UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2022

OR

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

Commission File Number 001-39208

Beam Therapeutics Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**81-5238376**
(*State or other jurisdiction of incorporation or organization*)	(*I.R.S. Employer Identification No.*)
238 Main Street Cambridge, MA	**02142**
(*Address of principal executive offices*)	(*Zip Code*)

Registrant's telephone number, including area code: (857) 327-8775

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**BEAM**	**Nasdaq Global Select Market**

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

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

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

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

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

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

The number of shares of registrant's common stock outstanding as of May 2, 2022 was 70,266,761.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Such forward-looking statements reflect, among other things:

- our current expectations and anticipated results of operations;
- our expectations regarding the initiation, timing, progress and results of our research and development programs and preclinical studies, including our expectations that we will submit an Investigational New Drug application, or IND, for BEAM-102 for the treatment of sickle cell disease and BEAM-201 for the treatment of relapsed/refractory T-cell acute lymphoblastic leukemia, that we will initiate IND-enabling studies for BEAM-301 for the treatment Glycogen Storage Disease Type IA (R83C mutation) and that we will nominate a CAR-T development candidate and an additional in vivo liver development candidate during 2022;
- our expectations regarding the initiation, timing, progress and results of our clinical trials, including our Phase 1/2 clinical trial designed to assess the safety and efficacy of BEAM-101 for the treatment of sickle cell disease, which we refer to as our BEACON-101 trial;
- our ability to develop and maintain a sustainable portfolio of product candidates;
- our ability to develop life-long, curative, precision genetic medicines for patients through base editing;
- our ability to create a hub for partnering with other companies;
- our plans for preclinical studies for product candidates in our pipeline;
- our ability to advance any product candidates that we may develop and successfully complete any clinical trials or preclinical studies, including the manufacture of any such product candidates;
- our ability to pursue a broad suite of clinically validated delivery modalities;
- our expectations regarding our ability to generate additional novel lipid nanoparticles that we believe could accelerate novel nonviral delivery of gene editing or other nucleic acid payloads to tissues beyond the liver and our ability to expand the reach of our programs, including as a result of our acquisition of Guide Therapeutics, Inc., or Guide;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology;
- developments related to our competitors and our industry;
- the expected timing, progress and success of our collaborations with third parties, including any future payments we may receive under our collaboration and license agreements, and our ability to identify and enter into future license agreements and collaborations;
- developments related to base editing technologies;
- our ability to successfully develop our delivery modalities and obtain and maintain approval for our product candidates;
- our ability to successfully establish and maintain a commercial-scale current Good Manufacturing Practice, or cGMP, manufacturing facility and our expectations that this facility will be operational in the first quarter of 2023;
- regulatory developments in the United States and foreign countries;
- our ability to attract and retain key scientific and management personnel;
- our expectations regarding the strategic and other potential benefits of our acquisition of Guide; and
- the impact of the coronavirus disease of 2019, or COVID-19, pandemic on our business.

All of these statements are subject to known and unknown important risks, uncertainties and other factors that may cause our actual results, performance or achievements, market trends, or industry results to differ materially from those expressed or implied by such forward-looking statements. Therefore, any statements contained herein that are not statements of historical fact may be forward-looking statements and should be evaluated as such. Without limiting the foregoing, the words “anticipate,” “expect,” “suggest,” “plan,” “believe,” “intend,” “project,” “forecast,” “estimates,” “targets,” “projections,” “should,” “could,” “would,” “may,” “might,” “will,” and the negative thereof and similar words and expressions are intended to identify forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in “Risk Factors” in Part II, Item 1A of this report and “Risk Factors Summary” and “Risk Factors” in Part I, Item 1A. of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, or the 2021 Form 10-K. Unless legally required, we assume no obligation to

update any such forward-looking information to reflect actual results or changes in the factors affecting such forward-looking information.

When we use the terms “Beam,” the “Company,” “we,” “us” or “our” in this Quarterly Report on Form 10-Q, we mean Beam Therapeutics Inc. and its subsidiaries on a consolidated basis, unless the context indicates otherwise.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

Beam Therapeutics Inc.
Condensed Consolidated Balance Sheets
(*Unaudited*)
(in thousands, except share and per share amounts)

	March 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 296,821	$ 559,994
Marketable securities	925,779	405,653
Collaboration receivable	—	300,000
Prepaid expenses and other current assets	16,884	7,360
Total current assets	1,239,484	1,273,007
Property and equipment, net	94,288	84,258
Restricted cash	12,746	12,746
Operating lease right-of-use assets	105,543	102,718
Other assets	1,341	1,724
Total assets	$ 1,453,402	$ 1,474,453
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 6,266	$ 7,474
Accrued expenses and other current liabilities	24,062	28,921
Accrued sub-license fees	33,125	38,743
Derivative liabilities	28,600	42,200
Current portion of deferred revenue	115,049	86,270
Current portion of lease liability	9,359	7,540
Current portion of equipment financing liability	2,337	2,287
Total current liabilities	218,798	213,435
Long-term lease liability	136,034	134,810
Long-term equipment financing liability	2,404	3,007
Contingent consideration liabilities	30,915	31,367
Long-term portion of deferred revenue	225,093	262,303
Other liabilities	11,090	2,793
Total liabilities	624,334	647,715
Commitments and contingencies (See Note 7, *Leases*, Note 9, *License agreements* and Note 10, *Collaboration and license agreements*)		
Stockholders' equity:		
Preferred stock, $0.01 par value; 25,000,000 shares authorized, and no shares issued or outstanding at March 31, 2022 and December 31, 2021, respectively	—	—
Common stock, $0.01 par value; 250,000,000 shares authorized, 69,785,836 and 68,581,251 issued, and 69,753,023 and 68,389,425 outstanding at March 31, 2022 and December 31, 2021, respectively	698	684
Additional paid-in capital	1,668,567	1,594,378
Accumulated other comprehensive (loss) income	(2,709)	(50)
Accumulated deficit	(837,488)	(768,274)
Total stockholders' equity	829,068	826,738
Total liabilities and stockholders' equity	$ 1,453,402	$ 1,474,453

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

Beam Therapeutics Inc.
Condensed Consolidated Statements of Operations and Other Comprehensive Loss
(*Unaudited*)
(in thousands, except share and per share amounts)

	Three Months Ended March 31,	
	2022	**2021**
License and collaboration revenue	$ 8,432	$ 6
Operating expenses:		
Research and development	65,410	190,106
General and administrative	19,247	10,273
Total operating expenses	84,657	200,379
Loss from operations	(76,225)	(200,373)
Other income (expense):		
Change in fair value of derivative liabilities	13,600	(1,900)
Change in fair value of non-controlling equity investments	(7,685)	1,039
Change in fair value of contingent consideration liabilities	452	(305)
Interest and other income (expense), net	644	(21)
Total other income (expense)	7,011	(1,187)
Net loss	$ (69,214)	$ (201,560)
Unrealized gain (loss) on marketable securities	(2,659)	(15)
Comprehensive loss	$ (71,873)	$ (201,575)
Net loss per common share, basic and diluted	$ (1.01)	$ (3.35)
Weighted-average common shares outstanding, basic and diluted	68,703,864	60,210,120

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

Beam Therapeutics Inc.
Condensed Consolidated Statements of Stockholders' Equity
(*Unaudited*)
(in thousands, except share amounts)

	Common Stock		Additional Paid-in	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Income (Loss)	Deficit	Equity
Balance at December 31, 2020	57,254,178	$ 573	$ 642,633	$ (9)	$ (397,636)	$ 245,561
Issuance of common stock from private placement, net of issuance costs of $8.0 million	2,795,700	28	251,977	—	—	252,005
Issuance of common stock to acquire Guide	1,087,153	10	120,022	—	—	120,032
Vesting of restricted common stock	398,804	4	(4)	—	—	—
Stock-based compensation	—	—	4,648	—	—	4,648
Exercise of common stock options	199,284	2	1,756	—	—	1,758
Other comprehensive income (loss)	—	—	—	(15)	—	(15)
Net loss	—	—	—	—	(201,560)	(201,560)
Balance at March 31, 2021	61,735,119	$ 617	$ 1,021,032	$ (24)	$ (599,196)	$ 422,429

Beam Therapeutics Inc.
Condensed Consolidated Statements of Stockholders' Equity - Continued
(*Unaudited*)
(in thousands, except share amounts)

	Common Stock		Additional Paid-in	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Income (Loss)	Deficit	Equity
Balance at December 31, 2021	68,389,425	$ 684	$ 1,594,378	$ (50)	$ (768,274)	$ 826,738
Purchase of common stock under ESPP	28,990	—	1,412	—	—	1,412
Issuance of common stock from At-the-Market offering, net of issuance costs of $1.3 million	874,770	9	53,927	—	—	53,936
Vesting of restricted common stock	283,186	3	(3)	—	—	—
Stock-based compensation	—	—	18,035	—	—	18,035
Exercise of common stock options	176,652	2	818	—	—	820
Other comprehensive income (loss)	—	—	—	(2,659)	—	(2,659)
Net loss	—	—	—	—	(69,214)	(69,214)
Balance at March 31, 2022	69,753,023	$ 698	$ 1,668,567	$ (2,709)	$ (837,488)	$ 829,068

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

Beam Therapeutics Inc.
Condensed Consolidated Statements of Cash Flows
(*Unaudited*)
(in thousands)

	Three Months Ended March 31,	
	2022	2021
Operating activities		
Net loss	$ (69,214)	$ (201,560)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	3,312	1,398
Amortization of investment discount (premiums)	(390)	15
In-process research and development charge	—	154,953
Stock-based compensation expense	18,035	4,648
Change in operating lease right-of-use assets	1,997	2,359
Change in fair value of derivative liabilities	(13,600)	1,900
Change in fair value of contingent consideration liabilities	(452)	305
Change in fair value of non-controlling equity investments	7,685	(1,039)
Other	3	63
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(9,185)	(2,365)
Other long-term assets	—	(185)
Accounts payable	(1,252)	(666)
Accrued expenses and other liabilities	(16,533)	(4,458)
Operating lease liabilities	(1,780)	6,111
Collaboration receivable	300,000	—
Deferred revenue	(8,432)	(6)
Other long-term liabilities	8,296	(51)
Net cash provided by (used in) operating activities	218,490	(38,578)
Investing activities		
Purchases of property and equipment	(7,259)	(11,478)
Purchases of marketable securities	(690,390)	(289,218)
Maturities of marketable securities	160,310	20,450
Net cash acquired from Guide	—	620
Net cash used in investing activities	(537,339)	(279,626)
Financing activities		
Proceeds from issuance of common shares, net of commissions	54,003	260,000
Proceeds from issuances of stock under ESPP	1,412	—
Payment of equity offering costs	(6)	(7,955)
Repayment of equipment financings	(553)	(529)
Proceeds from exercise of stock options	820	1,758
Net cash provided by financing activities	55,676	253,274
Net change in cash, cash equivalents and restricted cash	(263,173)	(64,930)
Cash, cash equivalents and restricted cash—beginning of period	572,740	177,011
Cash, cash equivalents and restricted cash—end of period	$ 309,567	$ 112,081

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

Beam Therapeutics Inc.
Condensed Consolidated Statements of Cash Flows - Continued
(*Unaudited*)
(in thousands)

	Three Months Ended March 31,	
	2022	**2021**
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 113	$ 159
Supplemental disclosure of noncash investing and financing activities:		
Property and equipment additions in accounts payable and accrued expenses	$ 15,306	$ 6,671
Operating lease liabilities arising from obtaining right-of-use assets	$ 4,822	$ 23,366
Equity issuance costs in accounts payable and accrued expenses	$ 67	$ 250
Contingent consideration liabilities assumed in asset acquisition	$ —	$ 36,513
Fair value of equity instruments issued in connection with asset acquisition	$ —	$ 120,032

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

1. Nature of the business and basis of presentation

Organization

Beam Therapeutics Inc., which we refer to herein as the "Company" or "Beam," is a biotechnology company committed to establishing the leading, fully integrated platform for precision genetic medicines. Beam's vision is to provide life-long cures to patients suffering from genetic diseases. The Company was incorporated on January 25, 2017 as a Delaware corporation and began operations in July 2017. Its principal offices are in Cambridge, Massachusetts.

Liquidity and capital resources

Since its inception, the Company has devoted substantially all of its resources to building its base editing platform and advancing development of its portfolio of programs, establishing and protecting its intellectual property, conducting research and development activities, making arrangements to conduct manufacturing activities with contract manufacturing organizations, research and development costs including preclinical studies and IND-enabling studies, organizing and staffing the Company, maintaining its facilities and new facility build-outs, business planning, raising capital and providing general and administrative support for these operations. The Company is also in the process of developing internal manufacturing capabilities. The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry including, but not limited to, technical risks associated with the successful research, development and manufacturing of product candidates, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Current and future programs will require significant research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

In April 2021, the Company entered into an at the market, or ATM, sales agreement, or the Sales Agreement, with Jefferies LLC, or Jefferies, pursuant to which the Company was entitled to offer and sell, from time to time at prevailing market prices, shares of the Company's common stock having aggregate gross proceeds of up to $300.0 million. The Company agreed to pay Jefferies a commission of up to 3.0% of the aggregate gross sale proceeds of any shares sold by Jefferies under the Sales Agreement. Between April and July 2021, the Company sold 2,908,009 shares of its common stock under the Sales Agreement at an average price of $103.16 per share for aggregate gross proceeds of $300.0 million, before deducting commissions and offering expenses payable by the Company.

