for the Company's common stock, the Company utilized methodologies in accordance with the framework of Standards 9 and 10 of the Uniform Standards of Professional Appraisal Practice, the Statement on Standards for Valuation Services as set forth by the American Institute of Certified Public Accountants ("AICPA), the Statement of U.S. GAAP Codification of Accounting Standards Codification Topic 820: Fair Value Measurements and Disclosures, and the AICPA Accounting and Valuation Guide for the Valuation of Privately-Held- Company Equity Securities Issued as Compensation, to estimate the fair value of its common stock. In determining the exercise prices for options granted, the Company has considered the fair value of the common stock as of the grant date. The fair value of the common stock has been determined based upon a variety of factors, including the illiquid nature of the common stock, sales of the Company's preferred stock, the effect of the rights and preferences of the preferred stockholders, and the prospects of a liquidity event. Among other factors are the Company's financial position and historical financial performance, the status of technological developments within the Company's research, the composition and ability of the current research and management team, an evaluation or benchmark of the Company's competition, and the current business climate in the marketplace. Significant changes to the key assumptions underlying the factors used could result in different fair values of common stock at each valuation date.

Convertible Preferred Stock

The Company records all shares of convertible preferred stock at their respective issuance price less issuance costs on the dates of issuance. The convertible preferred stock is classified outside of stockholders' deficit on the balance sheet when events triggering the liquidation preferences are not solely within the Company's control, including deemed liquidation events such as a merger, acquisition and sale of all or substantially all of the Company's assets. As of December 31, 2019, the events triggering a liquidation of the convertible preferred stock were considered not to be within the Company's control because the preferred stockholders have the ability to effect a liquidation event, as they have majority of the Company's Board seats. Therefore, the Company has classified the convertible preferred stock outside of permanent equity.

The Company has not adjusted the carrying value of the convertible preferred stock to the liquidation preferences of these shares because of the uncertainty of whether or when such a liquidation event would occur. As of December 31, 2019, it was not probable that such a redemption would occur.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, or decision-making group, in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business as one operating segment. No product revenue has been generated since inception and all assets are held in the United States.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

2. Basis of Presentation and Significant Accounting Policies (Continued)

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period, without consideration of potential dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the sum of the weighted average number of common shares plus the potential dilutive effects of potential dilutive securities outstanding during the period. Potential dilutive securities are excluded from diluted earnings or loss per share if the effect of such inclusion is antidilutive. The Company's potentially dilutive securities, which include convertible preferred stock, unvested common stock, and outstanding stock options under the Company's equity incentive plan have been excluded from the computation of diluted net loss per share as they would be anti-dilutive to the net loss per share. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

Changes in Accounting Policies – Leases

In February 2016, the FASB established Topic 842, Leases, by issuing ASU No. 2016-02, which requires a lessee to recognize a ROU asset and lease liability on the balance sheet while recognizing expense in the income statement in a manner similar to legacy guidance.

The Company early adopted the new standard using the modified retrospective transition approach on January 1, 2019 by applying the standard to all leases existing at the date of initial application and not restating prior periods. The primary impact of adopting the new standard was the recognition of a lease liability of $2.3 million and a ROU asset of $2.2 million, based on the present value of the remaining minimum rental payments under the lease agreement for its existing operating lease. The Company's adoption of the new standard had no impact on its statements of operations and cash flows.

The Company elected the 'package of practical expedients' which does not require the Company to reassess its prior conclusions about lease identification, lease classification and initial direct costs under the new standard. In addition, the Company has elected not to recognize lease liabilities and ROU assets for short-term leases with terms of twelve months or less. See Note 8 for further information regarding the impact of adoption of the standard on the Company's financial statements.

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including available-for-sale debt securities. The standard is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company is currently evaluating the expected impact of the guidance, but does not believe the adoption of this guidance will have a material impact on the Company's financial statements.

3. GSK Collaboration and License Agreement

In April 2017, the Company entered into the Collaboration and License Agreement (the "Collaboration Agreement") with GlaxoSmithKline Intellectual Property Development Limited and Glaxo

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

3. GSK Collaboration and License Agreement (Continued)

Group Limited (together, "GSK") to research and develop therapeutics using Engineered NK Cells as carriers for target programs. Pursuant to the Collaboration Agreement, GSK agreed to pay the Company $7.0 million upfront plus $4.5 million upon the technology transfer of certain materials and development information. The Company was also eligible to receive additional payments for achieving certain development and sales milestones as well as royalties on net sales. In addition, during the term of the Agreement, GSK agreed to reimburse the Company on a quarterly basis for research and development services as these services were provided. The Company granted to GSK several exclusive and non-exclusive worldwide licenses and agreed to transfer certain of its material and intellectual property to GSK. GSK granted a non-exclusive worldwide license to the Company.

The Company assessed this arrangement in accordance with ASC Topic 606 and concluded that the contract counterparty, GSK, was a customer. The Company identified the following performance obligations under the Collaboration Agreement: (1) licenses to certain patent rights, (2) technology transfer of certain materials and development information, (3) research and development services over the collaboration term, and (4) participation in Joint Steering, Patent and Manufacturing Committees (each as defined in the Collaboration Agreement). The technology transfer was determined to be distinct in the context of the Agreement as GSK did not require the technology transfer to obtain benefit from the license and could pursue other research targets on its own without the delivered technology. All other performance obligations were not considered distinct and, therefore, had been combined with the research and development obligation in the contract.

At the outset of the arrangement, the Company considered the transaction price as the combination of the $7.0 million upfront fee, the $4.5 million for the technology transfer plus the expected fees for the research services of $150,000 per quarter. The transaction price was allocated to the distinct performance obligations based on the relative fair values of each of the two performance obligations: (1) the research and development services, license and the participation in the Joint Steering, Patent and Manufacturing Committees and (2) the technology transfer. None of the milestone payments were included in the transaction price, as all milestone amounts were fully constrained. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt of the milestones was generally outside the control of the Company and contingent upon success in future clinical trials and the efforts of GSK. Any consideration related to sales-based milestones would have been recognized when the related sales occurred as there were determined to relate predominantly to the license granted to GSK and, therefore, had also been excluded from the transaction price. The Company would have re-evaluated the transaction price in each reporting period and as uncertain events were resolved or other changes in circumstances occurred.

In June 2017, the Company received the upfront payment of $7.0 million and $0.5 million in the form of a convertible promissory note (the "GSK Convertible Note"). The promissory note was accounted for as debt and converted to preferred stock at the sale and issuance of Series A convertible preferred stock (see Note 13). The Company also received research and development services fees of approximately $150,000 per quarter. The revenue associated with the license and research and development services fees was being recognized as revenue as the Company provided the related research and development services. As these services were expected to be performed at a consistent level of effort during the entire duration of the five-year agreement, the amount was being recognized as revenue ratably over the expected term of the agreement, 5 years.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

3. GSK Collaboration and License Agreement (Continued)

In September 2018, GSK provided notice to the Company of their decision to voluntarily terminate the Collaboration Agreement. GSK continued to reimburse the Company for 90 days subsequent to the notice of termination for the research and development services provided during the wind-down period in accordance with the termination terms of the agreement. No further payments for milestones were made by GSK nor was the technology transferred.

On December 10, 2018, the Collaboration Agreement with GSK was terminated. Upon terminating the agreement, the Company recognized the remaining $4,666,667 in deferred revenue at that date as the Company had no further obligations under the agreement. For the year ended December 31, 2018, the Company recognized revenue of $6,550,000. The Company did not recognize any revenue associated with the technology transfer as the technology was never delivered to GSK. As the agreement was terminated in 2018, there was nominal revenue recognized for the year ended December 31, 2019, approximately $0.1 million in connection with the wind-down activities.

4. University of Singapore and St. Jude Children's License Agreement

In August 2016 the National University of Singapore ("NUS") and St. Jude Children's Research Hospital ("St. Jude") and the Company entered into a license agreement under which NUS and St. Jude (the "Licensors") granted the Company an exclusive, royalty-bearing, worldwide license to its patent rights related to a method for expanding natural killer cells; a chimeric receptor with NKG2D specificity; and a method for supporting autonomous natural killer cell function ("License Agreement"). The License Agreement provides the Company with the rights to grant and authorize sublicenses to make, have made, use, sell, offer for sale and import products and otherwise exploit the patent rights. The Company's scientific founder and common stock shareholder is a director of the Division of Immunopathology at NUS and is a related party to the Company.

As consideration for the license, the Company made an upfront payment of $31,800 and issued NUS 250,000 shares of the Company's common stock. In addition, the Company is required to pay an annual license maintenance fee of SGD 25,000, increasing to SGD 50,000 after year two of the agreement. Further, the Company could be required to make milestone payments to the Licensors upon completion of certain regulatory and commercial milestones. The aggregate potential milestone payments are approximately SGD 5 million. The Company has also agreed to pay the Licensors royalties of 2.5% of net sales of products sold by the Company or through a sublicense. Additionally, the Company agreed to pay the Licensors a tiered percentage of sublicensing income (ranging from 7.5% to 20%) based on the timing of capital raised and stage of clinical trials. The License Agreement also includes certain performance objectives which obligate the Company to meet various milestones over time.

The Company determined that the upfront payment (SGD 42,750) and value of the common stock issued ($2,500 based on fair value at time of issuance) as part of the license agreement would be expensed upon execution of the contract as the license was acquired for research and development purposes, does not have alternative future use and the underlying technology has not reached technological feasibility. As such the Company expensed these costs during 2016. The Company paid $19,063 and $36,884 in license maintenance fees during the years ended December 31, 2018 and 2019, respectively, which were expensed as research and development cost. The Company also paid $46,000 in 2018 and $754,000 in 2019 related to accrued sublicense fees owed as a result of the Collaboration Agreement with GSK (see Note 3), which were expensed as research and development cost.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

5. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets are comprised of the following:

	December 31,	
	2018	2019
Prepaid expenses	$117,290	$407,414
Other current assets	94,416	66,508
Total prepaid expenses and other current assets	$211,706	$473,922

6. Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,	
	2018	2019
Leasehold improvements	$ 287,091	$ 287,091
Furniture and fixtures	175,768	264,828
Research equipment	1,029,865	2,928,726
Computers and software	39,133	60,768
Construction in progress	–	183,505
	1,531,857	3,724,918
Less accumulated depreciation and amortization	(244,752)	(645,393)
	$1,287,105	$3,079,525

The Company incurred depreciation and amortization expense of $0.2 million and $0.4 million during the years ended December 31, 2018 and 2019, respectively.