In July 2021, the Company and Jefferies entered into an amendment to the Sales Agreement to provide for an increase in the aggregate offering amount under the Sales Agreement, such that as of July 7, 2021, the Company may offer and sell shares of common stock having an aggregate offering price of an additional $500.0 million. As of March 31, 2022, the Company has sold 2,873,956 additional shares of its common stock under the amended Sales Agreement at an average price of $92.71 per share for aggregate gross proceeds of $266.5 million, before deducting commissions and offering expenses payable by the Company.

Since its inception, the Company has incurred substantial losses and had an accumulated deficit of $837.5 million as of March 31, 2022. The Company expects to generate operating losses and negative operating cash flows for the foreseeable future.

The Company expects that its cash, cash equivalents, and marketable securities as of March 31, 2022 of $1.2 billion will be sufficient to fund its operations for at least the next 12 months from the date of issuance of these financial statements. The Company will need additional financing to support its continuing operations and pursue its growth strategy. Until such time as the Company can generate significant revenue from product sales, if ever, it expects to finance its operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. The Company may be unable to raise additional funds or enter into such other agreements when needed on favorable terms or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and its ability to pursue its business strategy. The Company will need to generate significant revenue to achieve profitability, and it may never do so.

COVID-19-related significant risks and uncertainties

With the ongoing concerns related to the COVID-19 pandemic, the Company has maintained its business continuity plans to address and mitigate the impact of the COVID-19 pandemic on its business. In March 2020, to protect the health of its employees, and their families and communities, the Company restricted access to its offices to personnel who performed critical activities that must be completed on-site, limited the number of such personnel that could be present at its facilities at any one time, and requested that most of its employees work remotely. In May 2021, as certain states eased restrictions, the Company established new protocols to better allow its full laboratory staff access to the Company's facilities. These protocols included several shifts working over a seven-day-week protocol. In June 2021, as certain states continued to ease restrictions, the Company started to allow its entire workforce the ability to work on-site at the Company's facilities, with fewer restrictions, particularly for vaccinated employees. The Company

expects to continue incurring additional costs to ensure it adheres to the guidelines instituted by the Centers for Disease Control and Prevention and to provide a safe working environment to its onsite employees.

The extent to which the COVID-19 pandemic impacts the Company's business, its corporate development objectives, results of operations and financial condition, and the value of and market for its common stock, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration of the pandemic, travel restrictions, quarantines, social distancing and business closure requirements, and the effectiveness of actions taken globally to contain and treat the disease. Disruptions to the global economy and supply chain, disruption of global healthcare systems, and other significant impacts of the COVID-19 pandemic could have a material adverse effect on the Company's business, financial condition, results of operations and growth prospects.

While the COVID-19 pandemic did not significantly impact the Company's business or results of operations during the three months ended March 31, 2022, the length and extent of the pandemic, its consequences, and containment efforts will determine the future impact on the Company's operations and financial condition.

2. Summary of significant accounting policies

The Company's significant accounting policies are disclosed in the audited consolidated financial statements for the year ended December 31, 2021, and notes thereto, which are included in the Company's Annual Report on Form 10-K that was filed with the Securities and Exchange Commission on February 28, 2022, or the 2021 Form 10-K. Since the date of those financial statements, there have been no material changes to Beam's significant accounting policies.

Basis of presentation

The accompanying condensed consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles, or GAAP. Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification, or ASC, and Accounting Standards Update, or ASU, of the Financial Accounting Standards Board, or FASB.

Principles of consolidation

The accompanying condensed consolidated financial statements include the results of operations of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosure of contingent assets and liabilities as of and during the reporting period. The Company bases its estimates and assumptions on historical experience when available and on various factors that it believes to be reasonable under the circumstances. Significant estimates and assumptions reflected in these condensed consolidated financial statements include, but are not limited to, incremental borrowing rate used in the calculation of lease liabilities, research and development expenses, stock-based compensation, contingent consideration liabilities, success payments and certain judgements regarding revenue recognition. Actual results could differ from these estimates.

Cash, cash equivalents, and restricted cash

Cash and cash equivalents consist of standard checking accounts, money market accounts, and all highly liquid investments with a remaining maturity of three months or less at the date of purchase. Restricted cash represents collateral provided for letters of credit issued as security deposits in connection with the Company's leases of its corporate and manufacturing facilities.

The following table reconciles cash, cash equivalents, and restricted cash reported within the Company's condensed consolidated balance sheets to the total of the amounts shown in the condensed consolidated statements of cash flows (in thousands):

	March 31, 2022	March 31, 2021
Cash and cash equivalents	$ 296,821	$ 97,241
Restricted cash	12,746	14,840
Total cash, cash equivalents, and restricted cash	$ 309,567	$ 112,081

3. Property and equipment, net

Property and equipment consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Leasehold improvements	$ 58,041	$ 57,760
Lab equipment	35,489	29,905
Furniture and fixtures	3,699	3,679
Computer equipment	1,866	1,646
Construction in process	14,527	7,349
Total property and equipment	113,622	100,339
Less accumulated depreciation	(19,334)	(16,081)
Property and equipment, net	$ 94,288	$ 84,258

The following table summarizes depreciation expense incurred (in thousands):

	Three Months Ended March 31,	
	2022	2021
Depreciation expense	$ 3,262	$ 1,398

4. Fair value of financial instruments

The Company's financial instruments that are measured at fair value on a recurring basis consist of cash equivalents, marketable securities, equity securities of Verve Therapeutics, Inc, or Verve, contingent consideration liabilities related to the agreement and plan of merger pursuant to which the Company acquired Guide, or the Guide Merger Agreement, and success payment derivative liabilities pursuant to the license agreement, or the Harvard License Agreement, between President and Fellows of Harvard University, or Harvard, and the Company, and the license agreement, or the Broad License Agreement, between The Broad Institute, Inc., or Broad Institute, and the Company.

The following tables set forth the fair value of the Company's financial assets and liabilities by level within the fair value hierarchy at March 31, 2022 (in thousands):

	Carrying amount	Fair value	Level 1	Level 2	Level 3
Assets					
Cash equivalents:					
Money market funds	$ 152,020	$ 152,020	$ 152,020	$ —	$ —
Commercial paper	144,801	144,801	—	144,801	—
Marketable securities:					
Commercial paper	730,967	730,967	—	730,967	—
Corporate notes	18,125	18,125	—	18,125	—
U.S. Treasury securities	164,205	164,205	—	164,205	—
Equity securities included in marketable securities:					
Corporate equity securities	12,482	12,482	12,482	—	—
Total assets	$ 1,222,600	$ 1,222,600	$ 164,502	$ 1,058,098	$ —
Liabilities					
Success payment liability – Harvard	$ 14,200	$ 14,200	$ —	$ —	$ 14,200
Success payment liability – Broad Institute	14,400	14,400	—	—	14,400
Contingent consideration liability – Technology	24,531	24,531	$ —	$ —	$ 24,531
Contingent consideration liability – Product	6,384	6,384	—	—	6,384
Total liabilities	$ 59,515	$ 59,515	$ —	$ —	$ 59,515

The following tables set forth the fair value of the Company's financial assets and liabilities by level within the fair value hierarchy at December 31, 2021 (in thousands):

	Carrying amount	Fair value	Level 1	Level 2	Level 3
Assets					
Cash equivalents:					
Money market funds	$ 540,094	$ 540,094	$ 540,094	$ —	$ —
Commercial paper	13,997	13,997	—	13,997	—
Corporate notes	5,903	5,903	—	5,903	—
Marketable securities:					
Commercial paper	368,743	368,743	—	368,743	—
Corporate notes	16,743	16,743	—	16,743	—
Equity securities included in marketable securities					
Corporate equity securities	20,167	20,167	20,167	—	—
Total assets	$ 965,647	$ 965,647	$ 560,261	$ 405,386	$ —
Liabilities					
Success payment liability – Harvard	$ 21,000	$ 21,000	$ —	$ —	$ 21,000
Success payment liability – Broad Institute	21,200	21,200	—	—	21,200
Contingent consideration liability – Technology	24,359	$ 24,359	—	—	24,359
Contingent consideration liability – Product	7,008	7,008	—	—	7,008
Total liabilities	$ 73,567	$ 73,567	$ —	$ —	$ 73,567

Cash equivalents – Money market funds included within cash equivalents are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets. Commercial paper and corporate notes are classified within Level 2 of the fair value hierarchy because pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies.

Marketable securities – Marketable securities, excluding corporate equity securities, are classified within Level 2 of the fair value hierarchy because pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined using models or other valuation methodologies.

The Company holds an investment in Verve consisting of shares of Verve's common stock. Prior to Verve's initial public offering in June 2021, the Company valued such investment based on the cost of the equity securities adjusted for any observable market transactions. Following Verve's initial public offering, the equity securities have a readily determinable fair value; however, they were subject to transfer restrictions for 6 months following Verve's initial public offering. As of March 31, 2022, the Company owned 546,970 shares of Verve's common stock valued at $12.5 million, which is included in marketable securities in the condensed consolidated balance sheet. In addition the Company recorded other expense of $7.7 million and other income of $1.0 million for the three months ended March 31, 2022, and 2021 respectively, related to the changes in fair value of Verve's stock.

Pursuant to ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities*, the Company records changes in the fair value of its investments in equity securities to other income (expense), in the Company's condensed consolidated statements of operations.

Success payment liabilities – As discussed further in Note 9, *License agreements*, the Company is required to make payments to Harvard and Broad Institute based upon the achievement of specified multiples of the initial weighted average value of the Company's Series A Preferred Stock or, subsequent to the Company's initial public offering, or IPO, the market value of the Company's common stock, at specified valuation dates. The Company's liability for the share-based success payments under the Harvard and Broad License Agreements is carried at fair value. To determine the estimated fair value of the success payment liability, the Company uses a Monte Carlo simulation methodology, which models the future movement of stock prices based on several key variables.

The following variables were incorporated in the calculation of the estimated fair value of the Harvard and Broad Institute success payment liabilities:

	Harvard		Broad Institute	
	March 31, 2022	December 31, 2021	March 31, 2022	December 31, 2021
Fair value of common stock (per share)	$ 57.30	$ 79.69	$ 57.30	$ 79.69
Expected volatility	80%	76%	80%	76%
Expected term (years)	0.10-7.25	0.10-7.49	0.10-8.11	0.10-8.36

The computation of expected volatility was estimated using available information about the historical volatility of stocks of similar publicly traded companies in addition to the Company's own data for a period matching the expected term assumption. In addition, the Company incorporated the estimated number, timing, and probability of valuation measurement dates in the calculation of the success payment liability.

The following table reconciles the change in the fair value of success payment liabilities based on Level 3 inputs (in thousands):

	Three Months Ended March 31, 2022		
	Harvard	Broad Institute	Total
Balance at December 31, 2021	$ 21,000	$ 21,200	$ 42,200
Change in fair value	(6,800)	(6,800)	(13,600)
Balance at March 31, 2022	$ 14,200	$ 14,400	$ 28,600

Contingent consideration liabilities – As discussed further in Note 8, *Guide acquisition*, under the Guide Merger Agreement, Guide's former stockholders and optionholders are eligible to receive up to an additional $100.0 million in technology milestone payments and $220.0 million in product milestone payments, payable in the Company's common stock valued using the volume-weighted average price of the Company's stock over the ten-day trading period ending two trading days prior to the date on which the applicable milestone is achieved. As these milestones are payable in the Company's common stock, the milestone payments result in liability classification under ASC 480, *Distinguishing Liabilities from Equity*. These contingent consideration liabilities are carried at fair value which was estimated by applying a probability-based model, which utilized inputs based on timing of achievement that were unobservable in the market. These contingent consideration liabilities are classified within Level 3 of the fair value hierarchy.

The following table reconciles the change in fair value of the contingent consideration liabilities based on level 3 inputs (in thousands):

	Three Months Ended March 31, 2022		
	Technology Milestones	Product Milestones	Total
Balance at December 31, 2021	$ 24,359	$ 7,008	$ 31,367
Change in fair value	172	(624)	(452)
Balance at March 31, 2022	$ 24,531	$ 6,384	$ 30,915

The following variables were incorporated in the calculation of the estimated fair value of the contingent consideration liabilities:

	Technology Milestones		Product Milestones	
	March 31, 2022	December 31, 2021	March 31, 2022	December 31, 2021
Discount Rate	8.50%	7.50%	8.50%	7.50%
Probability of Achievement	10-75%	10-75%	2-15%	2-15%
Projected Year of Achievement	2022-2023	2022-2023	2024-2029	2023-2029

5. Marketable securities

The following table summarizes the Company's marketable securities held at March 31, 2022 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial paper	$ 733,068	$ —	$ (2,101)	$ 730,967
Corporate notes	18,249	—	(124)	18,125
U.S. Treasury securities	164,689	2	(486)	164,205
Corporate equity securities	12,482	—	—	12,482
Total	$ 928,488	$ 2	$ (2,711)	$ 925,779

The following table summarizes the Company's marketable securities held at December 31, 2021 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial paper	$ 368,778	$ 32	$ (67)	$ 368,743
Corporate notes	16,758	—	(15)	16,743
Corporate equity securities	20,167	—	—	20,167
Total	$ 405,703	$ 32	$ (82)	$ 405,653

The amortized cost of marketable securities is adjusted for amortization of premiums and accretion of discounts to maturity. At March 31, 2022, the balance in accumulated other comprehensive (loss) income was comprised solely of activity related to marketable securities. There were no realized gains or losses recognized on the sale or maturity of marketable securities for the three months ended March 31, 2022 and 2021 and, as a result, the Company did not reclassify any amounts out of accumulated other comprehensive (loss) income for the same periods.