7. Accrued and other liabilities

Accrued other liabilities are comprised of the following:

	December 31,	
	2018	2019
Sublicense fees	$ 754,000	$ –
Compensation	466,830	1,677,740
Research and development	72,080	702,699
Property and equipment	324,446	213,739
Deferred offering costs	–	104,030
Other	92,111	636,429
Total accrued other liabilities	$ 1,709,467	$ 3,334,637

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

8. Leases

In May 2018, the Company entered into an operating lease for its corporate office and laboratory space in South San Francisco, California (the “2018 Lease”). The original lease, which was set to expire in May 2025, provided for abatement of rent during the first three months of the lease, contained rent escalations and required the Company to pay for common area maintenance and other costs during the term of the leases. Upon adoption of ASC 842 on January 1, 2019, the Company recorded an initial operating lease liability of $2.3 million based on the present value of the remaining minimum lease payments with a corresponding right-of-use asset of $2.2 million. As the lease did not provide an implicit rate, the Company used an estimated incremental borrowing rate of 10%, based on information available at effective date of adoption.

In April 2019, the Company amended the 2018 Lease to add additional corporate office space and manufacturing capabilities in a separate suite in the same building (the “2019 Lease”). The 2019 Lease provided for abatement of rent during the first month of the lease, contained rent escalations and the Company is required to pay for common area maintenance and other costs during the term of the lease. In connection with the amendment, the term of the 2018 Lease was also modified to coincide with the lease term of the 2019 Lease of 7 years. The Company accounted for the amendment of the 2018 Lease and the addition of the 2019 Lease as separate contracts and adjusted the operating lease liability and right-of-use asset for the 2018 Lease to reflect the revised lease term. At inception, the Company recorded an operating lease liability for the 2019 Lease of $4.8 million and a corresponding right-of-use asset of $4.8 million. The revision to the 2018 Lease resulted in a lease liability of $2.5 million and a corresponding right-of-use asset of $2.4 million. The 2018 Lease and 2019 were recorded using the revised lease term of 7 years, and an estimated incremental borrowing rate of 10%. The option to extend the leases was not recognized as part of the Company’s lease liability and right-of-use lease asset.

In April 2019, the Company entered into a two-year operating lease for dedicated space in a vivarium. At lease inception, the Company recorded an operating lease liability of $0.6 million and a corresponding right-of-use asset of $0.6 million. As this lease did not provide an implicit rate, the Company used an estimated incremental borrowing rate of 5%.

The operating lease costs and cash paid for the amounts included in the measurement of lease liabilities are classified as operating activities in the statement of cash flows for 2019. Rent expense is recognized on a straight-line basis over the term of each lease. Rent expense of $0.3 million and $1.3 million was recognized for the years ended December 31, 2018 and 2019, respectively. The weighted-average remaining lease term for the corporate office leases was 6.3 years and the remaining term for the vivarium lease was 1.3 years as of December 31, 2019.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

8. Leases (Continued)

At December 31, 2019, the future lease payments under existing operating leases were as follows:

Year ending December 31,	
2020	$ 1,581,172
2021	1,459,133
2022	1,452,121
2023	1,502,982
2024	1,555,677
2025 and thereafter	2,153,479
Total future minimum lease payments	9,704,564
Less interest	(2,408,357)
Total lease liability	$ 7,296,207

Under the legacy guidance, at December 31, 2018, the future minimum lease payments for the Company's operating lease obligations were as follows:

Year ending December 31,	
2019	$ 447,326
2020	462,982
2021	479,187
2022	495,832
2023	513,227
2024 and thereafter	755,814
	3,154,368

9. Commitments & Contingencies

Guarantee Agreement

The Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at the Company's request in such capacity. The term of the indemnification period is for the officer or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits its exposure and enables the Company to recover a portion of any future amounts under certain circumstances and subject to deductibles and exclusions. The Company had no liabilities recorded for these agreements as of December 31, 2019.

Letters of Credit

The Company has a $0.3 million letter of credit agreement with a financial institution that is used as collateral for the Company's corporate headquarters' operating lease. The letter of credit automatically renew annually without amendment unless cancelled by the financial institutions within 30 days of the annual expiration date.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

10. Employee Benefits

On January 1, 2018, the Company adopted a defined contribution 401(k) plan that is available to eligible employees. Under the terms of the plan, employees may make voluntary contributions as a percent of compensation, limited to the maximum amount allowable under federal tax regulations. As part of the plan, the Company elected to make non-matching contributions via mandatory 3% of compensation safe harbor nonelective contributions. Such contributions were initially planned to be made at the end of 2018, but the Company amended the plan on June 1, 2018 to make these contributions on a pay period by pay period basis. A catch-up contribution for the first 5 months of the year was made by the Company in August 2018. Contributions are immediately 100% vested. As of December 31, 2018 and 2019, the Company recognized $0.1 million and $0.2 million, respectively, for expense related to the nonelective 401(k) contributions.

11. Notes Payable

In May 2019, the Company entered into Series B Convertible Promissory Notes (“Convertible Notes” or “Notes”) whereby the Company agreed to issue and certain existing Series A investors (the “Noteholders”) agreed to purchase $6,000,000 in Convertible Notes. The Convertible Notes accrued interest at a contractual rate of 7.5% per year and had an original maturity date of one year from their issuance date. The Convertible Notes were to automatically convert into Series B convertible preferred stock at 85% or 80% of the price per share paid by other investors upon certain qualified financing events, with the percent discount based on the timing of the financing, or through a voluntary option to convert upon certain non-qualified financing events. In addition, if the maturity date were to occur prior to the conversion or repayment of the Convertible Notes, the Noteholders had the right to convert the outstanding principal amount of the Convertible Notes, and all accrued and unpaid interest, into Series A convertible preferred stock at the Series A original issuance price.

As the Convertible Notes contained various settlement outcomes, the Company evaluated each scenario for accounting purposes. The settlement into Series A convertible preferred stock scenario resulted in the Company recording a beneficial conversion feature of $0.3 million upon the issuance of the Notes, as the fair value of the Series A convertible preferred stock on the date of issuance was greater than the original Series A issuance price. The conversion discounts were considered to be redemption features and were evaluated as an embedded derivative and bifurcated from the Convertible Notes, due to the substantial premium to be paid upon redemption. Upon bifurcating the redemption features, the Company recorded a derivative instrument of $1.3 million. The derivative instrument and beneficial conversion feature were recorded as a debt discount at inception and were being amortized to interest expense using the effective interest method over the one-year term of the debt.

In August 2019, in connection with the Series B convertible preferred stock financing (Note 13), the Convertible Note terms were modified so that the Noteholders received a conversion benefit equal to an annual effective interest rate of 7.5% on the outstanding principal on the Notes, rather than the originally stated 85% price. The change in the conversion benefit resulted in an adjustment to the derivative instrument of $0.9 million. In addition, as the Convertible Notes contained an embedded beneficial conversion feature and were extinguished before conversion, the Company allocated a portion of the settlement to the repurchase of the beneficial conversion feature, using the intrinsic value on the extinguishment date. This resulted in a reduction to the previously recorded beneficial conversion feature of $0.1 million. Additionally, the Company recorded a loss on extinguishment of

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

11. Notes Payable (Continued)

debt of $0.8 million, representing the write-off on the unamortized debt issuance costs on the date the Notes converted into Series B convertible preferred stock.

During the year ended December 31, 2019, the Company recorded $0.1 million of interest expense related to the stated interest for the Convertible Notes and $0.4 million using the effective-interest method in relation to the debt discounts described above. The annual effective-interest rates for the Notes was 30.4%.

12. Fair Value of Financial Instruments

Cash Equivalents and Short-Term Investments

Financial assets measured at fair value on a recurring basis consist of the Company's cash equivalents and short-term investments. Cash equivalents consisted of money market funds and short-term investments consisted of commercial paper and corporate bonds. The Company obtains pricing information from its investment manager and generally determines the fair value of investment securities using standard observable inputs, including reported trades, broker/dealer quotes, and bid and/or offers.

The following table summarizes the Company's assets that require fair value measurements on a recurring basis and their respective input levels based on the fair value hierarchy as of December 31, 2019:

		Fair Value Measurements Using		
	December 31, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents:				
Commercial paper	$ 2,395,144	$ –	$ 2,395,144	$ –
Marketable securities:				
Corporate debt securities	$ 6,026,580	$ –	$ 6,026,580	$ –
Commercial paper	10,357,693	–	10,357,693	–
	$ 16,384,273	$ –	$ 16,384,273	$ –

As of December 31, 2018, the Company did not hold any Level 1, Level 2, or Level 3 financial assets that are recorded at fair value on a recurring basis.

Fair values determined by Level 2 inputs, which utilize data points that are observable such as quoted prices, interest rates and yield curves, require the exercise of judgment and use of estimates, that if changed, could significantly affect the Company's financial position and results of operations. Investments in corporate debt securities and commercial paper are valued using Level 2 inputs. Level 2 securities are initially valued at the transaction price and subsequently valued and reported utilizing inputs other than quoted prices that are observable either directly or indirectly, such as quotes from third-party pricing vendors.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

12. Fair Value of Financial Instruments (Continued)

There were no transfers in or out of Level 1 or Level 2 investments during the year ended December 31, 2019.

Financial assets subject to fair value measurements on a recurring basis comprise of money market funds that are measured using Level 1 inputs. The money market funds are subject to fair value measurements at December 31, 2019, were $16.3 million and are included in cash and cash equivalents.

The following table summarizes the Company's short-term investments accounted for as available-for-sale securities as of December 31, 2019:

	Maturity (in years)	Amortized Cost	Unrealized Losses	Unrealized Gains	Estimated Fair Value
December 31, 2019					
Corporate debt securities	1 year or less	$ 6,028,719	$ (2,139)	$ –	$ 6,026,580
Commercial paper	1 year or less	10,357,693	–	–	10,357,693
Total		$ 16,386,412	$ (2,139)	$ –	$ 16,384,273

The Company has classified all of its available-for-sale investment securities as current assets on the balance sheet based on the highly liquid nature of these investment securities and because these investment securities are considered available for use in current operations.

As of December 31, 2018, the Company had no short-term investments. There were no impairments considered other-than-temporary during the year ended December 31, 2019, as it is management's intention and ability to hold the securities until a recovery of the cost basis or recovery of fair value. Unrealized gains and losses are included in accumulated other comprehensive loss.

Preferred Stock Purchase Right

Financial liabilities that are measured at fair value on a recurring basis include the preferred stock purchase right liability.

Liabilities measured at fair value on a recurring basis are as follows (in thousands):

		Fair Value Measurements Using		
	December 31, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Preferred stock purchase right liability	$ 1,477,645	$ –	$ –	$ 1,477,645

The estimated fair value of the preferred stock purchase right liability at issuance was determined using a valuation model that considered the probability of occurrence of the Series B Milestone Closing (see Note 13), an assumed discount rate, the estimated time period the preferred stock right would be outstanding, consideration received for the Series B convertible preferred stock, the number of shares to be issued to satisfy the preferred stock purchase right and at what price, and any changes in the fair

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

12. Fair Value of Financial Instruments (Continued)

value of the underlying Series B convertible preferred stock. The estimated fair value of the preferred stock purchase right liability at December 31, 2019, was determined using a valuation model that incorporated the probability of the occurrence in addition to the factors considered at issuance. The assumptions used to determine the fair value of the preferred stock purchase right upon issuance in August 2019 and as of December 31, 2019, included an estimated probability of occurrence of the Series B Milestone Closing of 90% and 90%, respectively, an assumed discount rate of 1.8% and 1.6%, respectively, and an estimated time period the preferred stock purchase right would be outstanding of 1.1 years and 0.8 years, respectively.

The following table provides a reconciliation of all liabilities measured at fair value using Level 3 significant unobservable inputs (in thousands):

	Preferred stock Purchase Right Liability
Balance, December 31, 2018	$ –
Issuance of preferred stock purchase right	2,795,227
Change in fair value of preferred stock purchase right	(1,317,582)
Balance, December 31, 2019	$ 1,477,645

13. Stockholders' Deficit

Under the Amended and Restated Certificate of Incorporation dated August 26, 2019, the Company had a total of 126,270,161 shares of capital stock authorized for issuance, consisting of 71,919,982 shares of common stock, par value of $0.0001 per share, and 54,350,179 shares of preferred stock, par value of $0.0001 per share. Of the 54,350,179 shares of preferred stock, 6,170,349 are designated Series A convertible preferred stock and 48,179,830 are designated Series B convertible preferred stock.

Series A Convertible Preferred Stock

In December 2017, the Company sold and issued in a private placement 3,866,602 shares of Series A convertible preferred stock at $2.07 per share (the "Series A Financing"). Upon the closing of the Series A Financing, the convertible notes outstanding at that date were converted into 2,011,114 shares of Series A convertible preferred stock at 80% of the $2.07 price per share (the "Series A Original Issue Price") paid by the Series A Financing investors. The GSK Convertible Note converted into 292,633 shares of Series A convertible preferred stock at 85% of the Series A Original Issue Price. In connection with the convertible notes, the Company recorded a beneficial conversion feature of $924,836 which was recognized as a debt discount and accreted to interest expense over the term of the note using the effective interest method.

Series B Convertible Preferred Stock

On August 27, 2019, the Company entered into a Series B Convertible Preferred Stock Purchase Agreement ("Stock Purchase Agreement"). The Company's initial closing of the first tranche of its Series B occurred on this date. The Company issued 15,828,938 shares of Series B convertible preferred shares for cash proceeds of $37.7 million at a price per share of $2.37935 (the "Series B Original Issue Price"). In addition to the cash proceeds, 2,621,181 shares of Series B convertible

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

13. Stockholders' Deficit (Continued)

preferred stock were issued in connection with the conversion of the Convertible Notes. Furthermore, two parties to the Stock Purchase Agreement committed to funding $6.3 million by October 26, 2019. This $6.3 million was received by the Company in September and October 2019 resulting in the issuance of an additional 2,663,505 shares of Series B convertible preferred shares.

The Stock Purchase Agreement contains provisions that potentially obligate the Company to sell, outside of its control, an additional 27,066,206 shares of Series B convertible preferred stock at the Series B Original Issue Price per share, for expected gross proceeds of $64.4 million, upon the achievement of a milestone, (the "Series B Milestone Closing"). If the milestone is not achieved prior to the Company's initial public offering, the holders may elect to purchase these shares prior to the completion of the initial public offering. If the shares are not purchased prior to the completion of the initial public offering, then this right to purchase these shares automatically expires. In the event that an Initial Series B Closing purchaser, or its affiliates or transferees, fails to purchase their required shares in the Series B Milestone Closing, then all the Series B convertible preferred shares held by such initial Series B purchaser will be automatically converted into one share of common stock for each 10 shares of Series B convertible preferred stock.

The Company determined its obligation to issue additional shares of the Company's Series B convertible preferred stock in the Series B Milestone Closing represented a freestanding financial instrument that required liability accounting. This freestanding preferred stock purchase right liability was initially recorded at fair value, with fair value changes recognized in the statements of operations and comprehensive loss. At the time of the initial Series B closing in August 2019, the estimated fair value of the preferred stock purchase right liability was $2.8 million. As of December 31, 2019, the fair value of the preferred stock purchase right was estimated to be $1.5 million and the Company recorded the $1.3 million decrease in the fair value of the Series B convertible preferred stock purchase right liability as change in fair value of preferred stock purchase right liability in the statements of operations and comprehensive loss.

Common Stock

As of December 31, 2019, of the authorized 71,919,982 shares of common stock, 5,922,233 shares were issued and 6,411,572 shares were outstanding for accounting purposes (489,339 shares are subject to repurchase rights as further discussed in Note 14). The voting, dividend, and liquidation rights of the holders of the common stock are subject to and qualified by the rights, powers, and preferences of the holders of the preferred stock. The holders of the common stock are entitled to one vote for each share of common stock held at all meetings of stockholders.

In September 2015, one of the Company's founders entered into a restricted stock purchase agreement, whereby 5,000,000 shares of common stock were issued subject to repurchase by the Company. The founder is not obliged to perform substantive services for the continued vesting of these shares. Any shares subject to repurchase by the Company are not deemed, for accounting purposes, to be outstanding until those shares vest. Shares will be released from the repurchase option at a rate of 104,166 and two thirds per month, over a 48 month period, such that they will be fully vested in September 2019. During the year ended December 31, 2019, 937,500 of these shares vested. The shares of common stock are subject to accelerated vesting upon certain events. No restricted common stock shares were repurchased by the Company from 2015 through December 31, 2019. As of December 31, 2019, none of these shares remained unvested and subject to repurchase.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

13. Stockholders' Deficit (Continued)

The Company's capital stock has the following characteristics:

Dividends

Holders of the Series B convertible preferred stock, in preference to the holders of Series A convertible preferred stock and holders of common stock, shall be entitled to receive noncumulative dividends at an annual rate of 8% of the Series B Original Issue Price, payable only when and if declared by the Company's board. After payment of dividends on the Series B, the holders of the Series A convertible preferred stock, in preference to the holders of common stock, shall be entitled to receive noncumulative dividends at the annual rate of 8% of the Series A Original Issue Price, payable only when and if declared by the Company's board. After payment of both dividends to the holders of Series B and Series A, as described above, any additional dividends shall be distributed among the holders of preferred stock and common stock pro rata based on the number of shares of common stock then held by each holder (assuming conversion of all such preferred stock into common stock). There have been no dividends declared by the board as of December 31, 2019.

Liquidation

The holders of the Series B convertible preferred stock are entitled to receive liquidation preferences at the Series B Original Issue Price of $2.37935, plus all accrued and declared but unpaid dividends. Liquidation payments to the holders of Series B convertible preferred stock have priority and are made in preference to any payments to the holders of Series A convertible preferred stock or holders of common stock. After payment in full of the Series B convertible preferred stock, the holders of the Series A convertible preferred stock are entitled to receive liquidation preferences at the Series A Original Issue Price of $2.07 (as adjusted for stock dividends, splits, and the like), plus all accrued and declared but unpaid dividends. Liquidation payments to the holders of Series A convertible preferred stock have priority and are made in preference to any payments to the holders of common stock.

After full payment of the liquidation preference to the holders of the Series B and Series A convertible preferred stock, the remaining assets, if any, will be distributed ratably to the holders of the common stock provided, however, that each holder of preferred stock shall be entitled to receive upon such liquidation the greater of (i) the amount distributed pursuant to above and (ii) the amount such holder would have received if all shares of preferred stock had been converted into common stock immediately prior to such liquidation.

Conversion Rights

The shares of Series B and Series A convertible preferred stock are convertible into an equal number of shares of common stock, at the option of the holder, subject to certain anti-dilution adjustments. The conversion rate for the preferred stock is determined by dividing the original issue price, as adjusted for stock splits, by the conversion price. The conversion price is initially the original issue price, but is subject to adjustment for dividends, stock splits, and other distributions. The conversion rate at December 31, 2019 for the Series B and Series A convertible preferred stock was 1:1.

Each share of Series B or Series A convertible preferred stock is automatically converted into common stock at the then effective conversion rate (A) at any time upon the affirmative election of the holders of at least a majority of the outstanding shares of the Series B or Series A convertible preferred stock, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

13. Stockholders' Deficit (Continued)

sale of common stock for the account of the Company in which (i) the public offering price implies a pre-offering valuation of at least $150 million, (ii) the gross cash proceeds to the Company (before underwriting discounts, commissions and fees) are at least $50 million and (iii) the Company's shares have been listed for trading on the New York Stock Exchange, Nasdaq Global Select Market or Nasdaq Global Market.

Redemption Rights

The holders of preferred stock do not have any redemption rights, except upon a deemed liquidation event as defined in the Company's articles of incorporation.

Voting

The holder of each share of Series B and Series A convertible preferred stock is entitled to one vote for each share of common stock into which it would convert and to vote as one class with the common stockholders on all matters.

14. Share-Based Compensation

Stock Option Plan

In July 2015, the Company approved the 2015 Equity Incentive Plan (the "2015 Plan"). The 2015 Plan provides for the issuance of 2,000,000 shares of common stock to officers, directors, employees, non-employee directors, and consultants of the Company. The 2015 Plan allows for the grant of incentive stock options, non-statutory stock options, stock appreciation rights, restricted stock unit awards and other stock awards. In 2019, the Board of Directors approved the increase in common stock reserved for issuance to 11,319,803 shares, provided that if the Series B Milestone Closing (see Note 13) does not occur in accordance with the terms thereof, the maximum aggregate number of shares that may be subject to issuance under the 2015 Plan shall automatically decrease by 4,044,376 shares, resulting in a maximum aggregate number of shares reserve for issuance of 7,275,427 shares. The common stock reserved for issuance will be increased by any outstanding stock awards that expire or terminate for any reason prior to their exercise or settlement. As of December 31, 2019, there were 1,538,806 options remaining available for future issuance under the 2015 Plan.

The options that are granted from the 2015 Plan are exercisable at various dates as determined upon grant and will expire no more than ten years from their date of grant, or in the case of certain non-statutory options, ten years from the date of grant. Stock options generally vest over a four-year term. The exercise price of each option shall be determined by the Board of Directors, although generally options have an exercise price equal to the fair market value of the Company's stock on the date of the option grant. In the case of incentive stock options, the exercise price shall not be less than 100% of the fair market value of the Company's common stock at the time the option is granted. For holders of more than 10% of the Company's total combined voting power of all classes of stock, incentive stock options may not be granted at less than 110% of the fair market value of the Company's common stock at the date of grant and for a term not to exceed five years. For awards granted during 2019 with an exercise price between $0.92 and $1.29, the Company used a deemed fair value between $0.64 and $0.91 per share to calculate share-based compensation expense for stock options granted in 2019.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

14. Share-Based Compensation (Continued)

Stock Option Activity

During 2019, the Company issued 131,259 shares of common stock in connection with the exercise of stock options, for net proceeds of $47,262. The total intrinsic value of options exercised during the years ended December 31, 2018 and 2019 was $747,065 and $103,627, respectively.