The Company holds debt securities of companies with high credit quality and has determined that there was no material change in the credit risk of any of its debt securities. The contractual maturity dates of all the investments are less than one year.

6. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Employee compensation and related benefits	$ 6,771	$ 11,661
Research costs	6,545	3,133
Professional fees	3,542	3,330
Process development and manufacturing costs	2,299	3,833
Other	4,905	6,964
Total	$ 24,062	$ 28,921

7. Leases

Operating leases

The Company's operating leases are as follows:

- A February 2018 lease for 38,203 square feet of office and laboratory space, which commenced in March 2018 and terminates in September 2028. The lease is subject to fixed-rate rent escalations and provided for $6.1 million in tenant improvements and a term extension option, which is not reasonably certain of exercise.
- An October 2018 lease for laboratory space as amended, which commenced in April 2019 and terminates in December 2025. The amended lease is subject to fixed-rate rent escalations and provides an option to extend the lease for two additional two-year periods through December 31, 2029, which are not reasonably certain of being exercised. Through March 31, 2022, the Company has recorded right-of-use, or ROU assets and lease liabilities of $14.1 million and $14.0 million related to this lease.
- An April 2019 lease for office and laboratory space, that was built over the course of 2020 and 2021. Pursuant to the terms of the original lease agreement, the first phase of the lease commenced in October 2020 (rent payments for the first phase began in August 2021) and the second phase of the lease commenced in January 2021 (rent payments for the second phase began in February 2022). The lease is subject to fixed-rate rent escalations and provides for $23.4 million in tenant improvements and the option to extend the lease for two terms of five years each, which are not reasonably certain of exercise. The Company determined that it is the accounting owner of all tenant improvements. The Company maintains a security deposit of $9.7 million in the form of a letter of credit, which is included in restricted cash as of March 31, 2022 and December 31, 2021. Upon commencement of the first phase of this lease in October 2020, the Company recorded an operating lease ROU asset of $66.8 million and a lease liability of $68.8 million and upon commencement of the second phase of this lease in January 2021, the Company recorded an operating lease ROU asset of $22.0 million and a corresponding lease liability of $23.0 million. Subsequently, during the second quarter of 2021, the Company amended the rent commencement dates of the first and second phases of this lease. Pursuant to the terms of the amendment, the lease will terminate in February 2034, which is 12 years from the amended second phase rent commencement date. As a result, the Company recorded an increase in the ROU asset of $0.5 million and lease liability of $0.5 million.

The following table summarizes operating lease costs and sublease income (in thousands):

	Three Months Ended March 31,	
	2022	2021
Operating lease costs	$ 4,386	$ 4,558
Variable lease costs	1,136	210
Short-term lease costs	232	—
Sublease income	(331)	—
Total	$ 5,423	$ 4,768

The following table summarizes the lease term and discount rate for operating leases:

	March 31, 2022	December 31, 2021
Weighted-average remaining lease term (years)	10.6	11.1
Weighted-average discount rate	7.0%	7.0%

The following table summarizes the lease costs for amounts included in the measurement of lease liabilities (in thousands):

	Three Months Ended March 31,	
	2022	2021
Operating cash flows used for operating leases	$ 4,509	$ 1,685
Operating lease liabilities arising from obtaining ROU assets	4,822	23,366

At March 31, 2022, the future minimum lease payments for the Company's operating leases for each of the next five years and total thereafter were as follows (in thousands):

Remainder of 2022	$ 13,865
2023	19,006
2024	19,586
2025	20,066
2026	17,143
Thereafter	115,692
Undiscounted lease payments	205,358
Less: imputed interest	(59,965)
Total operating lease liabilities	$ 145,393

In August 2020, the Company entered into a lease agreement with Alexandria Real Estate Equities, Inc., or the Landlord, to build a 100,000 square foot manufacturing facility in Research Triangle Park, North Carolina intended to support a broad range of clinical programs. The lease has a term of 15 years following the commencement date and provides the Company the option to extend the lease term for two five-year terms. It is subject to fixed rate escalation increases and also provides up to $20.0 million for reimbursement of tenant improvements. As the lease had not commenced as of March 31, 2022, the Company has not recorded an operating lease ROU asset or lease liability for this lease in the accompanying condensed consolidated balance sheets. The lease payments are subject to adjustment following the determination of the total project costs of the landlord. The initial estimate of the minimum amount of undiscounted lease payments due under this lease is $69.0 million. The Company anticipates that the facility will be operational in the first quarter of 2023 at which time it would begin making rent payments. The tabular disclosure of minimum lease payments above does not include payments due under this lease.

In August 2021, the Company executed a lease amendment to its April 2019 lease for office and laboratory space in Cambridge, Massachusetts to occupy additional space. The term of this lease will run concurrent with the term of the April 2019 lease. The initial estimate of the minimum amount of undiscounted lease payments due under this lease is $11.1 million. As the lease had not yet commenced as of March 31, 2022, the Company has not recorded an operating lease ROU asset or lease liability for this lease in the accompanying condensed consolidated balance sheets. The tabular disclosure of minimum lease payments above does not include payments due under this lease.

8. Guide acquisition

On February 23, 2021, the Company entered into the Guide Merger Agreement. Under the Guide Merger Agreement, the Company paid Guide's former stockholders and optionholders upfront consideration in an aggregate amount of $120.0 million, excluding customary purchase price adjustments and closing costs, in shares of the Company's common stock, based upon the volume-weighted average price of the Company's stock over the ten trading day period ending on February 19, 2021. Pursuant to the Guide Merger Agreement, the Company acquired all of the issued and outstanding shares of Guide. The Company issued a total of 1,087,153 shares of its common stock valued at $120.0 million in connection with the upfront payment to Guide's former stockholders and optionholders. The Guide transaction resulted in the acquisition of certain know-how and intellectual property assets related to Guide's proprietary *in vivo* LNP screening technology and its library of lipids and lipid nanoparticle formulations identified using the screening technology. Management determined that the acquired assets do not meet the definition of a business pursuant to ASC 805, *Business Combinations*, as substantially all of the fair value of the acquired assets is concentrated into one identifiable asset, the LNP screening technology and associated lipid library. As of the date of closing of the transactions contemplated by the Guide Merger Agreement, or the Guide Merger Agreement Date, the asset acquired had no alternative future use and had not reached a stage of technological feasibility. As a result, all share-based and cash payment obligations have been recorded as research and development expense in the accompanying condensed consolidated statements of operations and other comprehensive loss in the amount of $155.0 million. The total transaction price was allocated to the assets acquired and liabilities assumed on a relative fair value basis.

In addition, Guide's former stockholders and optionholders are eligible to receive up to an additional $100.0 million in technology milestone payments and $220.0 million in product milestone payments, payable in the Company's common stock valued using the volume-weighted average price of the Company's stock over the ten trading-day period ending two trading days prior to the date on which the applicable milestone is received.

The Company determined that all future technology and product milestone payments are classified as contingent consideration liabilities under ASC 480 and therefore the Company recorded a liability for these milestone payments as of the Guide Merger Agreement Date at fair value of $36.5 million. These contingent consideration liabilities are remeasured at fair value each financial reporting period, with the resulting impact reflected in the Company's condensed consolidated statements of operations and other comprehensive loss, presented within other income (expense).

The transaction price was determined and allocated as follows (in thousands):

Transaction price		
Fair value of equity instruments issued	$	120,032
Technology and product contingent consideration liabilities		36,513
Transaction costs		2,531
Total transaction price	$	159,076
Transaction price allocated		
In-process research and development	$	154,953
Cash acquired		3,151
Prepaid expenses and other assets		264
Property and equipment		1,835
Assembled workforce		300
Other liabilities assumed		(1,427)
Total transaction price	$	159,076

9. License agreements

Harvard license agreement

Under the Harvard License Agreement, Harvard is entitled to receive success payments, in cash or shares of Company stock, determined based upon the achievement of specified multiples of the initial weighted average value of the Company's Series A Preferred Stock at specified valuation dates. The success payments range from $5.0 million to a maximum of $105.0 million and have valuation multiples that range from 5 times to 40 times the initial weighted average value of the Series A Preferred Stock. Subsequent to the Company's IPO, the amount of success payments is based on the market value of the Company's common stock.

The Company is required to make success payments to Harvard during a period of time, or the Harvard Success Payment Period, which has been determined to be the later of (1) the ninth anniversary of the Harvard License Agreement or (2) the earlier of (a) the twelfth anniversary of the Harvard License Agreement and (b) the third anniversary of the first date on which a licensed product receives regulatory approval in the United States. During the Harvard Success Payment Period and beginning one year after the Company's IPO, the Company will perform a calculation of any amounts owed to Harvard on each rolling 90-day period.

In May 2021, the first success payment measurement occurred and amounts due to Harvard were calculated to be $15.0 million. The Company elected to make the payment in shares of the Company's common stock and issued 174,825 shares of the Company's common stock to settle this liability on June 10, 2021. The Company may owe Harvard success payments of up to an additional $90.0 million. As of March 31, 2022, no success payments were due to Harvard.

The following table summarizes the Company's success payment liability for Harvard (in thousands):

		March 31, 2022		December 31, 2021
Harvard success payment liability	$	14,200	$	21,000

The following table summarizes the expense resulting from the change in the fair value of the success payment liability for Harvard (in thousands):

		Three Months Ended March 31,		
		2022		2021
Change in fair value of Harvard success payment liability	$	(6,800)	$	1,000

The annual maintenance fee under the Harvard License Agreement is recorded as research and development expense. Annual patent costs will be expensed as incurred. As of March 31, 2022, the Company determined that product development and regulatory approval milestones under the Harvard License Agreement were not probable and, as such, no amounts were recognized for the three months ended March 31, 2022. There was no expense recorded for these milestones for the three months ended March 31, 2021. During the three months ended March 31, 2022 the Company incurred $0.5 million of expense related to non-royalty sublicense fees owed to Harvard. As of March 31, 2022, the Company has accrued $33.1 million of non-royalty sublicense fees owed to Harvard.

Broad license agreement

Under the Broad License Agreement, Broad Institute is entitled to receive success payments, in cash or shares of Company common stock, determined based upon the achievement of specified multiples of the initial weighted average value of the Series A Preferred Stock at specified valuation dates. The success payments range from $5.0 million to a maximum of $105.0 million and have valuation multiples that range from 5 times to 40 times the initial weighted average value of the Series A Preferred Stock. Subsequent to the Company's IPO, the amount of success payments is based on the market value of the Company's common stock.

The Company is required to make success payments to Broad Institute during a period of time, or the Broad Success Payment Period, which has been determined to be the earliest of (1) the twelfth anniversary of the Broad License Agreement or (2) the third anniversary of the first date on which a licensed product receives regulatory approval in the United States. During the Broad Success Payment Period and beginning one year after the Company's IPO, the Company will perform a calculation of any amounts owed to Broad Institute on each rolling 90-day period.

In May 2021, the first success payment measurement occurred and amounts due to Broad Institute were calculated to be $15.0 million. The Company elected to make the payment in shares of the Company's common stock and issued 174,825 shares of the Company's common stock to settle this liability on June 10, 2021. The Company may owe Broad Institute success payments of up to an additional $90.0 million. As of March 31, 2022, no success payments were due to Broad Institute.

The following table summarizes the Company's success payment liability for Broad Institute (in thousands):

	March 31, 2022	December 31, 2021
Broad Institute success payment liability	$ 14,400	$ 21,200

The following table summarizes the expense resulting from the change in the fair value of the success payment liability for Broad Institute (in thousands):

	Three Months Ended March 31,	
	2022	2021
Change in fair value of Broad Institute success payment liability	$ (6,800)	$ 900

The annual maintenance fee under the Broad License Agreement is recorded as research and development expense. Annual patent costs will be expensed as incurred. As of March 31, 2022, the Company determined that product development and regulatory approval milestones and royalties under the Broad License Agreement were not probable and, as such, no amounts were recognized for the three months ended March 31, 2022. There was no expense recorded for these milestones for the three months ended March 31, 2021. The Company paid $6.1 million of non-royalty sublicense fees to Broad Institute during the three months ended March 31, 2022.

Editas license agreement

In May 2018, the Company entered into a license agreement, or the Editas License Agreement, with Editas Medicine, Inc., or Editas. Pursuant to the Editas License Agreement, Editas granted to the Company licenses and options to acquire licenses to certain intellectual property rights owned or controlled by Editas, for specified uses.

The annual maintenance fees under the Editas License Agreement are recorded as research and development expense. Annual patent costs are expensed as incurred. In addition, the Company is required to make certain development, regulatory and commercial milestone payments to Editas upon the achievement of specified milestones. The Company recorded $0.1 million of expense related to these milestones during the three months ended March 31, 2022.

Management concluded that the licenses acquired from each transaction above did not meet the accounting definition of a business as inputs, but no processes or outputs were acquired with the licenses, and the licensed technology had not achieved technological feasibility. As the inputs that were acquired along with the licenses do not constitute a "business," the transactions have been accounted as asset acquisitions.