The following table summarizes the option activity for the year ended December 31, 2019:

	Options	Weighted average exercise price	Weighted-average remaining contractual term (in years)
Outstanding at December 31, 2018	815,893	$ 0.08	9.13
Granted	8,012,400	1.05	
Exercised	(131,259)	0.36	
Cancelled	(77,609)	0.48	
Outstanding at December 31, 2019	8,619,425	$ 0.97	9.58
Exercisable at December 31, 2019	1,087,906	$ 0.50	8.75
Vested and expected to vest at December 31, 2019	8,619,425	$ 0.97	9.58

For the years ended December 31, 2018 and 2019, the total fair value of options vested during the year was $46,057 and $656,183, respectively.

The weighted-average grant date fair value of employee option grants during the years ended December 31, 2018 and 2019 was $0.75 per share and $0.73 per share, respectively.

For the year ended December 31, 2019, the aggregate intrinsic value of outstanding options and options exercisable was $668,359 and $610,439, respectively.

Liability for Early Exercise of Restricted Stock Options

Certain individuals were granted the ability to early exercise their stock options. The shares of common stock issued from the early exercise of unvested stock options are restricted and continue to vest in accordance with the original vesting schedule. The Company has the option to repurchase any unvested shares at the original purchase price upon any voluntary or involuntary termination. The shares purchased by the employees and non-employees pursuant to the early exercise of stock options are not deemed, for accounting purposes, to be outstanding until those shares vest. The cash received in exchange for exercised and unvested shares related to stock options granted is recorded as a liability for the early exercise of stock options on the accompanying balance sheets and will be transferred into common stock and additional paid-in capital as the shares vest. As of December 31, 2019, there were 489,339 shares subject to repurchase by the Company. As of December 31, 2019, the Company recorded $89,227 associated with shares issued with repurchase rights in other long-term liabilities.

Share-Based Compensation Expense

The Company recognized share-based compensation expense of $182,513 and $946,978 for the years ended December 31, 2018 and 2019, respectively. The total unrecognized compensation cost

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

14. Share-Based Compensation (Continued)

related to unvested share-based awards as of December 31, 2019 was $5,757,251, which is expected to be recognized over a weighted-average remaining service period of 3.6 years.

The fair value of stock options was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	Year ended December 31,	
	2018	2019
Common stock fair value	$0.81	$0.92 - $1.29
Risk-free interest rate	2.2% - 3.0%	1.5% - 2.3%
Expected volatility	81.2% - 83.5%	80.2% - 81.9%
Expected term (in years)	4.7 - 6.1	5.6 - 6.1
Expected dividend yield	0%	0%

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance consisted of the following at December 31, 2019:

Common stock options granted and outstanding	8,619,425
Common stock options reserved for future option grants	1,538,806
Common stock reserved for conversion of preferred stock	27,283,973
	37,442,204

15. Income Taxes

Due to the Company's net losses for the years ended December 31, 2018 and December 31, 2019, and since the Company has a full valuation allowance against deferred tax assets, there was no provision or benefit for income taxes recorded in either year other than minimum amounts required for state tax purposes. There were no components of current or deferred federal or state tax provisions for the years ended December 31, 2018 and December 31, 2019.

A reconciliation on income taxes to the amount computed by applying the statutory federal income tax rate to the net loss is summarized as follows:

	Year ended December 31,	
	2018	2019
Income tax expense (benefit) at statutory rates	$ (57,478)	$(4,425,757)
State income tax, net of federal benefit	301	(1,959,234)
Permanent items	53,497	245,386
Research and development credits	(241,899)	(627,387)
Tax cuts and jobs act	–	–
Other	17,984	1,926
Valuation allowance	227,595	7,287,243
Change in fair value of derivative liabilities	–	(522,177)
Income tax expense	$ –	$ –

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

15. Income Taxes (Continued)

Significant components of the Company's deferred tax assets are shown below:

	Year ended December 31, 2018	2019
Deferred tax assets:		
Net operating loss carry forwards	$ 949,292	$ 6,897,494
Depreciation and amortization	50,244	200,211
Research and development credits	293,350	1,315,586
Prepaid expenses	23,093	–
Accrued expenses	125,111	459,272
Lease liability	–	2,041,742
Other, net	6,525	2,847
Total deferred tax assets	1,447,615	10,917,152
Valuation allowance for deferred tax assets	(1,447,615)	(8,731,181)
Deferred tax assets, net of valuation allowance	$ –	$ 2,185,971
Deferred tax liabilities:		
Right-of-use asset	–	(2,036,127)
Depreciation and amortization	–	(149,844)
Net deferred tax assets	$ –	$ –

The Company has a net operating loss and has provided a valuation allowance against net deferred tax assets due to uncertainties regarding the Company's ability to realize these assets. The valuation allowance increased by $0.2 million and $7.3 million, in the years ended December 31, 2018 and 2019, respectively.

In assessing the realizability of deferred tax assets, the Company considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the temporary differences representing net future deductible amounts become deductible. Due to the Company's history of losses, and lack of other positive evidence, the Company has determined that it is more likely than not that its net deferred tax assets will not be realized, and therefore, the net deferred tax assets are fully offset by a valuation allowance at December 31, 2018 and 2019. The deferred tax assets were primarily comprised of federal and state tax net operating losses and tax credit carryforwards.

As of December 31, 2019, the Company had net operating loss carryforwards of approximately $24.7 million and $24.5 million, available to reduce future taxable income, if any, for both federal and California state income tax purposes, respectively. A portion of federal and state net operating loss carryforwards begin to expire in 2035 and 2036, respectively, if not previously utilized. The portion of federal net operating loss carryforwards generated in 2018 and 2019 of $21.5 million carry forward indefinitely.

The Company also had federal and state research and development credit carry forwards of approximately $977,473 and $736,951, respectively, at December 31, 2019. The federal credits will begin to expire in 2035 if not utilized. The California credits have no expiration date.

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

15. Income Taxes (Continued)

Utilization of the net operating loss ("NOL") and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that may have occurred or that could occur in the future, as required by Section 382 of the Internal Revenue Code of 1986, as amended ("the Code"), as well as similar state provisions. The future utilization of the Company's NOL and tax credit carryforwards to offset future taxable income may be subject to a substantial annual limitation as a result of changes in ownership by stockholders that hold 5% or more of the Company's common stock. An assessment of such ownership changes under Section 382 was not completed through December 31, 2019. To the extent that an assessment is completed in the future, the Company's ability to utilize tax attributes could be restricted on a year by year basis and certain attributes could expire before they are utilized. The Company will examine the impact of any potential ownership changes in the future.

The Company has not been audited by the Internal Revenue Service or any state income or franchise tax agency. As of December 31, 2019, its federal and state returns for the years ended 2015 through the current period are still open to examination. In addition, all of the net operating losses and research and development credit carryforwards that may be used in future years are still subject to inquiry given that the statute of limitation for these items would begin in the year of the utilization. The balance of gross unrecognized tax benefits as of December 31, 2019 is approximately $269,899 all of which would affect the Company's income tax expense if recognized, before consideration of the Company's valuation allowance. The Company does not expect its unrecognized tax benefits to change significantly over the next 12 months. The Company recognizes interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense.

The Company files income tax returns in the United States federal jurisdiction and the State of California and is not currently under examination by any taxing authority for any open tax year. Due to net operating loss carryforwards, all years remain open for income tax examination. To the extent the Company has tax attribute carryforwards, the tax years in which the attribute was generated may still be adjusted upon examination by the IRS or state tax authorities to the extent utilized in a future period. No federal or state tax audits are currently in process.

The following table summarizes the changes in the Company's gross unrecognized tax benefits for the year ended December 31, 2019:

Beginning balance	$ 73,614
Additions for tax positions taken in prior years	4,654
Additions for tax positions taken in current year	191,631
Ending balance	$269,899

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

16. Net Loss Per Share

The following table sets forth the computation of the basic and diluted net loss per share:

	Year ended December 31,	
	2018	2019
Numerator:		
Net loss	$ (274,503)	$ (21,075,835)
Denominator:		
Weighted average common shares outstanding	5,466,659	6,336,792
Less: weighted average unvested common stock issued upon early exercise of common stock options	(15,055)	(925,430)
Less: weighted average unvested founder shares of common stock	(1,511,130)	–
Weighted average shares used to compute net loss per common share, basic and diluted	3,940,474	5,411,362
Net loss per share, basic and diluted	$ (0.07)	$ (3.89)

The following table sets forth the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their inclusion would be anti-dilutive:

	Year ended December 31,	
	2018	2019
Convertible preferred stock	6,170,349	27,283,973
Common stock options	815,893	8,619,425
Unvested common stock upon early exercise of common stock options	785,000	489,339
Unvested founder shares of common stock	937,500	–
	8,708,742	36,392,737

Unaudited Pro Forma Net Loss Per Share

The following table summarizes the Company's unaudited pro forma net loss per share:

	Year ended December 31, 2019
Numerator:	
Net loss	$ (21,075,835)
Denominator:	
Shares used to compute net loss per share, basic and diluted	5,411,362
Pro forma adjustments to reflect assumed weighted average effect of conversion of convertible preferred stock	13,188,637
Shares used to compute pro forma net loss per share, basic and diluted	18,599,999
Pro forma net loss per share, basic and diluted	$ (1.13)

NKARTA, INC.

NOTES TO FINANCIAL STATEMENTS

17. Subsequent Events

For the purposes of the financial statements as of December 31, 2019 and the year then ended, the Company has evaluated subsequent events through April 17, 2020, the date on which the audited financial statements were issued.

The impact of the COVID-19 coronavirus outbreak on the financial and operational performance of the Company will depend on future developments, including the duration and spread of the outbreak and related governmental advisories and restrictions. These developments and the impact of COVID-19 on the financial markets and the overall economy are highly uncertain and cannot be predicted. If the financial markets and/or the overall economy are impacted for an extended period, the Company's results may be materially adversely affected. The Company is currently unable to determine the extent of the impact of the pandemic to its operations and financial condition.

NKARTA, INC.

CONDENSED BALANCE SHEETS

(Unaudited)

	December 31, 2019 (Note 2)	March 31, 2020	Pro forma Stockholders' Equity March 31, 2020
Assets			
Current assets			
Cash and cash equivalents	$ 20,606,849	$ 16,507,860	
Short-term investments, available-for-sale	16,384,273	9,188,286	
Prepaid expenses and other current assets	473,922	748,966	
Total current assets	37,465,044	26,445,112	
Restricted cash	268,535	268,535	
Property and equipment, net	3,079,525	5,644,798	
Operating lease right-of-use assets	7,143,570	6,879,010	
Other long-term assets	455,078	1,885,511	
Total assets	$ 48,411,752	$ 41,122,966	
Liabilities and stockholders' (deficit) equity			
Current liabilities			
Accounts payable	$ 1,881,665	$ 1,977,751	
Operating lease liabilities, current portion	1,515,813	1,594,889	
Preferred stock purchase right liability	1,477,645	900,000	
Accrued and other current liabilities	3,334,637	4,876,540	
Total current liabilities	8,209,760	9,349,180	
Operating lease liabilities, net of current portion	5,780,394	5,575,995	
Other long-term liabilities	89,227	76,775	
Total liabilities	14,079,381	15,001,950	
Commitments			
Convertible preferred stock, $0.0001 par value; 54,350,179 shares authorized at March 31, 2020; 27,283,973 issued and outstanding shares at December 31, 2019 and March 31, 2020; aggregate liquidation preference of $63,003,153 at March 31, 2020; no shares authorized, issued and outstanding, pro forma (unaudited)	59,814,882	59,814,882	$ –
Stockholders' (deficit) equity			
Common stock, $0.0001 par value; 71,919,982 shares authorized at March 31, 2020; 5,922,233 and 5,997,586 shares issued and 6,411,572 and 6,431,822 shares outstanding at December 31, 2019 and March 31, 2020, respectively; 33,281,559 shares issued and 33,715,795 shares outstanding, pro forma (unaudited)	592	599	3,328
Additional paid-in capital	1,178,778	1,674,822	61,486,975
Accumulated other comprehensive loss	(2,139)	(3,542)	(3,542)
Accumulated deficit	(26,659,742)	(35,365,745)	(35,365,745)
Total stockholders' (deficit) equity	(25,482,511)	(33,693,866)	$ 26,121,016
Total liabilities and stockholders' (deficit) equity	$ 48,411,752	$ 41,122,966	

See accompanying notes to financial statements

NKARTA, INC.

CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(Unaudited)

	Three Months Ended March 31,	
	2019	2020
Collaboration revenue	$ 113,077	$ –
Operating expenses		
Research and development	2,294,117	7,259,838
General and administrative	939,838	2,148,421
Total operating expenses	3,233,955	9,408,259
Loss from operations	(3,120,878)	(9,408,259)
Other income (expense):		
Change in fair value of preferred stock purchase right liability	–	577,645
Interest income	37,899	124,611
Total other income	37,899	702,256
Net loss	$ (3,082,979)	$ (8,706,003)
Comprehensive loss:		
Net loss	$ (3,082,979)	$ (8,706,003)
Other comprehensive loss	–	(1,403)
Comprehensive loss	$ (3,082,979)	$ (8,707,406)
Net loss per share, basic and diluted	$ (0.64)	$ (1.46)
Weighted average shares outstanding, basic and diluted	4,838,626	5,954,041
Pro forma net loss per share, basic and diluted		$ (0.26)
Pro forma weighted average shares outstanding, basic and diluted		33,225,398

See accompanying notes to financial statements

NKARTA, INC.

CONDENSED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(Unaudited)

	Convertible Preferred Stock		Common Stock		Additional paid-in capital	Accumulated deficit	Accumulated Other Comprehensive Loss	Total
	Shares	Amount	Shares	Amount				
Balance, December 31, 2019	27,283,973	$ 59,814,882	5,922,233	$ 592	$ 1,178,778	$ (26,659,742)	$ (2,139)	$ (25,482,511)
Vesting of shares of common stock subject to repurchase	–	–	64,728	6	13,504	–	–	13,510
Stock option exercises	–	–	10,625	1	481	–	–	482
Share-based compensation expense	–	–	–		482,059	–	–	482,059
Unrealized loss on short-term investments	–	–	–	–	–	–	(1,403)	(1,403)
Net loss	–	–	–	–	–	(8,706,003)	–	(8,706,003)
Balance, March 31, 2020	27,283,973	$ 59,814,882	5,997,586	$ 599	$ 1,674,822	$ (35,365,745)	$ (3,542)	$ (33,693,866)

	Convertible Preferred Stock		Common Stock		Additional paid-in capital	Accumulated deficit	Accumulated Other Comprehensive Loss	Total
	Shares	Amount	Shares	Amount				
Balance, December 31, 2018	6,170,349	$ 12,709,293	4,557,813	$ 456	$ 187,457	$ (5,583,907)	$ –	$ (5,395,994)
Vesting of shares of common stock subject to repurchase	–	–	498,021	50	20,389	–	–	20,439
Share-based compensation expense	–	–	–	–	66,878	–	–	66,878
Net loss	–	–	–	–	–	(3,082,979)	–	(3,082,979)
Balance, March 31, 2019	6,170,349	$ 12,709,293	5,055,834	$ 506	$ 274,724	$ (8,666,886)	$ –	$ (8,391,656)

See accompanying notes to financial statements

NKARTA, INC.

CONDENSED STATEMENT OF CASH FLOWS

(Unaudited)

	Three Months Ended March 31,	
	2019	2020
Cash flows from operating activities		
Net loss	$ (3,082,979)	$ (8,706,003)
Adjustments to reconcile net loss to net cash used in operating activities:		
Share-based compensation expense	66,878	482,059
Depreciation and amortization	71,210	140,702
Accretion of investments, net	–	(27,891)
Change in fair value of preferred stock purchase right liability	–	(577,645)
Non-cash lease expense	–	139,237
Changes in operating assets and liabilities:		
Accounts receivable, prepaid expenses and other current assets	(127,049)	(163,280)
Accounts payable and accrued and other liabilities	(882,170)	425,858
Deferred revenue	137,197	–
Net cash used in operating activities	(3,816,913)	(8,286,963)
Cash flows from investing activities		
Purchases of property and equipment	(429,679)	(2,325,011)
Purchases of short-term investments	–	(3,577,525)
Maturities of short-term investments	–	10,800,000
Net cash (used in) provided by investing activities	(429,679)	4,897,464
Cash flows from financing activities		
Proceeds from stock option exercise	–	482
Proceeds from early exercise of stock options	–	1,059
Payments of deferred offering costs	(12,609)	(711,033)
Net cash used in financing activities	(12,609)	(709,492)
Net decrease in cash and cash equivalents	(4,259,201)	(4,098,991)
Cash, cash equivalents, and restricted cash beginning of year	7,956,487	20,875,384
Cash, cash equivalents, and restricted cash end of year	$ 3,697,286	$ 16,776,393
Reconciliation of cash, cash equivalents and restricted cash to the balance sheet:		
Cash and cash equivalents	$ 3,607,473	$ 16,507,860
Restricted cash	89,813	268,535
Total cash, cash equivalents and restricted cash	$ 3,697,286	$ 16,776,394
Supplemental disclosure of cash flow information:		
Non-cash investing activities:		
Acquisition of property and equipment	$ 133,862	$ 380,963
Non-cash financing activities:		
Deferred offering costs included in accrued and other liabilities	$ –	$ 831,165

See accompanying notes to financial statements

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

1. Organization and Description of Business

Nkarta, Inc. ("Nkarta" or the "Company") was incorporated in the state of Delaware in July 2015. The Company is a private biopharmaceutical company developing engineered Natural Killer ("NK") cells to fight cancer. The Company is focused on leveraging the natural potent power of NK cells to identify and kill abnormal cells and recruit adaptive immune effectors to generate responses that are specific and durable. Nkarta is combining its NK expansion platform technology with proprietary cell engineering technologies to generate an abundant supply of NK cells, engineer enhanced NK cell recognition of tumor targets, and improve persistence for sustained activity in the body for the treatment of cancer. Nkarta's goal is to develop off-the-shelf NK cell therapy product candidates to improve outcomes for patients.

Liquidity

As of March 31, 2020, the Company has devoted substantially all of its efforts to organizing and staffing, business planning, raising capital, and conducting preclinical studies, and has not realized substantial revenues from its planned principal operations. In addition, the Company has a limited operating history, has incurred operating losses since inception and expects that it will continue to incur net losses into the foreseeable future as it continues its research and development activities. As of March 31, 2020, the Company had an accumulated deficit of $35.4 million and cash, cash equivalents, restricted cash and short-term investments of $26.0 million. The Company will require additional cash funding to continue to execute its strategic plan and fund operations beyond October 2020. These factors raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements have been prepared assuming the Company will continue as a going concern. This basis of accounting contemplates the recovery of the Company's assets and the satisfaction of liabilities in the normal course of business and does not include any adjustments to reflect the possible future effects of the recoverability and classification of assets or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

The Company will seek to obtain additional capital through debt or equity financings or other arrangements to fund operations; however, there can be no assurance that the Company will be able to raise needed capital under acceptable terms, if at all. The sale of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to currently outstanding shares of common stock. Issued debt securities may contain covenants and limit the Company's ability to pay dividends or make other distributions to stockholders. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued.

2. Basis of Presentation and Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed financial statements as of March 31, 2020 and for the three months ended March 31, 2019 and 2020 have been prepared in accordance with U.S. generally accepted accounting principle ("U.S. GAAP") for interim financial information and pursuant to Article 10 of Regulation S-X of the Securities Act of 1933, as amended (the "Securities Act"). Accordingly, they do not include all of the information and notes required by U.S. GAAP for complete financial statements. These unaudited condensed financial statements include only normal and recurring

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

2. Basis of Presentation and Significant Accounting Policies (Continued)

adjustments that the Company believes are necessary to fairly state the Company's financial position and the results of its operations and cash flows. The results for the three months ended March 31, 2020 are not necessarily indicative of the results expected for the full fiscal year or any subsequent interim period. The condensed balance sheet at December 31, 2019 has been derived from the audited financial statements at that date but does not include all disclosures required by U.S. GAAP for complete financial statements. Because all of the disclosures required by U.S. GAAP for complete financial statements are not included herein, these unaudited condensed financial statements and the notes accompanying them should be read in conjunction with the Company's audited financial statements for the year ended December 31, 2019 included elsewhere in this Registration Statement on Form S-1 filed with the Securities and Exchange Commission ("SEC").