10. Collaboration and license agreements

Pfizer

In December 2021, the Company entered into a research collaboration agreement, or the Pfizer Agreement, with Pfizer Inc., or Pfizer, focused on the use of certain of the Company's base editing technology to develop *in vivo* therapies for rare genetic diseases of the liver, muscle, and central nervous system. Under the terms of the Pfizer Agreement, the Company will conduct all research activities through development candidate selection for three base editing programs that target specific genes corresponding to specific diseases that are the subject of such programs. Pfizer will have exclusive rights to license each of the three programs at no additional cost, each an Opt-In Right, and will assume responsibility for subsequent development and commercialization. At the end of the Phase 1/2 clinical trials, the Company may elect to enter into a global co-development and co-commercialization agreement with Pfizer with respect to one program licensed under the collaboration for an option exercise fee equal to a percentage of the applicable development costs incurred by Pfizer, or the Participation Election. In the event the Company elects to exercise its Participation Election, upon the payment of its option exercise fee, Pfizer and the Company would share net profits as well as development and commercialization costs in a 65%/35% (Pfizer/Company) split for such program. The research collaboration is managed on an overall basis by a Joint Research Committee, or JRC, formed by an equal number of representatives from the Company and Pfizer.

At the inception of the Pfizer Agreement, the Company was entitled to receive a nonrefundable upfront payment of $300.0 million in consideration for the rights granted to Pfizer under the collaboration. Should Pfizer exercise its Opt-In Right for any of the three programs, the Company would be eligible to receive development, regulatory, and commercial milestones of up to $350.0 million per program, for potential total consideration of up to $1.35 billion, plus royalty payments on global net sales for each licensed program, if any. If Pfizer does not exercise its Opt-In Right for a program, the Company's rights in such program revert to the Company and the Company will be required to pay Pfizer earn-out payments equal to a low single digit percentage of net sales earned on such program for a ten-year period, if any. As the $300.0 million upfront fee was not received by the Company as of December 31, 2021, the Company recorded a collaboration receivable for $300.0 million with a corresponding deferred revenue liability. The Company received the $300.0 million in January 2022.

During the collaboration term, Pfizer has a one-time option to substitute a disease that is the subject of a specific program with one pre-defined substitute disease. The collaboration has an initial term of four years and may be extended for an additional year on a program-by-program basis. Pfizer may terminate the Pfizer Agreement for convenience on any or all of the programs by providing 90 days' prior written notice.

The Company accounts for the Pfizer Agreement under ASC 606, *Revenue from Contracts with Customers*, or ASC 606, as it includes a customer-vendor relationship as defined under ASC 606 and meets the criteria to be considered a contract.

The overall transaction price as of the inception of the contract was determined to be $300.0 million, which is comprised entirely of the nonrefundable upfront payment. There is no variable consideration included in the transaction price at inception as the future milestone payments are fully constrained and the Company is not required to estimate variable consideration for the royalty payments at contract inception. The Company will re-evaluate the transaction price in each reporting period.

The Company has concluded that the licenses to its base editing technology, including the exclusive development and commercialization rights, are not capable of being distinct from the other performance obligations, and as such the Company has determined that the licenses combined with the other research and development services represent performance obligations and no up-front revenue was recognized for the licenses.

The selling price of each performance obligation was determined based on the Company's estimated standalone selling price, or the ESSP. The Company developed the ESSP for all of the performance obligations included in the Pfizer Agreement with the objective of determining the price at which it would sell such an item if it were to be sold regularly on a standalone basis. The Company allocated the stand-alone selling price to the performance obligations based on the relative standalone selling price method.

The Company recognizes revenue for each performance obligation as it is satisfied during the term of the agreement using an input method. The Company allocated the transaction price of $300.0 million to each of the three performance obligations, which includes each of the three base editing programs combined with the research and development services, licenses, and exclusive development and commercialization rights. Revenue is recognized using an input method based on the actual costs incurred as a percentage of total budgeted costs towards satisfying the performance obligation as this method provides the most faithful depiction of the entity's performance in transferring control of the goods and services promised to Pfizer and represents the Company's best estimate of the period of the obligation. For the three months ended March 31, 2022, the Company recognized $6.3 million of revenue related to the Pfizer Agreement. As of March 31, 2022, there is $95.6 million and $198.1 million of current and long-term deferred revenue, respectively, related to the Pfizer Agreement.

Apellis Pharmaceuticals

In June 2021, the Company entered into a research collaboration agreement, or the Apellis Agreement, with Apellis Pharmaceuticals, Inc., or Apellis, focused on the use of certain of the Company's base editing technology to discover new treatments for complement system-driven diseases. Under the terms of the Apellis Agreement, the Company will conduct preclinical research on up to six base editing programs that target specific genes within the complement system in various organs, including the eye, liver, and brain. Apellis has an exclusive option to license any or all of the six programs, or in each case, an Opt-In Right, and will assume responsibility for

subsequent development. The Company may elect to enter into a 50-50 U.S. co-development and co-commercialization agreement with Apellis with respect to one program instead of a license. The collaboration is managed on an overall basis by an alliance steering committee formed by an equal number of representatives from the Company and Apellis.

As part of the collaboration, the Company is eligible to receive a total of $75.0 million in upfront and near-term milestones from Apellis, which is comprised of $50.0 million received upon signing and an additional $25.0 million payment on June 30, 2022, the one-year anniversary of the effective date of the Apellis Agreement, or the First Anniversary Payment. Following any exercise of an Opt-In Right for any of the six programs, the Company will be eligible to receive development, regulatory, and sales milestones from Apellis, as well as royalty payments on sales. The collaboration has an initial term of five years and may be extended up to two years on a per year and program-by-program basis. During the collaboration term, Apellis may, subject to certain limitations, substitute a specific complement gene and/or organ for any of the initial base editing programs. Apellis may terminate the Apellis Agreement for convenience on any or all of the programs by providing prior written notice. The Company received the $50.0 million upfront payment from Apellis in July 2021.

The Company accounts for the Apellis Agreement under ASC 606 as it includes a customer-vendor relationship as defined under ASC 606 and meets the criteria to be considered a contract.

The overall transaction price as of the inception of the contract was determined to be $75.0 million, which is composed of the upfront payment of $50.0 million and the First Anniversary Payment of $25.0 million. The Company will re-evaluate the transaction price in each reporting period. The $25.0 million for the First Anniversary Payment represents both a contract asset and a contract liability and the Company has presented these amounts net in accordance with ASC 606 guidance for contract assets and liabilities.

The Company concluded that each of the six base editing programs combined with the research and development service, licenses, substitution rights and governance participation were material promises that were both capable of being distinct and were distinct within the context of the Apellis Agreement and represented separate performance obligations. Therefore, the Company did not recognize any upfront revenue related to the license. The Company further concluded that the Opt-In Rights and option to extend the collaboration term did not grant Apellis a material right. The Company determined that the term of the contract is five years, as this is the period during which both parties have enforceable rights.

The selling price of each performance obligation was determined based on the Company's estimated standalone selling price, or the ESSP. The Company developed the ESSP for all of the performance obligations included in the Apellis Agreement with the objective of determining the price at which it would sell such an item if it were to be sold regularly on a standalone basis. The Company allocated the stand-alone selling price to the performance obligations based on the relative standalone selling price method.

The Company recognizes revenue for each performance obligation as it is satisfied over the five-year term using an input method. The Company allocated the transaction price of $75.0 million to each of the six performance obligations, which includes each of the six base editing programs combined with the research and development service, licenses, substitution rights and governance participation, and is being recognized using an input method based on the actual costs incurred as a percentage of total budgeted costs towards satisfying the performance obligation as this method provides the most faithful depiction of the entity's performance in transferring control of the goods and services promised to Apellis and represents the Company's best estimate of the period of the obligation. For the three months ended March 31, 2022, the Company recognized $2.1 million of revenue related to the Apellis Agreement. As of March 31, 2022, there is $19.4 million and $26.7 million of current and long-term deferred revenue, respectively, related to the Apellis Agreement.

Prime Medicine

In September 2019, the Company entered into a collaboration and license agreement, or the Prime Agreement, with Prime Medicine, Inc., or Prime, to research and develop a novel gene editing technology developed by one of the Company's founders. Under the terms of the agreement, the Company granted Prime Medicine a non-exclusive license to certain of its CRISPR technology (including Cas12b), delivery technology and certain other technology controlled by the Company to develop and commercialize gene editing products for the treatment of human diseases. Prime Medicine granted the Company an exclusive license to develop and commercialize prime gene editing technology for the creation or modification of any single base transition mutations, as well as any edits made for the treatment of sickle cell disease. Additionally, each party granted to the other party certain exclusive and non-exclusive licenses to certain technology developed after the effective date of the agreement and controlled by the granting party or jointly owned by the parties. Each party has an obligation to assign rights in certain technology developed under the collaboration to the other party.

The Company provided immaterial interim management and startup services to Prime Medicine through March 2021 but did not provide any services during 2022.

As of March 31, 2022, the Company determined that future milestones and royalties under the Prime Agreement were not probable of recognition.

Verve

In April 2019, the Company entered into a collaboration and license agreement with Verve, or the Verve Agreement, to investigate gene editing strategies to modify genes associated with an increased risk of coronary diseases. Under the terms of the Verve Agreement, the Company granted Verve an exclusive license to certain base editor technology and certain delivery technology, and improvements and Verve granted Beam a non-exclusive license under certain know-how and patents controlled by Verve, an interest in joint collaboration technology and an exclusive license (except as to Verve) under certain delivery technology.

As of March 31, 2022, the Company determined that milestones and royalties under the Verve Agreement were not probable of recognition.

11. Common stock

In January 2021, the Company issued and sold 2,795,700 shares of its common stock in a private placement at an offering price of $93.00 per share for aggregate gross proceeds of $260.0 million. The Company received $252.0 million in net proceeds after deducting fees to the placement agents and offering expenses payable by the Company.

In April 2021, the Company entered into the Sales Agreement, with Jefferies, pursuant to which the Company was entitled to offer and sell, from time to time at prevailing market prices, shares of the Company's common stock having aggregate gross proceeds of up to $300.0 million. The Company agreed to pay Jefferies a commission of up to 3.0% of the aggregate gross sale proceeds of any shares sold by Jefferies under the Sales Agreement. Between April and July 2021, the Company has sold 2,908,009 shares of its common stock under the Sales Agreement at an average price of $103.16 per share for aggregate gross proceeds of $300.0 million, before deducting commissions and offering expenses payable by the Company.

In July 2021, the Company and Jefferies entered into an amendment to the Sales Agreement to provide for an increase in the aggregate offering amount under the Sales Agreement, such that as of July 7, 2021, the Company may offer and sell shares of common stock having an aggregate offering price of an additional $500.0 million. As of March 31, 2022, the Company has sold 2,873,956 additional shares of its common stock under the amended Sales Agreement at an average price of $92.71 per share for aggregate gross proceeds of $266.5 million, before deducting commissions and offering expenses payable by the Company.

The holders of the Company's common stock are entitled to one vote for each share of common stock. Subject to the payment in full of all preferential dividends to which the holders of the Company's preferred stock are entitled, the holders of the Company's common stock shall be entitled to receive ratably dividends out of funds legally available. In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company, after the payment or provision for payment of all debts and liabilities of the Company and all preferential amounts to which the holders of Company's preferred stock are entitled with respect to the distribution of assets in liquidation, the holders of common stock shall be entitled to share ratably in the remaining assets of the Company available for distribution.

12. Stock option and grant plan

2017 stock option and grant plan

In June 2017, the Company's board of directors adopted the Beam Therapeutics Inc. 2017 Stock Option and Grant Plan, or the 2017 Plan, which provided for the grant of qualified incentive stock options and nonqualified stock options, restricted stock or other awards to the Company's employees, officers, directors, advisors, and outside consultants for the issuance or purchase of shares of the Company's common stock. In May 2019, the 2017 Plan was amended to provide up to 8,078,681 shares of common stock for the issuance of stock options and restricted stock.

2019 equity incentive plan

In October 2019, the Company's board of directors adopted the Beam Therapeutics Inc. 2019 Equity Incentive Plan, or the 2019 Plan, and, following the IPO, all equity-based awards have been granted under the 2019 Plan. The 2019 Plan provides for the grant of qualified and nonqualified stock options, stock appreciation rights, restricted and unrestricted stock and stock units, performance awards, and other share-based awards to the Company's employees, officers, directors, advisors, and outside consultants.

The maximum number of shares of the Company's common stock that may be issued under the 2019 Plan was initially 3,700,000 shares, or the Share Pool, plus the number of shares of the Company's common stock underlying awards under the 2017 Plan, not to exceed 5,639,818 shares, that become available again for grant under the 2017 Plan in accordance with its terms. The Share Pool will automatically increase on January 1st of each year from 2021 to 2029 by the lesser of (i) four percent of the number of shares of the Company's common stock outstanding as of the close of business on the immediately preceding December 31st and (ii) the number of shares determined by the Company's board of directors on or prior to such date for such year.

As of March 31, 2022, the Company had 11,226,843 shares reserved including 2,452,727 shares available for future issuance pursuant to the 2019 Plan.

Stock-based compensation expense recorded as research and development and general and administrative expenses in the condensed consolidated statements of operations and other comprehensive loss is as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
Research and development	$ 11,294	$ 3,155
General and administrative	6,741	1,493
Total stock-based compensation expense	$ 18,035	$ 4,648

Stock options

The following table provides a summary of option activity under the Company's equity award plans:

	Number of options	Weighted average exercise price
Outstanding at December 31, 2021	6,034,192	$ 32.40
Granted	1,427,500	69.13
Exercised	(176,652)	4.64
Forfeitures	(20,637)	36.41
Outstanding at March 31, 2022	7,264,403	40.28
Exercisable as of March 31, 2022	2,602,709	$ 15.83

The weighted-average grant date fair value per share of options granted in the three months ended March 31, 2022 was $46.09. As of March 31, 2022, there was $158.4 million of unrecognized compensation expense related to unvested stock options, which is expected to be recognized over a weighted-average period of approximately 2.6 years.