Unaudited Pro Forma Financial Information

The unaudited pro forma stockholders' equity as of March 31, 2020 assumes the conversion of all outstanding shares of convertible preferred stock into 27,283,973 shares of common stock immediately prior to the completion of the Company's planned initial public offering ("IPO"). The shares of common stock issuable and the proceeds expected to be received in the IPO are excluded from such pro forma financial information. Pro forma basic and diluted net loss per share has been computed to give effect to the conversion of all outstanding convertible preferred stock into shares of common stock. The unaudited pro forma net loss per share for the three months ended March 31, 2020 was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of convertible preferred stock into shares of common stock as if such conversion had occurred at the beginning of the period, or their issuance dates, if later.

Deferred Offering Costs

The Company has deferred offering costs consisting of legal, accounting and other fees and costs directly attributable to its planned IPO. The deferred offering costs will be offset against the proceeds received upon the completion of the planned IPO. In the event the planned IPO is terminated, all of the deferred offering costs will be expensed within the Company's statements of operations and comprehensive loss. The deferred offering costs were $0.1 million and $1.5 million as of December 31, 2019 and March 31, 2020, respectively. Deferred offering costs were recorded under other long-term assets on the balance sheets.

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period, without consideration of potential dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the sum of the weighted average number of common shares plus the potential dilutive effects of potential dilutive securities outstanding during the period. Potential dilutive securities are excluded from diluted earnings or loss per share if the effect of such inclusion is antidilutive. The Company's potentially dilutive securities, which include convertible preferred stock, unvested common stock, and outstanding stock options under the Company's equity incentive plan, have been excluded from the computation of diluted net loss per share as they would be anti-dilutive to the net loss per share. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

2. Basis of Presentation and Significant Accounting Policies (Continued)

Recent Accounting Pronouncements

Financial Instruments. In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses* (Topic 326): Measurement of Credit Losses on Financial Instruments, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including available-for-sale debt securities. The Company adopted this standard in the first quarter of 2020. The adoption of this standard did not have a material impact on the Company's financial statements.

Fair Value Measurements. In August 2018, the FASB issued ASU 2018-13—Fair Value Measurement (Topic 820): *Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which eliminates, adds and modifies certain disclosure requirements for fair value measurement. The amendments in ASU 2018-13 that relate to changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments in ASU 2018-13 should be applied retrospectively to all periods presented upon their effective date. The Company adopted this standard in the first quarter of 2020. The adoption of this standard did not have a material impact on the Company's disclosures.

There were no other significant updates to the recently issued accounting standards other than as disclosed herewith for the three months ended March 31, 2020. Although there are several other new accounting pronouncements issued or proposed by the FASB, the Company does not believe any of those accounting pronouncements have had or will have a material impact on its financial position or operating results.

3. Net Loss Per Share

The following tables summarize the computation of the basic and diluted net loss per share:

	Three Months Ended March 31,	
	2019	2020
Numerator:		
Net loss	$ (3,082,979)	$ (8,706,003)
Denominator:		
Weighted average common shares outstanding	6,280,313	6,420,410
Less: weighted average unvested common stock issued upon early exercise of common stock options	(709,048)	(466,369)
Less: weighted average unvested founder shares of common stock	(732,639)	–
Weighted average shares used to compute net loss per share, basic and diluted	4,838,626	5,954,041
Net loss per share, basic and diluted	$ (0.64)	$ (1.46)

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

3. Net Loss Per Share (Continued)

The following table summarizes the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their inclusion would be anti-dilutive:

	As of March 31,	
	2019	2020
Convertible preferred stock	6,170,349	27,283,973
Common stock options	805,893	9,204,950
Unvested common stock upon early exercise of common stock options	599,480	434,236
Unvested founder shares of common stock	625,000	–
	8,200,722	36,923,159

Pro Forma Net Loss Per Share

The following table summarizes the Company's pro forma net loss per share:

	Three Months Ended March 31, 2020
Numerator:	
Net loss	$ (8,706,003)
Denominator:	
Shares used to compute net loss per share, basic and diluted	5,954,041
Pro forma adjustments to reflect assumed weighted average effect of conversion of convertible preferred stock	27,271,357
Shares used to compute pro forma net loss per share, basic and diluted	33,225,398
Pro forma net loss per share, basic and diluted	$ (0.26)

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

4. Fair Value of Financial Instruments

The following tables summarize the fair value of the Company's financial instruments:

	December 31, 2019	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Asset:				
Cash equivalents:				
Commercial paper	$ 2,395,144	$ –	$ 2,395,144	$ –
Short-term investments:				
Corporate debt securities	$ 6,026,580	–	$ 6,026,580	–
Commercial paper	10,357,693	–	10,357,693	–
Total short-term investments	16,384,273	–	16,384,273	–
Total	$ 18,779,417	$ –	$ 18,779,417	$ –
Liabilities:				
Preferred stock purchase right liability	$ 1,477,645	$ –	$ –	$ 1,477,645

	March 31, 2020	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
		(Unaudited)		
Asset:				
Cash equivalents:				
Money market funds	$14,027,469	$ 14,027,469	$ –	$ –
Short-term investments:				
Corporate debt securities	2,409,324	–	2,409,324	–
Commercial paper	6,778,962	–	6,778,962	–
Total short-term investments	9,188,286	–	9,188,286	–
Total	$23,215,755	$ 14,027,469	$ 9,188,286	$ –
Liabilities:				
Preferred stock purchase right liability	$ 900,000	$ –	$ –	$ 900,000

There were no transfers in or out of Level 1 or Level 2 during the three months ended March 31, 2020.

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

4. Fair Value of Financial Instruments (Continued)

Cash Equivalents and Short-Term Investments

Financial assets measured at fair value on a recurring basis consist of the Company's cash equivalents and short-term investments. Cash equivalents consisted of money market funds and short- term investments consisted of commercial paper and corporate bonds. The Company obtains pricing information from its investment manager and generally determines the fair value of investment securities using standard observable inputs, including reported trades, broker/dealer quotes, and bids and/or offers.

Investments are classified as Level 1 within the fair value hierarchy if their quoted prices are available in active markets for identical securities. Investments in money market funds of $14.0 million as of March 31, 2020 were classified as Level 1 instruments and were included in cash and cash equivalents.

Investments in corporate debt securities and commercial paper are valued using Level 2 inputs. Level 2 securities are initially valued at the transaction price and subsequently valued and reported upon utilizing inputs other than quoted prices that are observable either directly or indirectly, such as quotes from third-party pricing vendors. Fair values determined by Level 2 inputs, which utilize data points that are observable such as quoted prices, interest rates and yield curves, require the exercise of judgment and use of estimates, that if changed, could significantly affect the Company's financial position and results of operations. The marketable securities of $9.2 million as of March 31, 2020 were classified as Level 2 instruments and were included in short-term investments.

The following tables summarize the Company's short-term investments accounted for as available-for-sale securities as of December 31, 2019 and March 31, 2020:

		December 31, 2019			
	Maturity (in years)	Amortized Cost	Unrealized Losses	Unrealized Gains	Estimated Fair Value
Corporate debt securities	1 year or less	$ 6,028,719	$ (2,139)	$ –	$ 6,026,580
Commercial paper	1 year or less	10,357,693	–	–	10,357,693
Total		$ 16,386,412	$ (2,139)	$ –	$ 16,384,273

		March 31, 2020			
	Maturity (in years)	Amortized Cost	Unrealized Losses	Unrealized Gains	Estimated Fair Value
Corporate debt securities	1 year or less	$ 2,412,866	$ (3,542)	$ –	$ 2,409,324
Commercial paper	1 year or less	6,778,962	–	–	6,778,962
Total		$ 9,191,828	$ (3,542)	$ –	$ 9,188,286

The Company has classified all of its available-for-sale investment securities as current assets on the balance sheet based on the highly liquid nature of these investment securities and because these investment securities are considered available for use in current operations.

There were no impairments considered other-than-temporary during the three months ended March 31, 2020, as it is management's intention and ability to hold the securities until a recovery of the

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

4. Fair Value of Financial Instruments (Continued)

cost basis or recovery of fair value. Unrealized gains and losses are included in accumulated other comprehensive loss.

Preferred Stock Purchase Right Liability

The estimated fair value of the preferred stock purchase right liability at December 31, 2019 and March 31, 2020, was determined using a valuation model that incorporated the probability of the occurrence of the Series B Milestone Closing in addition to the factors considered at issuance. The assumptions used to determine the fair value of the preferred stock purchase right liability upon issuance in August 2019, and as of December 31, 2019 and March 31, 2020, included an estimated probability of occurrence of the Series B Milestone Closing of 90%, an assumed discount rates of 1.8%, 1.6% and 0.2%, respectively, and an estimated time period the preferred stock purchase right liability would be outstanding of 1.1 years, 0.8 years and 0.5 years, respectively. As certain of these inputs are not observable in the market, the preferred stock purchase right liability is classified as a Level 3 instrument.

The following table provides the change in preferred stock purchase right liability for the three months ended March 31, 2020:

	Preferred Stock Purchase Right Liability
Balance, December 31, 2019	$ 1,477,645
Issuance of preferred stock purchase right	–
Change in fair value of preferred stock purchase right	(577,645)
Balance, March 31, 2020	$ 900,000

5. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets are comprised of the following:

	December 31, 2019	March 31, 2020
Prepaid expenses	$ 407,414	$472,238
Prepaid licenses	–	235,167
Other current assets	66,508	41,561
Total prepaid expenses and other current assets	$ 473,922	$748,966

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

5. Balance Sheet Components (Continued)

Property and Equipment, Net

Property and equipment, net is comprised of the following:

	December 31, 2019	March 31, 2020
Leasehold improvements	$ 287,091	$ 287,091
Furniture and fixtures	264,828	277,672
Research equipment	2,928,726	3,607,703
Computers and software	60,768	60,768
Construction in progress	183,505	2,197,659
Total property and equipment	3,724,918	6,430,893
Less accumulated depreciation and amortization	(645,393)	(786,095)
Total property and equipment, net	$ 3,079,525	$5,644,798

Depreciation and amortization expense were $0.1 million for each of the three months ended March 31, 2019 and 2020.

Other Long-term Assets

Other long-term assets are comprised of the following:

	December 31, 2019	March 31, 2020
Deposits	$ 351,048	$ 343,313
Deferred offering costs	104,030	1,542,198
Total other long-term assets	$ 455,078	$1,885,511

Accrued and Other Liabilities

Accrued other liabilities are comprised of the following:

	December 31, 2019	March 31, 2020
Compensation	$ 1,677,740	$ 913,266
Research and development	702,699	1,487,183
Property and equipment	213,739	594,702
Deferred offering costs related	104,030	935,195
Other	636,429	946,194
Total accrued and other liabilities	$ 3,334,637	$ 4,876,540

6. Leases

The Company has operating leases for its corporate office and laboratory space and dedicated space in a vivarium in South San Francisco, California. Rent expense, which is recognized on a

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

6. Leases (Continued)

straight-line basis over the term of each lease, was $0.1 million and $0.4 million for the three months ended March 31, 2019 and 2020, respectively. The weighted-average remaining lease term for the corporate office and laboratory space leases was 6.3 years and 6.1 years, and the remaining term for the vivarium lease was 1.3 years and 1.0 year as of December 31, 2019 and March 31, 2020, respectively.