Restricted stock

The Company issues shares of restricted common stock, including both restricted stock units and restricted stock awards. Restricted common stock issued generally vests over a period of two to four years.

The following table summarizes the Company's restricted stock activity:

	Shares	Weighted-average grant date fair value
Unvested as of December 31, 2021	1,126,206	$ 74.32
Issued	711,025	57.30
Vested	(283,186)	38.69
Forfeited	(11,519)	86.15
Unvested as of March 31, 2022	1,542,526	$ 72.93

At March 31, 2022, there was approximately $106.9 million of unrecognized stock-based compensation expense related to restricted stock that is expected to vest. These costs are expected to be recognized over a weighted-average remaining vesting period of approximately 3.5 years.

2019 employee stock purchase plan

In February 2020, the Company's board of directors adopted the Beam Therapeutics Inc. 2019 Employee Stock Purchase Plan, or ESPP, which was approved by the Company's stockholders. Pursuant to the ESPP, certain employees of the Company, excluding consultants and non-employee directors, are eligible to purchase common stock of the Company at a reduced rate during offering periods. The ESPP permits participants to purchase common stock using funds contributed through payroll deductions, subject to a calendar year limit of $25,000 and at a purchase price of 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the applicable purchase date, which will be the final trading day of the applicable purchase period. The first offering period commenced on October 1, 2021. The Company issued 28,990 shares under the ESPP during the three months ended March 31, 2022. There were no shares issued under the ESPP during the three months ended March 31, 2021. As of March 31, 2022, the Company had 1,706,282 shares available for issuance under the ESPP.

The Company uses the straight-line attribution approach to record the expense over the offering period. Stock-based compensation for the ESPP for the three months ended March 31, 2022 was $0.3 million. There was no stock-based compensation expense recorded under the ESPP for the three months ended March 31, 2021.

13. Net loss per share

As noted above, for periods in which the Company reports a net loss, potentially dilutive securities have been excluded from the computation of diluted net loss per share as their effects would be anti-dilutive. Therefore, the weighted average number of common shares outstanding used to calculate both basic and diluted net loss per share is the same. The Company excluded the following potential common shares, presented based on amounts outstanding at period end, from the computation of diluted net loss per share because including them would have had an anti-dilutive effect:

	As of March 31,	
	2022	2021
Unvested restricted stock	1,542,526	1,388,114
Outstanding options to purchase common stock	7,264,403	6,108,126
Total	8,806,929	7,496,240

The following table summarizes the computation of basic and diluted net loss per share of the Company (in thousands, except share and per share amounts):

	Three Months Ended March 31,	
	2022	2021
Numerator:		
Net loss	$ (69,214)	$ (201,560)
Denominator:		
Weighted average common shares outstanding, basic and diluted	68,703,864	60,210,120
Net loss per common share, basic and diluted	$ (1.01)	$ (3.35)

14. Income taxes

During the three months ended March 31, 2022 and 2021, the Company recorded a full valuation allowance on federal and state deferred tax assets since management does not forecast the Company to be in a taxable position in the near future.

15. Related party transactions

Founders

The Company made payments of $0.1 million and $0.1 million to its three founder shareholders for scientific consulting and other expenses for the three months ended March 31, 2022 and 2021, respectively.

Verve

The Company and Verve are parties to a collaboration and license agreement and have a common board member.

Prior to Verve's initial public offering in June 2021, the Company owned both common and preferred shares of Verve and valued such investment based on the cost of the equity securities adjusted for any observable market transactions. Following Verve's initial public offering, and the conversion of the preferred stock to common stock and a stock split, the equity securities have a readily determinable fair value and the Company owned 546,970 shares of Verve's common stock, the value of which is included in marketable securities in the condensed consolidated balance sheet. The Company recorded the investment at fair value as of March 31, 2022, which resulted in a recognition of other expense of $7.7 million during the three months ended March 31, 2022 . The Company recorded other income of $1.0 million for the three months ended March 31, 2021 related to the changes in fair value of Verve's stock. The value of this investment as of March 31, 2022 is $12.5 million.

The Company purchased certain materials from Verve amounting to $0.2 million, which are recorded as research and development expenses within the accompanying condensed consolidated statements of operations and other comprehensive loss, for the three months ended March 31, 2021. The Company did not purchase any materials from Verve during the three months ended March 31, 2022.

In October 2021, the Company entered into an agreement pursuant to which Verve subleased 12,000 square feet of the Company's existing office and laboratory space for a term of one year which began in December 2021. Verve is expected to pay approximately $1.4 million in rental payments over the term of the sublease, as well as its proportionate costs for the landlord's operating expense, insurance, property taxes, and utilities. The Company recorded $0.3 million of sublease income related to this sublease within the accompanying consolidated statements of operations and other comprehensive loss for the three months ended March 31, 2022.

Prime Medicine

The Company and Prime Medicine are parties to the Prime Agreement and have a common founder and a common board member.

Additionally, in September 2019, in connection with the Prime Agreement, the Company executed a letter agreement, as amended, to provide certain interim management and startup services to Prime Medicine through March 2021. Prime Medicine was obligated to reimburse the Company's out-of-pocket costs incurred in connection with performing these services and, beginning in October 2020 and ending in March 2021, paid the Company a $30.0 thousand monthly service fee. There were no interim management and startup services provided to Prime Medicine during the three months ended March 31, 2022.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and the related notes to those statements included elsewhere in this Quarterly Report on Form 10-Q. In addition to historical financial information, the following discussion and analysis contains forward-looking statements that involve important risks, uncertainties and assumptions. Some of the numbers included herein have been rounded for the convenience of presentation. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those discussed in "Risk Factors" in Part II, Item 1A. and elsewhere in this Quarterly Report on Form 10-Q, and in the "Risk Factors Summary" and "Item 1A. Risk Factors" section of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, or the 2021 Form 10-K.

Overview

We are a biotechnology company committed to establishing the leading, fully integrated platform for precision genetic medicines. Our vision is to provide life-long cures to patients suffering from serious diseases. To achieve this vision, we have assembled a platform that includes a suite of gene editing and delivery technologies and are in the process of developing internal manufacturing capabilities.

Our suite of gene editing technologies is anchored by our proprietary base editing technology, which potentially enables a differentiated class of precision genetic medicines that target a single base in the genome without making a double-stranded break in the DNA. This approach uses a chemical reaction designed to create precise, predictable and efficient genetic outcomes at the targeted sequence. Our proprietary base editors have two principal components: (i) a clustered regularly interspaced short palindromic repeats, or CRISPR, protein, bound to a guide RNA, that leverages the established DNA-targeting ability of CRISPR, but is modified to not cause a double-stranded break, and (ii) a base editing enzyme, such as a deaminase, which carries out the desired chemical modification of the target DNA base. We believe this design contributes to a more precise and efficient edit compared to traditional gene editing methods, which operate by creating targeted double-stranded breaks in the DNA that can result in unwanted DNA modifications. We believe that the precision of our editors will dramatically increase the impact of gene editing for a broad range of therapeutic applications.

To unlock the full potential of our base editing technology across a wide range of therapeutic applications, we are pursuing a broad suite of both clinically validated and novel delivery modalities, depending on tissue type, including: (1) electroporation for efficient delivery to blood cells and immune cells ex vivo; (2) lipid nanoparticles, or LNPs, for non-viral in vivo delivery to the liver and potentially other organs in the future; and (3) adeno-associated viral vectors, or AAV, for in vivo viral delivery to the eye and potentially other organs.

The elegance of the base editing approach combined with a tissue specific delivery modality provides the basis for a targeted efficient, precise, and highly versatile gene editing system, capable of gene correction, gene modification, gene silencing or gene activation, and/or multiplex editing of several genes simultaneously. We are currently advancing a broad, diversified portfolio of base editing programs against distinct editing targets, utilizing the full range of our development capabilities.

Furthermore, in addition to our portfolio, we are also pursuing an innovative, platform-based business model with the goal of further expanding our access to new technologies in genetic medicine and increasing the reach of our programs to more patients. Overall, we are seeking to build the leading integrated platform for precision genetic medicine, which may have broad therapeutic applicability and the potential to transform the field of precision genetic medicines.

Ex Vivo HSCs: Sickle cell disease and beta-thalassemia

We are advancing *ex vivo* base editing programs in which hematopoietic stem cells, or HSCs are collected from a patient, edited using electroporation, a clinically validated technology for the delivery of therapeutic constructs into harvested cells. These cells are infused back into the patient following a myeloablative conditioning regimen, such as treatment with busulfan, the standard of care in HSC transplantation today. Once reinfused, the HSCs begin repopulating a portion of the bone marrow in a process known as engraftment. The engrafted, edited HSCs give rise to progenitor cell types with the corrected gene sequences.

We are pursuing a long-term, staged development strategy for our base editing approach to treat sickle cell disease that consists of advancing our *ex vivo* programs, BEAM-101 and BEAM-102, in Wave 1, improving patient conditioning regimens in Wave 2, and enabling *in vivo* base editing with delivery directly into HSCs of patients via LNPs in Wave 3. We believe this suite of technologies – base editing, improved conditioning and *in vivo* delivery for editing HSCs – can maximize the potential applicability of our sickle cell disease programs to patients as well as create a platform for the treatment of many other severe genetic blood disorders

Wave 1:* Ex Vivo *Base Editing via Autologous Transplant with BEAM-101 and BEAM-102

We are using base editing to pursue the development of two complementary approaches to treating sickle cell disease, a severe inherited blood disease caused by a single point mutation, E6V, in the beta globin gene (BEAM-101 and BEAM-102), and one approach to treat beta-thalassemia, another inherited blood disorder characterized by severe anemia caused by reduced production of functional hemoglobin due to insufficient expression of the beta globin protein (BEAM-101).

BEAM-101: Recreating naturally-occurring protective mutations to activate fetal hemoglobin

BEAM-101 is an investigational, a patient-specific, autologous hematopoietic cell therapy which is designed to incorporate *ex vivo* base edits that mimic single nucleotide polymorphisms seen in individuals with hereditary persistence of fetal hemoglobin, or HPFH, to potentially alleviate the effects of mutations causing sickle cell disease or beta thalassemia. Our Investigational New Drug, or IND, application for BEAM-101 for the treatment of sickle cell disease has been cleared by the U.S. Food and Drug Administration, or FDA, and we are preparing to initiate a Phase 1/2 clinical trial designed to assess the safety and efficacy of BEAM-101 for the treatment of sickle cell disease, which we refer to as our BEACON-101 trial. The BEACON-101 trial is expected to include an initial "sentinel" cohort of three patients, treated one at a time to confirm successful engraftment, followed by dosing in up to a total of 45 patients. The clinical trial is designed to initially include patients between ages 18 and 35 with sickle cell disease who have received prior treatment with at least one disease-modifying agent with inadequate response or intolerance. Following mobilization, conditioning and HSC transplant with BEAM-101, patients will be assessed for safety and tolerability, with safety endpoints including the proportion of patients with successful neutrophil engraftment by day 42. Patients will also be assessed for efficacy, with efficacy endpoints including the change from baseline in severe vaso-occlusive events, transfusion requirements, hemoglobin F levels, and quality of life and ability to function. We have begun site selection and the institutional review board approval processes for the BEACON-101 trial and plan to enroll the first subject in the second half of 2022.

We have achieved proof-of-concept *in vivo* with long-term engraftment of base edited human CD34 cells in mice administered BEAM-101. Persistence of engraftment and high levels of editing have been confirmed in several preclinical studies, including in studies using material generated at a clinically relevant scale.

BEAM-102: Direct correction of the sickle cell mutation

Our second *ex vivo* base editing approach that we are developing for sickle cell disease, BEAM-102, is designed to directly correct the causative sickle mutation at position 6 of the beta globin gene. By making a single A-to-G edit, we have demonstrated in primary human CD34+ cells isolated from sickle cell disease patients the ability to create the naturally occurring HbG or "Makassar" variant of hemoglobin. This variant, which was identified in humans and first published in 1970, has the same function as the wild-type variant and does not cause sickle cell disease. Distinct from other approaches, cells that are successfully edited in this way are fully corrected, no longer containing the sickle protein. We have initiated IND-enabling studies for BEAM-102 and expect to submit an IND to the FDA for the treatment of sickle cell disease during the second half of 2022.

During the second quarter of 2020, we published preclinical data on BEAM-102 demonstrating that our adenine base editors, or ABEs, can efficiently convert the causative Hemoglobin S, or HbS, point mutation, to HbG-Makassar, with high efficiency (more than 80%). In this preclinical study, the Makassar variant does not cause hemoglobin to polymerize and red blood cells to sickle and, therefore, edited cells are cured through elimination of the disease-causing protein. In December 2021, we presented data from preclinical studies further characterizing the Makassar hemoglobin created by BEAM-102 and demonstrating biophysical and biochemical properties consistent with normal hemoglobin.