Maturities of operating lease liabilities under existing operating leases as of March 31, 2020 were as follows:

Year ending December 31,	March 31, 2020
2020 (remaining 9 months)	$ 1,286,241
2021	1,461,373
2022	1,452,121
2023	1,502,982
2024	1,555,677
2025 and thereafter	2,153,479
Total future minimum lease payments	9,411,873
Less interest	(2,240,989)
Total lease liability	$ 7,170,884

7. Commitments & Contingencies

Guarantee Agreement

The Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at the Company's request in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits its exposure and enables the Company to recover a portion of any future amounts under certain circumstances and subject to deductibles and exclusions. The Company had no liabilities recorded for these agreements as of December 31, 2019 and March 31, 2020.

Letters of Credit

The Company has a $0.3 million letter of credit agreement with a financial institution that is used as collateral for the Company's corporate headquarters' operating lease. The letter of credit automatically renews annually without amendment unless cancelled by the financial institutions within 30 days of the annual expiration date.

8. GSK Collaboration and License Agreement

In April 2017, the Company entered into the Collaboration and License Agreement (the "Collaboration Agreement") with GlaxoSmithKline Intellectual Property Development Limited and Glaxo Group Limited (together, "GSK") to research and develop therapeutics using Engineered NK Cells as

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

8. GSK Collaboration and License Agreement (Continued)

carriers for target programs. On December 10, 2018, the Collaboration Agreement with GSK was terminated. For the three months ended March 31, 2019, a nominal revenue of approximately $0.1 million recognized in connection with the wind-down activities. There was no revenue recorded for the three months ended March 31, 2020.

9. Stockholders' Deficit

Under the Amended and Restated Certificate of Incorporation dated August 26, 2019, the Company had a total of 126,270,161 shares of capital stock authorized for issuance, consisting of 71,919,982 shares of common stock, par value of $0.0001 per share, and 54,350,179 shares of preferred stock, par value of $0.0001 per share. Of the 54,350,179 shares of preferred stock, 6,170,349 are designated Series A convertible preferred stock and 48,179,830 are designated Series B convertible preferred stock.

Series A Convertible Preferred Stock

In December 2017, the Company sold and issued in a private placement 3,866,602 shares of Series A convertible preferred stock at $2.07 per share (the "Series A Financing"). Upon the closing of the Series A Financing, the convertible notes outstanding at that date were converted into 2,011,114 shares of Series A convertible preferred stock at 80% of the $2.07 price per share (the "Series A Original Issue Price") paid by the Series A Financing investors. The GSK Convertible Note converted into 292,633 shares of Series A convertible preferred stock at 85% of the Series A Original Issue Price. In connection with the convertible notes, the Company recorded a beneficial conversion feature of $924,836 which was recognized as a debt discount and accreted to interest expense over the term of the note using the effective interest method.

Series B Convertible Preferred Stock

On August 27, 2019, the Company entered into a Series B Convertible Preferred Stock Purchase Agreement ("Stock Purchase Agreement"). The Company's initial closing of the first tranche of its Series B occurred on this date. The Company issued 15,828,938 shares of Series B convertible preferred shares for cash proceeds of $37.7 million at a price per share of $2.37935 (the "Series B Original Issue Price"). In addition to the cash proceeds, 2,621,181 shares of Series B convertible preferred stock were issued in connection with the conversion of the Convertible Notes. Furthermore, two parties to the Stock Purchase Agreement committed to funding $6.3 million by October 26, 2019. This $6.3 million was received by the Company in September and October 2019 resulting in the issuance of an additional 2,663,505 shares of Series B convertible preferred shares.

The Stock Purchase Agreement contains provisions that potentially obligate the Company to sell, outside of its control, an additional 27,066,206 shares of Series B convertible preferred stock at the Series B Original Issue Price per share, for expected gross proceeds of $64.4 million, upon the achievement of a milestone, (the "Series B Milestone Closing"). If the milestone is not achieved prior to the Company's initial public offering, the holders may elect to purchase these shares prior to the completion of the initial public offering. If the shares are not purchased prior to the completion of the initial public offering, then this right to purchase these shares automatically expires. In the event that an Initial Series B Closing purchaser, or its affiliates or transferees, fails to purchase their required shares in the Series B Milestone Closing, then all the Series B convertible preferred shares held by such initial

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

9. Stockholders' Deficit (Continued)

Series B purchaser will be automatically converted into one share of common stock for each ten shares of Series B convertible preferred stock.

The Company determined its obligation to issue additional shares of the Company's Series B convertible preferred stock in the Series B Milestone Closing represented a freestanding financial instrument that required liability accounting. This freestanding preferred stock purchase right liability was initially recorded at fair value, with fair value changes recognized in the statements of operations and comprehensive loss. At the time of the initial Series B closing in August 2019, the estimated fair value of the preferred stock purchase right liability was $2.8 million. The fair value of the preferred stock purchase right liability was estimated to be $1.5 million and $0.9 million as of December 31, 2019 and March 31, 2020, respectively. The Company recorded the change in the fair value of the Series B convertible preferred stock purchase right liability of nil and $0.6 million in the statements of operations and comprehensive loss for the three months ended March 31, 2019 and 2020, respectively.

Common Stock

As of March 31, 2020, of the authorized 71,919,982 shares of common stock, 5,997,586 shares were issued and 6,431,822 shares were outstanding for accounting purposes (434,236 shares are subject to repurchase rights as further discussed in Note 10). The voting, dividend, and liquidation rights of the holders of the common stock are subject to and qualified by the rights, powers, and preferences of the holders of the preferred stock. The holders of the common stock are entitled to one vote for each share of common stock held at all meetings of stockholders.

The Company's capital stock has the following characteristics:

Dividends

Holders of the Series B convertible preferred stock, in preference to the holders of Series A convertible preferred stock and holders of common stock, shall be entitled to receive noncumulative dividends at an annual rate of 8% of the Series B Original Issue Price, payable only when and if declared by the Company's board of directors. After payment of dividends on the Series B, the holders of the Series A convertible preferred stock, in preference to the holders of common stock, shall be entitled to receive noncumulative dividends at the annual rate of 8% of the Series A Original Issue Price, payable only when and if declared by the Company's board of directors. After payment of both dividends to the holders of Series B and Series A, as described above, any additional dividends shall be distributed among the holders of preferred stock and common stock pro rata based on the number of shares of common stock then held by each holder (assuming conversion of all such preferred stock into common stock). There have been no dividends declared by the board of directors as of December 31, 2019 and March 31, 2020.

Liquidation

The holders of the Series B convertible preferred stock are entitled to receive liquidation preferences at the Series B Original Issue Price of $2.37935, plus all accrued and declared but unpaid dividends. Liquidation payments to the holders of Series B convertible preferred stock have priority and are made in preference to any payments to the holders of Series A convertible preferred stock or holders of common stock. After payment in full of the Series B convertible preferred stock, the holders

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

9. Stockholders' Deficit (Continued)

of the Series A convertible preferred stock are entitled to receive liquidation preferences at the Series A Original Issue Price of $2.07 (as adjusted for stock dividends, splits, and the like), plus all accrued and declared but unpaid dividends. Liquidation payments to the holders of Series A convertible preferred stock have priority and are made in preference to any payments to the holders of common stock.

After full payment of the liquidation preference to the holders of the Series B and Series A convertible preferred stock, the remaining assets, if any, will be distributed ratably to the holders of the common stock provided, however, that each holder of preferred stock shall be entitled to receive upon such liquidation the greater of (i) the amount distributed pursuant to above and (ii) the amount such holder would have received if all shares of preferred stock had been converted into common stock immediately prior to such liquidation.

Conversion Rights

The shares of Series B and Series A convertible preferred stock are convertible into an equal number of shares of common stock, at the option of the holder, subject to certain anti-dilution adjustments. The conversion rate for the preferred stock is determined by dividing the original issue price, as adjusted for stock splits, by the conversion price. The conversion price is initially the original issue price, but is subject to adjustment for dividends, stock splits, and other distributions. The conversion rate at March 31, 2020 for the Series B and Series A convertible preferred stock was 1:1.

Each share of Series B or Series A convertible preferred stock is automatically converted into common stock at the then effective conversion rate (A) at any time upon the affirmative election of the holders of at least a majority of the outstanding shares of the Series B or Series A convertible preferred stock, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of common stock for the account of the Company in which (i) the public offering price implies a pre-offering valuation of at least $150 million, (ii) the gross cash proceeds to the Company (before underwriting discounts, commissions and fees) are at least $50 million and (iii) the Company's shares have been listed for trading on the New York Stock Exchange, Nasdaq Global Select Market or Nasdaq Global Market.

Redemption Rights

The holders of preferred stock do not have any redemption rights, except upon a deemed liquidation event as defined in the Company's articles of incorporation.

Voting

The holder of each share of Series B and Series A convertible preferred stock is entitled to one vote for each share of common stock into which it would convert and to vote as one class with the common stockholders on all matters.

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

10. Share-Based Compensation

Stock Option Plan

The Company's 2015 Equity Incentive Plan (the "2015 Plan") allows for the grant of incentive stock options, non-statutory stock options, stock appreciation rights, restricted stock unit awards and other stock awards to its officers, directors, employees, non-employee directors, and consultants. In 2019, the Board of Directors approved the increase in common stock reserved for issuance to 11,319,803 shares, provided that if the Series B Milestone Closing (see Note 9) does not occur in accordance with the terms thereof, the maximum aggregate number of shares that may be subject to issuance under the 2015 Plan shall automatically decrease by 4,044,376 shares, resulting in a maximum aggregate number of shares reserve for issuance of 7,275,427 shares. The options remaining available for future issuance under the 2015 Plan were 933,031 shares as of March 31, 2020.

Stock Option Activity

The following table summarizes the option activity during the three months ended March 31, 2020:

	Options	Weighted average exercise price	Weighted-average remaining contractual term (in years)
Outstanding at December 31, 2019	8,619,425	0.97	9.6
Granted	606,000	1.16	
Exercised	(20,250)	0.08	
Forfeited	(225)	1.05	
Outstanding at March 31, 2020	9,204,950	$ 0.98	9.4
Exercisable at March 31, 2020	770,936	$ 0.69	8.7
Vested and expected to vest at March 31, 2020	9,204,950	$ 0.98	9.4

The weighted-average grant date fair value of stock option grants was $0.84 per share for the three months ended March 31, 2020. There were no stock option grants for the three months ended March 31, 2019.