Wave 2: Improved Conditioning

In parallel with Wave 1 development, we also aim to improve the transplant conditioning regimen for sickle cell disease patients undergoing HSCT, reducing toxicity challenges associated with HSCT standard of care. Conditioning is a critical component necessary to prepare a patient's body to receive the *ex vivo* edited cells that must engraft in the patient's bone marrow in order to be effective. Today's conditioning regimens rely on nonspecific chemotherapy or radiation, which are associated with significant toxicities. We are collaborating with Magenta Therapeutics, Inc., or Magenta, to evaluate the potential utility of MGTA-117, Magenta's novel antibody drug conjugate, in combination with BEAM-101 and BEAM-102, as well as other base editing programs in hematology. MGTA-117 is designed to spare immune cells and precisely target hematopoietic stem and progenitor cells, or HSPCs, and has demonstrated high selectivity, potent efficacy, wide safety margins and broad tolerability in non-human primate, or NHP, models. We are also conducting our own research into novel conditioning strategies. Improved conditioning regimens could potentially be paired with BEAM-101 and BEAM-102, as well as other base editing programs in hematology.

Wave 3:* In Vivo *Base Editing via HSC-targeted LNPs

We are also exploring the potential for *in vivo* base editing programs for sickle cell disease, in which base editors would be delivered to the patient through an infusion of LNPs targeted to HSCs, eliminating the need for transplantation altogether. This approach could provide a more accessible option for patients, particularly in regions where *ex vivo* treatment is challenging. Building on our acquisition of Guide, we are using our proprietary DNA-barcoded LNP screening technology to enable high-throughput *in vivo* identification of LNPs with novel biodistribution and selectivity for target organs beyond the liver. In December 2021, we announced

we had screened more than 1,000 LNPs using this technology for potential to deliver to HSCs and had identified LNP-HSC1 as the most potent, with efficient transfection in both mice and NHPs.

Achieving Understanding of the Natural History of Sickle Trait (AUNT) Study

In May 2022, we announced the initiation of a sickle cell trait, or SCT, focused natural history study. Carriers of sickle cell disease, or those with SCT, have only one copy of the hemoglobin gene, have HbS levels between 25-45%, and are thought to have a benign condition. However, despite SCT impacting approximately 300 million people around the world, the key hematologic and clinical phenotypic characteristics and functional impacts from having SCT have been understudied in a prospective manner. As part of a long-term lifecycle strategy for our sickle cell disease programs, we, in collaboration with the National Alliance of Sickle Cell Centers, the University of Alabama, and Johns Hopkins Medical Center, have initiated the AUNT (Achieving Understanding of the Natural History of Sickle Trait) Study.

The AUNT Study is designed to establish an understanding of the hematologic and clinical phenotype of people with SCT, including blood rheology, potential complications and genetic modifiers, in an effort to better understand the hematologic phenotype that is associated with good health and lack of organ dysfunction. The study is designed to enroll approximately 1,000 participants with SCT in the United States who have been identified as family members of participants in the Global Research Network for Data and Discovery, a multi-institutional prospective registry comprising clinical and background data from more than 1,200 adult and pediatric individuals with sickle cell disease from 1999-2021.

***Ex vivo* T cell therapies**

The starting material for our multiplex-edited allogeneic CAR-T cell products is white blood cells from a healthy donor, which are collected using a standard blood bank procedure known as leukapheresis. Using a single electroporation, we introduce the base editor as mRNA, and the guides encoding the target sequences. The edited cells are subsequently transduced with a lentivirus expressing the CAR. Once the T cells have been engineered, they are expanded and frozen. After the patient is lymphodepleted, the multiplex-edited, allogenic cell product is infused.

We believe base editing is a powerful tool to simultaneously multiplex edit many genes without the unintended on-target effects that can result from simultaneous editing with nucleases through the creation of double-stranded breaks. The ability to create a large number of multiplex edits in T cells could endow CAR-T cells and other cell therapies with combinations of features that have the potential to dramatically enhance their therapeutic potential in treating hematological or solid tumors.

The initial indications that we plan to target with our chimeric antigen receptor T-cell, or CAR-T, product candidates are relapsed, refractory T-cell acute lymphoblastic leukemia /T cell lymphoblastic lymphoma, or T-ALL/T-LL, a severe disease affecting children and adults, and Acute Myeloid Leukemia, or AML. We believe that our approach has the potential to produce higher response rates and deeper remissions than existing approaches. Our proof-of-concept preclinical studies have demonstrated the ability of base editors to efficiently modify up to eight genomic loci simultaneously in primary human T cells with efficiencies ranging from 85-95% as measured by flow cytometry of target protein knockdown. Importantly, these results were achieved without the generation of observed chromosomal rearrangements, as evaluated by sensitive methods such as UDiTaS™ or G-banded Karyotyping and with no observed loss of cell viability from editing. The proof-of-concept preclinical studies have also demonstrated robust T cell killing of target tumor cells both in vitro and in vivo. We plan to nominate a second CAR-T development candidate, in addition to BEAM-201, in 2022.

BEAM-201: Universal CD7-targeting CAR-T cells

BEAM-201 is a development candidate comprised of T cells derived from healthy donors that are simultaneously edited at TRAC, CD7, CD52 and PDCD1 and then transduced with a lentivirus encoding for an anti-CD7 CAR that is designed to create allogenic CD7 targeting CAR-T cells, resistant to both fratricide and immunosuppression. To our knowledge, BEAM-201 is the first investigational cell therapy featuring four simultaneous edits. We have initiated IND-enabling studies for BEAM-201 and expect to submit an IND to the FDA for the treatment of relapsed, refractory T-ALL/T-LL and potentially other CD7+ malignancies during the second half of 2022.

CD5-targeting CAR-T cells

In October 2021, we announced preclinical data from our multiplex edited allogeneic CAR-T research program targeting CD5-positive hematologic malignancies. These data demonstrated knockout of CD5 expression to be a general mechanism to enhance potency and potentially improve durability of highly multiplexed CAR-T cells.

***In vivo* LNP**

LNPs are a clinically validated technology for delivery of nucleic acid payloads to the liver. LNPs are multi-component particles that encapsulate the base editor mRNA and one or more guides and protect them from degradation while in an external environment, enabling the transient delivery of the base editor *in vivo*. Multiple third-party clinical trials have demonstrated the effective delivery of silencing RNA to the liver using LNPs. Because only one dose of a base editing therapy may be needed in a course of treatment, LNPs are a suitable delivery modality that we believe is unlikely to face the complications seen with chronic use of LNPs, such as those

observed when delivering oligonucleotides or mRNA for gene therapy. All of the components of the LNP, as well as the mRNA encoding the base editor, are well-defined and can be manufactured synthetically, providing the opportunity for scalable manufacturing.

We have developed several proprietary LNP formulations. In May 2021, we announced initial data from our evaluation of various LNP formulations and mRNA production processes using an mRNA-encoding ABE and guide RNA to target the ALAS1 gene, a surrogate payload for genetic liver diseases. These data showed improved *in vivo* editing in the livers of NHPs from less than 10% initially to 52% at a total RNA dose of 1.5 mg/kg. Continued optimization of our LNP formulations has demonstrated further increases in liver editing potency in NHPs. In September 2021, we presented data demonstrating up to 60% editing in NHPs at a total RNA dose of 1.0 mg/kg. Data from our preclinical studies demonstrated that these formulations were well tolerated by NHPs treated with doses up to 1.5 mg/kg. Minimal to mild and transient liver enzyme elevations were observed and resolved by day 15 post-treatment. Additionally, the formulations showed promising interim stability, maintaining potency after three months at -20^{o}C and -80^{o}C.

We are currently using LNP formulations to advance our programs for genetic liver diseases, including Glycogen Storage Disease Type Ia, or GSDIa, also known as Von Gierke disease, and Alpha-1 Antitrypsin Deficiency, or Alpha-1, and chronic hepatitis B infection. In December 2021, we nominated BEAM-301, a liver-targeting LNP formulation of base editing reagents designed to correct the R83C mutation, the most common disease-causing mutation of GSDIa, as our first in vivo development candidate. We anticipate initiating IND-enabling studies for BEAM-301 and nominating a second liver-targeted development candidate in 2022.

Liver diseases: glycogen storage disorder 1a, alpha-1 antitrypsin deficiency, and chronic hepatitis B infection

GSDIa

GSDIa is an inborn disorder of glucose metabolism caused by mutations in the G6PC gene, which results in low blood glucose levels that can be fatal if patients do not adhere to a strict regimen of slow-release forms of glucose, administered every one to four hours (including overnight). There are no disease modifying therapies available for patients with GSDIa.

Our approach to treating patients with GSDIa is to apply base editing via LNP delivery to repair the two most prevalent mutations that cause the disease, R83C and Q347X. It is estimated that these two point mutations account for 900 and 500 patients, respectively, in the United States, representing approximately 59% of all GSDIa patients in the United States. Third party animal studies have shown that as little as 11% of normal G6Pase activity in liver cells is sufficient to restore fasting glucose; however, this level must be maintained in order to preserve glucose control and alleviate other serious, and potentially fatal, GSDIa sequelae.

In October 2021, we reported data from preclinical studies that support the potential of base editing to durably correct disease-causing mutations of GSDIa. We created a novel, humanized R83C knockout mouse model (huR83C), mimicking the abnormal metabolic phenotype of human GSDIa, and collaborated with the National Institutes of Health, or NIH, to characterize the phenotype of these animals. The results demonstrated that newborn huR83C mice treated with our LNP-delivered ABE exhibited normal growth to the end of the study at three weeks of age without any hypoglycemia-induced seizures. In contrast, homozygous animals were unable to survive soon after birth in the absence of glucose supplementation. In addition, we observed editing efficiencies up to approximately 60% by next-generation sequencing of DNA isolated from the whole liver.

In May 2022, an abstract announcing new preclinical data to be presented at the American Society of Gene and Cell Therapy (ASGCT) Annual Meeting was published. The data, which build on previously released preclinical results, demonstrated that in a GSDIa mouse model, treated mice, which otherwise have poor survival outcomes if left untreated, grew normally to at least 35 weeks following administration of BEAM-301, with survival ongoing in the study. Notably, as low as single digit percentage base-editing rates were sufficient to restore physiologically relevant levels of hepatic G6Pase activity, normalize serum metabolites and, most importantly, prevent hypoglycemia during a twenty-four hour fast in treated mice. In addition, preliminary assessments of observed off-target editing have suggested a favorable profile of BEAM-301.

Alpha-1

Alpha-1 is a severe inherited genetic disorder that can cause progressive lung and liver disease. The most severe form of Alpha-1 arises when a patient has a point mutation in both copies of the SERPINA1 gene at amino acid 342 position (E342K, also known as the PiZ mutation or the “Z” allele). With the high efficiency and precision of our base editors, we aim to utilize our ABEs to enable the programmable conversion of A-to-T and G-to-C base pairs and precisely correct the E342K point mutation back to the wild type sequence. In 2020, we showed the ability to directly correct the mutation causing Alpha-1, providing both *in vitro* and *in vivo* preclinical proof-of-concept for base editing to correct this disease.

In May 2022, an abstract to be presented at ASGCT detailed our efforts to optimize both the ABE and the guide RNA used to correct the disease-causing PiZ mutation, with improvements over the original reagents leading to a greater than two-fold increase in observed editing potency and potentially therapeutically relevant increases in circulating alpha-1 antitrypsin in mice treated at doses that are expected to be clinically relevant (<1mg/kg). Further, similar results were observed in adult mice dosed at greater than 37 weeks, a treatment context more similar to what might be encountered in a clinical setting.

Hepatitis B Virus

Hepatitis B virus, or HBV, causes serious liver infection that can become chronic, increasing the risk of developing life-threatening health issues like cirrhosis, liver failure or liver cancer. Chronic HBV infection is characterized by the persistence of covalently closed circular DNA, or cccDNA, a unique DNA structure that forms in response to HBV infection in the nuclei of liver cells. Additionally, the HBV DNA can integrate into the human genome becoming a source of hepatitis B surface antigen, or HBsAg. While currently available treatments can manage HBV replication, they do not clear cccDNA from the infected liver cells. This inability to prevent HBV infection rebound from cccDNA is a key challenge to curing HBV. In September 2021, we presented preclinical data that demonstrated the potential of our cytosine base editors to reduce viral markers, including HBsAg expression, and prevent viral rebound of HBV in *in vitro* models.

***In vivo* AAV**

AAV is a clinically validated technology that has been extensively used for gene delivery to a variety of tissues. AAV is a small, non-pathogenic virus that can be repurposed to carry a therapeutic payload, making it a suitable vector for delivery of gene editing therapies. Several clinical trials have been conducted or are in progress with different AAV variants for multiple diseases, including diseases of the eye, liver, muscle, lung and central nervous system. We have an option to in-license a variety of AAV variants that could be selected for optimal distribution to multiple organs. Because our DNA base editors are larger than the approximate 4.5kb packaging limit of AAV vectors, we use a novel split intein technology that is designed to deliver the base editor and guide RNA by co-infection with two viruses, where each virus contains approximately one half of the editor.

Ocular disorders: Stargardt disease

We are currently evaluating AAV technology to correct one of the most prevalent mutations in the ABCA4 gene causing Stargardt disease, a progressive macular degeneration disease. This mutation is known as the G1961E point mutation and approximately 5,500 individuals in the United States are affected.

Disease modeling using tiny light stimuli through holes that are equivalent in size to a single photoreceptor cell, suggests that only 12%-20% of these cells are necessary to preserve vision. We anticipate, therefore, that editing percentages in the range of 12%-20% of these cells would be disease-modifying, since each edited cell will be fully corrected and protected from the biochemical defect associated with Stargardt disease.

In a human retinal pigment epithelial cell line (ARPE-19 cells) in which we have knocked in the ABCA4 G1961E point mutation, we have demonstrated the precise correction of approximately 75% of the disease alleles at five weeks after dual infection with the split AAV system. In November 2021, we announced that we have initiated preclinical studies in NHPs for our Stargardt program.

Delivery of genetic medicines

To complement our next-generation gene editing technologies, we are also making significant investments in a broad suite of delivery technologies designed to deliver gene editing or other nucleic acid payloads to the right cells and enable potentially curative therapy. These delivery technologies include *ex vivo* electroporation, nonviral vectors such as LNPs, and viral vectors such as AAVs. In our pipeline, we have initially focused on applications of these technologies where their delivery capabilities have already been clinically-validated by third parties, such as *ex vivo* editing of blood stem cells and LNP delivery to the liver. Longer term, we are also investing in more innovative delivery options, such as LNPs that could target other organs beyond the liver, or novel viral vectors beyond AAV. We have also developed critical enabling capabilities such as mRNA manufacturing and cell processing for autologous and allogeneic cell therapy.

Consistent with this approach, our acquisition of Guide Therapeutics, Inc., or Guide, expanded our ability to explore new tissues and disease indications with our editing technologies. With Guide's proprietary screening technology, which utilizes DNA barcodes to enable high throughput *in vivo* LNP screening, we have a broad library of lipids and lipid formulations, and we have generated additional novel LNPs that we believe can accelerate novel nonviral delivery of gene editing or other nucleic acid payloads to tissues beyond the liver. For example, we have used our DNA barcoding technology to identify a family of LNPs for delivery of base editors to HSPCs in mice, and we have screened more than 1,000 LNPs to identify LNPs that achieve durable, dose-dependent mRNA transfection in HSPCs in mice and NHPs in preclinical studies.

Manufacturing of genetic medicines

To realize the full potential of base editors as a differentiated class of medicines and to enable our parallel investment strategy in multiple delivery modalities, we are building customized and integrated capabilities across discovery, manufacturing, and preclinical and clinical development. Due to the critical importance of high-quality manufacturing and control of production timing and know-how, we have taken steps toward establishing our own manufacturing facility, which will provide us the flexibility to manufacture a variety of different product modalities. We believe this investment will maximize the value of our portfolio and capabilities, the probability of technical success of our programs, and the speed at which we can provide potentially life-long cures to patients.

In August 2020, we entered into a lease agreement with Alexandria Real Estate Equities, Inc. to build a 100,000 square foot current cGMP compliant manufacturing facility in Research Triangle Park, North Carolina intended to support a broad range of clinical programs. The initial estimate of the minimum amount of undiscounted lease payments due under this lease is $69.0 million. The

tabular disclosure of minimum lease payments above under Note 7, *Leases*, does not include payments due under this lease. We anticipate that the facility will be operational in the first quarter of 2023. The project is facilitated, in part, by a Job Development Investment Grant approved by the North Carolina Economic Investment Committee, which authorizes potential reimbursements based on new tax revenues generated through the project. The facility is designed to support manufacturing for our *ex vivo* cell therapy programs in hematology and oncology and *in vivo* non-viral delivery programs for liver diseases, with flexibility to support manufacturing of our viral delivery programs, and ultimately, scale-up to support potential commercial supply.

For our initial waves of clinical trials, we expect to use CMOs with relevant manufacturing experience in genetic medicines.

Collaborations

We believe our collection of base editing, gene editing and delivery technologies has significant potential across a broad array of genetic diseases. To fully realize this potential, we have established and will continue to seek out innovative collaborations, licenses, and strategic alliances with pioneering companies and with leading academic and research institutions. Additionally, we have and will continue to pursue relationships that potentially allow us to accelerate our preclinical research and development efforts. These relationships will allow us to aggressively pursue our vision of maximizing the potential of base editing to provide life-long cures for patients suffering from serious diseases.

In vivo *collaborations*

Pfizer

In December 2021, we entered into a research collaboration agreement with Pfizer Inc., or Pfizer, focused on *in vivo* base editing programs for three targets for rare genetic diseases of the liver, muscle and central nervous system. The collaboration has an initial term of four years and may be extended for an additional one year on a program-by-program basis. Under the terms of the agreement, we will conduct all research activities through development candidate selection for three pre-specified, undisclosed targets, which are not included in our existing programs. Pfizer may opt in to exclusive, worldwide licenses to each development candidate, after which it will be responsible for all development activities, as well as potential regulatory approvals and commercialization, for each such development candidate. We have a right to opt in, at the end of Phase 1/2 clinical trials, upon the payment of an option exercise fee, to a global co-development and co-commercialization agreement with respect to one program licensed under the collaboration pursuant to which we and Pfizer would share net profits as well as development and commercialization costs in a 35%/65% ratio (Beam/Pfizer).

Apellis Pharmaceuticals

In June 2021, we entered into a research collaboration agreement with Apellis Pharmaceuticals, Inc., or Apellis, focused on the use of certain of our base editing technology to discover new treatments for complement system-driven diseases. Under the terms of the agreement, we will conduct preclinical research on up to six base editing programs that target specific genes within the complement system in various organs, including the eye, liver, and brain. Apellis has an exclusive option to license any or all of the six programs and will assume responsibility for subsequent development. We may elect to enter into a 50-50 U.S. co-development and co-commercialization agreement with Apellis with respect to one program licensed under the collaboration.

Verve Therapeutics

In April 2019, we entered into a collaboration and license agreement, or the Verve Agreement, with Verve Therapeutics, Inc., or Verve, a company focused on gene editing for cardiovascular disease treatments. This collaboration allows us to more fully realize the potential of base editing in treating cardiovascular disease, a disease area outside of our core focus and where Verve has significant expertise. Under the terms of the Verve Agreement, Verve received exclusive worldwide licenses to use our base editing technology and certain gene editing and delivery technologies for human therapeutic applications against certain cardiovascular targets. In exchange, we received shares of Verve common stock. Additionally, we are eligible to receive milestone payments for certain clinical and regulatory events for licensed products, and we retain the option, after the completion of Phase 1 clinical trials, to participate in future development and commercialization, and share 50 percent of U.S. profits and losses, for any licensed product directed against these targets.

In January 2021, Verve announced it had selected VERVE-101 as its lead product to be developed initially for the treatment of heterozygous familial hypercholesterolemia, or HeFH, a potentially fatal genetic heart disease. Individuals with HeFH have a genetic mutation causing high LDL-C levels in the blood. Over time, high LDL-C builds up in the heart's arteries, resulting in reduced blood flow or blockage, and ultimately heart attack or stroke. Inactivation of the proprotein convertase subtilisin/kexin type 9, or PCSK9, gene has been shown to up-regulate LDL receptor expression, which leads to lower LDL-C levels. By making a single A-to-G change in the DNA genetic sequence of PCSK9, VERVE-101 aims to inactivate the target gene. In January 2021, Verve also reported preclinical proof-of-concept data in NHPs that demonstrated the successful use of ABEs to turn off PCSK9, and in January 2022, Verve announced it expects to submit an IND application for VERVE-101 in the second half of 2022.

Institute of Molecular and Clinical Ophthalmology Basel

In July 2020, we announced a research collaboration with the Institute of Molecular and Clinical Ophthalmology Basel, or IOB. Founded in 2018 by a consortium that includes Novartis, the University Hospital of Basel and the University of Basel, IOB is a leader in basic and translational research aimed at treating impaired vision and blindness. Clinical scientists at IOB have also helped to develop better ways to measure how vision is impacted by Stargardt disease.

Additionally, researchers at IOB have developed living models of the retina, known as organoids, which can be used to test novel therapies. Under the terms of the agreement with IOB, the parties will leverage IOB's unique expertise in the field of ophthalmology along with our novel base editing technology to advance programs directed to the treatment of certain ocular diseases, including Stargardt disease.

Ex vivo *collaborations*

Sana Biotechnology

In October 2021, we entered into an option and license agreement, or the Sana Agreement, with Sana Biotechnology, Inc., or Sana, pursuant to which we granted Sana non-exclusive research and development and commercial rights to our CRISPR Cas12b technology to perform nuclease editing for certain *ex vivo* engineered cell therapy programs. Under the terms of the Sana Agreement, licensed products include certain specified allogeneic T cell and stem cell-derived products directed at specified genetic targets, with certain limited rights for Sana to add and substitute such products and targets. The Sana Agreement excludes the grant of any Beam-controlled rights to perform base editing.

Boston Children's Hospital

In July 2020, we entered into an alliance agreement, or the BCH Agreement, with Boston Children's Hospital, or Boston Children's. Under the terms of the BCH Agreement, we will identify and sponsor research programs to be performed at Boston Children's, either solely by Boston Children's or by both Boston Children's and us, to facilitate the development of certain disease-specific therapies using our proprietary base editing technology. Boston Children's will also serve as a clinical site to advance bench-to-bedside translation of our pipeline across certain therapeutic areas of interest, including programs in sickle cell disease and pediatric leukemias and exploration of new programs targeting other diseases.

Magenta Therapeutics

In June 2020, we announced a non-exclusive research and clinical trial collaboration agreement with Magenta Therapeutics Inc., or Magenta, to evaluate the potential utility of MGTA-117, Magenta's novel targeted antibody-drug conjugate, for conditioning of patients with sickle cell disease and beta-thalassemia receiving our base editing therapies. Conditioning is a critical component necessary to prepare a patient's body to receive the edited cells, which carry the corrected gene and must engraft in the patient's bone marrow in order to be effective. Today's conditioning regimens rely on nonspecific chemotherapy or radiation, which are associated with significant toxicities. MGTA-117 is designed to precisely target only hematopoietic stem and progenitor cells, to spare immune cells, and has shown high selectivity, potent efficacy, wide safety margins and broad tolerability in NHP models. MGTA-117 may be capable of clearing space in bone marrow to support long-term engraftment and rapid recovery in patients. Combining the precision of our base editing technology with the more targeted conditioning regimen enabled by MGTA-117 has the potential to further improve therapeutic outcomes for patients suffering from these severe diseases.

Acquisitions

In February 2021, we acquired Guide Therapeutics, Inc., or Guide, for upfront consideration in an aggregate amount of $120.0 million, excluding customary purchase price adjustments, in shares of our common stock, based upon the volume-weighted average price of the common stock over the ten trading-day period ending on February 19, 2021. In addition, Guide's former stockholders and optionholders are eligible to receive up to an additional $100.0 million in technology milestone payments and $220.0 million in product milestone payments, payable in our common stock.

COVID-19

With the ongoing concern related to the COVID-19 pandemic, we maintained our business continuity plans to address and mitigate the impact of the COVID-19 pandemic on our business. We expect to continue incurring additional costs to ensure we adhere to the guidelines instituted by the Centers for Disease Control and to provide a safe working environment to our onsite employees.

The extent to which the COVID-19 pandemic impacts our business, our corporate development objectives, results of operations and financial condition, including the value of and market for our common stock, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the duration, scope and severity of the pandemic, the existence and duration of any travel restrictions or business restrictions in the United States and other countries, business closures and business disruptions, the effectiveness of actions taken in the United States and other countries to contain and treat the disease, periodic spikes in infection rates, new strains of the virus that cause outbreaks of COVID-19, and the broad availability of effective vaccines and therapeutics.

Disruptions to the global economy and supply chain, disruption of global healthcare systems, and other significant impacts of the COVID-19 pandemic could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

While the COVID-19 pandemic did not significantly impact our business or results of operations during the three months ended March 31, 2022, the length and extent of the pandemic, its consequences, and containment efforts will determine its future impact on our operations and financial condition.

Critical accounting policies and significant judgements and estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which we have prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

Our critical accounting policies are those policies which require the most significant judgments and estimates in the preparation of our condensed consolidated financial statements. We have determined that our most critical accounting policies are those relating to stock-based compensation, variable interest entities, fair value measurements, and leases. There have been no significant changes to our existing critical accounting policies and significant accounting policies discussed in the 2021 Form 10-K.

Financial operations overview

General

We were founded in January 2017 and began operations in July 2017. Since our inception, we have devoted substantially all of our resources to building our base editing platform and advancing development of our portfolio of programs, establishing and protecting our intellectual property, conducting research and development activities, organizing and staffing our company, business planning, raising capital and providing general and administrative support for these operations. To date, we have financed our operations primarily through the sales of our redeemable convertible preferred stock, proceeds from offerings of our common stock and payments received under collaboration and license agreements.

We are an early-stage company, and all of our programs are at a preclinical or early clinical stage of development. To date, we have not generated any revenue from product sales and do not expect to generate revenue from the sale of products for the foreseeable future. Our revenue to date has been primarily derived from license and collaboration agreements with partners. Since inception we have incurred significant operating losses. Our net losses for the three months ended March 31, 2022 and 2021, were $69.2 million, and $201.6 million, respectively. As of March 31, 2022, we had an accumulated deficit of $837.5 million. We expect to continue to incur significant expenses and increasing operating losses in connection with ongoing development activities related to our internal programs and collaborations as we continue our preclinical and clinical development of product candidates; advance additional product candidates toward clinical development; build and operate our cGMP facility in North Carolina; further develop our base editing platform; continue to make investments in delivery technology for our base editors, including the LNP technology we acquired through our acquisition of Guide; conduct research activities as we seek to discover and develop additional product candidates; maintain, expand, enforce, defend and protect our intellectual property portfolio; and continue to hire research and development, clinical, technical operations and commercial personnel. In addition, we expect to continue to incur the costs associated with operating as a public company.

As a result of these anticipated expenditures, we will need to raise additional capital to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements. We may be unable to raise additional funds or enter into such other agreements when needed on favorable terms or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We can give no assurance that we will be able to secure such additional sources of capital to support our operations, or, if such capital is available to us, that such additional capital will be sufficient to meet our needs for the short or long term.