Liability for Early Exercise of Restricted Stock Options

Shares subject to repurchase by the Company were 489,339 shares and 434,236 shares, with the related liability of $89,227 and $76,775 recorded under other long-term liabilities in the balance sheets as of December 31, 2019 and March 31, 2020, respectively.

Share-Based Compensation Expense

The Company recognized share-based compensation expense of $66,878 and $482,059 for the three months ended March 31, 2019 and 2020, respectively. The total unrecognized compensation cost related to unvested share-based awards were $5.8 million, which were expected to be recognized over a weighted-average remaining service period of 1.3 years as of March 31, 2020.

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

10. Share-Based Compensation (Continued)

The fair value of stock options was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	Three Months Ended March 31, 2020
Common stock fair value	$ 1.16
Risk-free interest rate	0.51%
Expected volatility	87.78%
Expected term (in years)	6.0
Expected dividend yield	–%

There were no grants during the three months ended March 31, 2019.

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance consisted of the following at March 31, 2020:

	March 31, 2020
Common stock options granted and outstanding	9,204,950
Common stock options reserved for future option grants	933,031
Common stock reserved for conversion of preferred stock	27,283,973
	37,421,954

11. Employee Benefits

The Company has a defined contribution 401(k) plan that is available to eligible employees. Under the terms of the plan, employees may make voluntary contributions as a percent of compensation, limited to the maximum amount allowable under federal tax regulations. As part of the plan, the Company elected to make non-matching contributions via mandatory 3% of compensation safe harbor nonelective contributions. The Company recognized expense related to the nonelective 401(k) contributions of $0.1 million for each of the three months ended March 31, 2019 and 2020.

12. Income Taxes

There was no provision for income taxes recorded during the three months ended March 31, 2019 and 2020. The Company's deferred tax assets continue to be fully offset by a valuation allowance.

13. Subsequent Events

For the interim financial statements as of March 31, 2020, and for the three months then ended, the Company has evaluated subsequent events through May 18, 2020, which is the date the financial statements were available to be issued.

In May 2020, the Company signed a second amendment to the lease agreement of the Company's office and laboratory facilities for an eight-year non-cancelable lease of additional office and laboratory

NKARTA, INC.
NOTES TO FINANCIAL STATEMENTS

(Unaudited)

13. Subsequent Events (Continued)

space in the same building. The lease for this additional space is expected to commence in the first quarter of 2021. The second lease amendment also includes an extension of the lease of existing office and laboratory space through the first quarter of 2029.

Shares

Common Stock

PROSPECTUS

Cowen **Evercore ISI** **Stifel** **Mizuho Securities**

, 2020

Until , 2020, all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This requirement is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all expenses to be paid by the registrant, other than estimated underwriting discounts and commissions, in connection with this offering. All amounts shown are estimates except for the SEC registration fee, the FINRA filing fee and the Nasdaq Global Market listing fee.

	Amount to be Paid
SEC Registration Fee	*
FINRA filing fee	*
Nasdaq listing fee	*
Printing	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous expenses	*
Total:	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or DGCL, authorizes a corporation's Board of Directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents. As permitted by Section 102(b)(7) of the DGCL, the registrant's certificate of incorporation to be in effect upon the closing of this offering includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions or (iv) for any transaction from which the director derived an improper personal benefit.

In addition, as permitted by Section 145 of the DGCL, the by-laws of the registrant provide that:

- The registrant shall indemnify its directors and officers for serving the registrant in those capacities or for serving other business enterprises at the registrant's request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- The registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- The registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

- The registrant is not obligated pursuant to the by-laws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the registrant's Board of Directors or brought to enforce a right to indemnification.
- The rights conferred in the by-laws are not exclusive, and the registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- The registrant may not retroactively amend the by-law provisions to reduce its indemnification obligations to directors, officers, employees and agents.

In addition, the registrant expects to adopt amended and restated bylaws, which will become effective immediately prior to the completion of this offering, and which will provide that it will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit or proceeding by reason of the fact that he or she is or was one of its directors or officers or is or was serving at its request as a director or officer of another corporation, partnership, joint venture, trust or other enterprise. The registrant's amended and restated bylaws are expected to provide that it may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit or proceeding by reason of the fact that he or she is or was one of its employees or agents or is or was serving at its request as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The registrant's amended and restated bylaws will also provide that the registrant must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to limited exceptions.

Further, the registrant has entered into or will enter into indemnification agreements with each of its directors and executive officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements require the registrant, among other things, to indemnify its directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require the registrant to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit or proceeding. The registrant believes that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers. The limitation of liability and indemnification provisions that are expected to be included in the registrant's amended and restated certificate of incorporation, amended and restated bylaws and in indemnification agreements that the registrant has entered into or will enter into with its directors and executive officers may discourage stockholders from bringing a lawsuit against its directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against the registrant's directors and executive officers, even though an action, if successful, might benefit the registrant and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that the registrant pays the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, the registrant is not aware of any pending litigation or proceeding involving any person who is or was one of its directors, officers, employees or other agents or is or was serving at its request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, for which indemnification is sought, and the registrant is not aware of any threatened litigation that may result in claims for indemnification.

The registrant has obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to its directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to the registrant with respect to payments that may be made by it to these directors and executive officers pursuant to its indemnification obligations or otherwise as a matter of law.

Certain of the registrant's non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of the registrant's board of directors.

These indemnification provisions may be sufficiently broad to permit indemnification of the registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

The underwriting agreement to be filed as Exhibit 1.1 to this registration statement provides for indemnification by the underwriters of the registrant and its officers and directors for certain liabilities arising under the Securities Act and otherwise.

Item 15. Recent Sales of Unregistered Securities.

Since January 1, 2017, we have issued the following unregistered securities:

Preferred Stock Issuances

In December 2017, we sold an aggregate of 6,170,349 shares of our Series A convertible preferred stock to two accredited investors, for aggregate consideration of $11,843,443.15 in the form of cash and the cancellation of the principal and interest accrued on the convertible promissory notes we issued in August 2015, November 2016, and June 2017.

In August 2019, we sold an aggregate of 15,828,938 shares of our Series B convertible preferred stock to thirteen accredited investors for aggregate consideration of $37,662,583.68 in the form of cash.

In September 2019, we sold an aggregate of 5,284,686 shares of our Series B convertible preferred stock to five accredited investors for aggregate consideration of $12,574,122.96 in the form of cash and the cancellation of the principal and interest accrued on the convertible promissory notes we issued in May 2019.

Convertible Promissory Note Issuances

In June 2017, we issued convertible promissory notes to one accredited investor for an aggregate purchase price of $500,000, pursuant to which such investor was entitled to receive, upon the conversion of such notes, equity securities.

In May 2019, we issued convertible promissory notes to three accredited investors for an aggregate purchase price of $6,000,000, pursuant to which such investors were entitled to receive, upon the conversion of such notes, equity securities.

Option Issuances

Since January 1, 2017, we have granted to our directors, officers, employees, consultants and other service providers options to purchase an aggregate of shares of common stock under our equity compensation plan at exercise prices ranging from approximately $ to $ per share.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. We believe the offers, sales and issuances of the above securities were exempt from registration under the Securities Act (or Regulation D or Regulation S promulgated thereunder) by virtue of Section 4(a)(2) of the Securities Act because the issuance of securities to the recipients did not involve a public offering, or in reliance on Rule 701 because the transactions were pursuant to compensatory benefit plans or contracts relating to compensation as provided under such rule. The recipients of the securities in each of these transactions represented their intentions to

acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us. The sales of these securities were made without any general solicitation or advertising.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibit Index

Exhibit No.	Document
1.1*	Form of Underwriting Agreement.
3.1+	Certificate of Incorporation of Nkarta, Inc., as currently in effect.
3.2*	Form of Amended and Restated Certificate of Incorporation of Nkarta, Inc., to be effective upon the completion of this offering.
3.3+	Bylaws of Nkarta, Inc., as currently in effect.
3.4*	Form of Bylaws of Nkarta, Inc., to be effective upon completion of this offering.
4.1*	Form of Common Stock Certificate of the Registrant.
4.2*	Amended and Restated Investors' Rights Agreement, dated as of August 27, 2019, by and among the registrant and certain of its stockholders
5.1*	Opinion of O'Melveny & Myers LLP.
10.1*	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.
10.2#*	2015 Equity Incentive Plan.
10.3#*	Form of Stock Option Agreement for 2015 Equity Incentive Plan.
10.4#*	2020 Performance Incentive Plan.
10.5#*	2020 Employee Stock Purchase Plan.
10.6#+	Employment Offer Letter between the Registrant and Paul Hastings.
10.7#+	Employment Offer Letter between the Registrant and Dr. Kanya Rajangam.
10.8#+	Employment Offer Letter between the Registrant and Dr. Matthew Plunkett.
10.9†+	Exclusive License Agreement between the Registrant, National University of Singapore and St. Jude Research Hospital, Inc.
10.10+	Lease Agreement, dated May 29, 2018, by and between the Registrant and HCP Life Science REIT, Inc.
10.11+	First Amendment to Lease Agreement, dated April 24, 2019, by and between the Registrant and HCP Life Science REIT, Inc.
10.12*	Second Amendment to Lease Agreement, dated May 5, 2020, by and between the Registrant and HCP Life Science REIT, Inc.
23.1*	Consent of Ernst & Young LLP, independent registered public accounting firm.
23.2*	Consent of O'Melveny & Myers LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page).

* To be filed by amendment.

\+ Previously filed.

\# Indicates management contract or compensatory plan.

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

(b) All financial statement schedules are omitted because the information called for is not required or is shown either in the financial statements or the notes thereto.

Item 17. Undertakings.

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

1. For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
2. For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, Nkarta, Inc. has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of South San Francisco on , 2020.

NKARTA, INC.

By: _____
Name: Paul J. Hastings
Title: Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Paul J. Hastings and Matthew Plunkett, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments or any abbreviated registration statement and any amendments thereto filed pursuant to Rule 462(b) under the Securities Act of 1933 increasing the number of securities for which registration is sought), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact, proxy and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact, proxy and agent, or his or her substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
Paul J. Hastings	Chief Executive Officer and Director (Principal Executive Officer)	, 2020
Matthew Plunkett, Ph.D.	Chief Financial Officer (Principal Financial and Accounting Officer)	, 2020
Tiba Aynechi, Ph.D.	Director	, 2020
Fouad Azzam, Ph.D., MBA	Director	, 2020
Ali Behbahani, M.D., MBA	Director	, 2020
Michael Dybbs, Ph.D.	Director	, 2020
Simeon George, M.D., MBA	Director	, 2020
Leone Patterson, MBA	Director	, 2020
Zachary Scheiner, Ph.D.	Director	, 2020
Laura Shawver, Ph.D.	Director	, 2020