Revenue Recognition

In April 2019, we entered into a collaboration and license agreement, or the Verve Agreement, with Verve Therapeutics, Inc., or Verve, a company focused on gene editing for cardiovascular disease treatments. In June 2021, we entered into a research collaboration agreement, or the Apellis Agreement, with Apellis Pharmaceuticals, Inc., or Apellis, focused on the use of certain of our base editing technology to discover new treatments for complement system-driven diseases. In October 2021, we entered into an option and license agreement, or the Sana Agreement, with Sana Biotechnology, Inc., or Sana, pursuant to which we granted Sana

non-exclusive research and development and commercial rights to our CRISPR Cas12b technology to perform nuclease editing for certain *ex vivo* engineered cell therapy programs. In December 2021, we entered into a research collaboration agreement, or the Pfizer Agreement, with Pfizer Inc., or Pfizer, focused on *in vivo* base editing programs for three targets for rare genetic diseases of the liver, muscle and central nervous system.

We have not generated any revenue to date from product sales and do not expect to do so in the near future. During the three months ended March 31, 2022 and 2021, we recognized $8.4 million and $6.0 thousand of revenue, respectively.

Research and development expenses

Research and development expenses consist of costs incurred in performing research and development activities, which include:

- Expenses incurred in connection with investments in delivery technology for our base editors, including the LNP technology we acquired through our acquisition of Guide;
- the cost to obtain licenses to intellectual property, such as those with Harvard University, or Harvard, The Broad Institute, Inc., or Broad Institute, Editas Medicine, Inc, or Editas, and Bio Palette Co., Ltd., or Bio Palette, and related future payments should certain success, development and regulatory milestones be achieved;
- personnel-related expenses, including salaries, bonuses, benefits and stock-based compensation for employees engaged in research and development functions;
- expenses incurred in connection with the discovery and preclinical development of our research programs, including under agreements with third parties, such as consultants, contractors and contract research organizations;
- expenses incurred in connection with the initiation of clinical trials, including contract research organization costs and costs related to study preparation;
- expenses incurred in connection with regulatory filings;
- expenses incurred in connection with the building of our base editing platform;
- the cost of manufacturing materials for use in our preclinical studies, IND-enabling studies and clinical trials;
- laboratory supplies and research materials; and
- facilities, depreciation and other expenses which include direct and allocated expenses.

We expense research and development costs as incurred. Advance payments that we make 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 benefits are consumed.

In the early phases of development, our research and development costs are often devoted to product platform and proof-of-concept preclinical studies that are not necessarily allocable to a specific target.

We expect that our research and development expenses will increase substantially as we advance our programs through their planned preclinical and clinical development.

General and administrative expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, intellectual property, business development and administrative functions. General and administrative expenses also include legal fees relating to intellectual property and corporate matters, professional fees for accounting, auditing, tax and consulting services, insurance costs, travel, and direct and allocated facility related expenses and other operating costs.

We anticipate that our general and administrative expenses will increase in the future to support our increased research and development activities. We also expect to continue to incur costs associated with being a public company and maintaining controls over financial reporting, including costs of accounting, audit, legal, regulatory and tax-related services associated with maintaining compliance with Nasdaq and SEC requirements, director and officer insurance costs, and investor and public relations costs.

Other income and expenses

Other income and expenses consist of the following items:

- *Change in fair value of derivative liabilities* consists primarily of remeasurement gains or losses associated with changes in success payment liabilities associated with our license agreement with Harvard, dated as of June 27, 2017, as amended, or the

Harvard License Agreement, and the license agreement with The Broad Institute, as amended, dated as of May 9, 2018, or the Broad License Agreement.

- *Change in fair value of non-controlling equity investments* consists of mark-to-market adjustments related to our investments in equity securities.
- *Change in fair value of contingent consideration liabilities* consists of remeasurement of the fair market value of the technology and product contingent consideration liabilities related to the acquisition of Guide.
- *Interest and other income (expense)*, consists primarily of interest income as well as interest expense related to our equipment financings.

Results of operations

Comparison of the three months ended March 31, 2022 and 2021

The following table summarizes our results of operations (in thousands):

	Three Months Ended March 31,		
	2022	2021	Change
License and collaboration revenue	$ 8,432	$ 6	$ 8,426
Operating expenses:			
Research and development	65,410	190,106	(124,696)
General and administrative	19,247	10,273	8,974
Total operating expenses	84,657	200,379	(115,722)
Loss from operations	(76,225)	(200,373)	124,148
Other income (expense):			
Change in fair value of derivative liabilities	13,600	(1,900)	15,500
Change in fair value of non-controlling equity investments	(7,685)	1,039	(8,724)
Change in fair value of contingent consideration liabilities	452	(305)	757
Interest and other income (expense), net	644	(21)	665
Total other income (expense)	7,011	(1,187)	8,198
Net loss	$ (69,214)	$ (201,560)	$ 132,346

License and collaboration revenue

License and collaboration revenue was approximately $8.4 million and $6.0 thousand for the three months ended March 31, 2022 and 2021, respectively. License and collaboration revenue represents revenue recorded under the Pfizer, Apellis, and Verve Agreements.

Research and development expenses

Research and development expenses were $65.4 million and $190.1 million for the three months ended March 31, 2022 and 2021, respectively. The decrease of $124.7 million was primarily due to the following:

- A decrease of $155.0 million related to the write-off of in-process research and development asset acquired from Guide during the three months ended March 31, 2022, as it was determined to be of no alternative future use.
- An increase of $10.8 million in personnel-related costs and $3.0 million in facility-related costs, including depreciation. These increases were due to the growth in the number of research and development employees from 182 at March 31, 2021 to 321 at March 31, 2022, and their related activities, as well as the expense allocated to research and development related to our leased facilities.
- An increase of $8.1 million in stock-based compensation from additional stock option awards due to the increase in the number of research and development employees as well as an increase in the value of our common stock during 2021.
- An increase of $4.6 million in lab supplies due to the movement of our lead programs into IND-enabling activities and continued investment in platform and discovery efforts.
- An increase of $1.6 million in other expenses, primarily related to an increase in research and development specific software costs.
- An increase of $1.5 million in outsourced services, driven by process development spend and IND-enabling materials for BEAM-102, assay development and qualification for mRNA and gRNA for BEAM-101 and BEAM-201, toxicology studies related to BEAM-201 and initial clinical start-up activities for BEAM-101.

- An increase of $0.6 million in license expenses.

Research and development expenses are expected to continue to increase as we initiate clinical trials for BEAM-101, continue IND-enabling studies for BEAM-102 and BEAM-201, begin IND-enabling studies for BEAM-301, continue our current research programs, initiate new research programs, continue the preclinical and clinical development of our product candidates and conduct any future preclinical studies and begin to enroll patients in and conduct clinical trials for any of our product candidates.

General and administrative expenses

General and administrative expenses were $19.2 million and $10.3 million for the three months ended March 31, 2022 and 2021, respectively. The increase of $9.0 million was primarily due to the following:

- An increase of $5.2 million in stock-based compensation due to an increase in the number of general and administrative employees, as well as an increase in the value of our common stock during 2021.
- An increase of $3.4 million in personnel related costs and $0.1 million in facility-related costs, including depreciation, due to an increase in general and administrative employees from 34 employees as of March 31, 2021 to 73 employees as of March 31, 2022, as well as the expense allocated to general and administrative expenses related to our leased facilities.
- An increase of $0.3 million in legal costs primarily due to legal fees incurred in connection with business development activities.
- An increase of $0.2 million in insurance costs due to higher premiums attributable to the Company's directors and officers insurance policy and insurance costs related to our acquisition of Guide in 2021.
- A decrease of $0.2 million of other expenses primarily related to a decrease in software costs.

Change in fair value of derivative liabilities

During the three months ended March 31, 2022, we recorded $13.6 million of other income related to the change in fair value of success payment liabilities due to a decrease in the price of our common stock for the three months ended March 31, 2022. During the three months ended March 31, 2021, we recorded $1.9 million of other expense due to an increase in the price of our common stock for the three months ended March 31, 2021. A portion of the success payment obligations were paid in June 2021; the remaining success payment obligations are still outstanding as of March 31, 2022 and will continue to be revalued at each reporting period.

Change in fair value of non-controlling equity investments

During the three months ended March 31, 2022 and 2021, we recorded $7.7 million of other expense and $1.0 million of other income, respectively, as a result of changes in the value of our investment in Verve's common stock.

Change in contingent consideration liabilities

During the three months ended March 31, 2022 and 2021, we recorded $0.5 million of other income and $0.3 million of other expense, respectively, related to the change in fair value of the Guide technology and product contingent consideration liabilities. These changes are a result of an update in project timelines and the expected probability of achievement of the milestones.

Interest and other income (expense), net

Interest and other income (expense), net was $0.6 million for the three months ended March 31, 2022 as compared to $21.0 thousand of expense for the three months ended March 31, 2021. The increase was primarily due to increases in interest income driven by increased market rates and growth of our portfolio.

Liquidity and capital resources

Since our inception in January 2017, we have not generated any revenue from product sales, have generated only limited license and collaboration revenue from our license and collaboration agreements, and have incurred significant operating losses and negative cash flows from our operations. We expect to incur significant expenses and operating losses for the foreseeable future as we advance the preclinical and the clinical development of our product candidates.

To date, we have funded our operations primarily through equity offerings. In January 2021, we issued and sold 2,795,700 shares of our common stock in a private placement at an offering price of $93.00 per share for aggregate gross proceeds of $260.0 million. We received $252.0 million in net proceeds after deducting offering expenses payable by us. To date, we have funded our operations primarily through equity offerings.

In April 2021, we filed a universal shelf registration statement on Form S-3 with the SEC, or the 2021 Shelf, to register for sale an indeterminate amount of our common stock, preferred stock, debt securities, warrants and/or units in one or more offerings, which became effective upon filing with the SEC (File No. 333-254946).

In April 2021, we entered into an at the market, or ATM, sales agreement, or the Sales Agreement, with Jefferies LLC, or Jefferies, pursuant to which we were entitled to offer and sell, from time to time at prevailing market prices, shares of our common stock having aggregate gross proceeds of up to $300.0 million. We agreed to pay Jefferies a commission of up to 3.0% of the aggregate gross sale proceeds of any shares sold by Jefferies under the Sales Agreement. Between April and July 2021, we sold 2,908,009 shares of our common stock under the Sales Agreement at an average price of $103.16 per share for aggregate gross proceeds of $300.0 million, before deducting commissions and offering expenses payable by us.

In July 2021, we and Jefferies entered into an amendment to the Sales Agreement to provide for an increase in the aggregate offering amount under the Sales Agreement, such that as of July 7, 2021, we may offer and sell shares of common stock having an aggregate offering price of an additional $500.0 million. As of March 31, 2022, we have sold 2,873,956 additional shares of our common stock under the amended Sales Agreement at an average price of $92.71 per share for aggregate gross proceeds of $266.5 million, before deducting commissions and offering expenses payable by us.

In December 2021, we entered into the Pfizer Agreement, which is focused on in vivo base editing programs for three targets for rare genetic diseases of the liver, muscle and central nervous system. Under the terms of the Pfizer Agreement, we will conduct all research activities through development candidate selection for three undisclosed targets, which are not included in our existing programs. Pursuant to the Pfizer Agreement, we received an upfront payment of $300.0 million in January 2022.

As of March 31, 2022, we had $1.2 billion in cash, cash equivalents, and marketable securities.

We are required to make success payments to Harvard and Broad Institute based on increases in the per share fair market value of our Series A-1 Preferred Stock and Series A-2 Preferred Stock or, subsequent to our IPO, our common stock. The amounts due may be settled in cash or shares of our common stock, at our discretion. In May 2021, the first success payment measurements occurred and success payments to Harvard and Broad Institute were calculated to be $15.0 million and $15.0 million, respectively. We elected to make each payment in shares of our common stock and issued 174,825 shares to each of Harvard and Broad Institute to settle these liabilities in June 2021. We may additionally owe Harvard and Broad Institute success payments of up to an additional $90.0 million each.

We have not yet commercialized any of our product candidates, and we do not expect to generate revenue from the sale of our product candidates for the foreseeable future. We anticipate that we may need to raise additional capital in order to continue to fund our research and development, including our planned preclinical studies and clinical trials, building, maintaining and operating a commercial-scale cGMP manufacturing facility, and new product development, as well as to fund our general operations. As necessary, we will seek to raise additional capital through various potential sources, such as equity and debt financings or through corporate collaboration and license agreements. We can give no assurances that we will be able to secure such additional sources of capital to support our operations, or, if such funds are available to us, that such additional financing will be sufficient to meet our needs.

Cash flows

The following table summarizes our sources and uses of cash (in thousands):

	Three Months Ended March 31,	
	2022	2021
Net cash provided by (used in) operating activities	$ 218,490	$ (38,578)
Net cash used in investing activities	(537,339)	(279,626)
Net cash provided by financing activities	55,676	253,274
Net change in cash, cash equivalents and restricted cash	$ (263,173)	$ (64,930)

Operating activities

Net cash provided by operating activities for the three months ended March 31, 2022 was $218.5 million, consisting primarily of the collection of collaboration receivables of $300.0 million related to the Pfizer Agreement and an increase in other long-term liabilities of $8.3 million, in addition to noncash items consisting primarily of stock-based compensation expense of $18.0 million, a decrease in the fair value of a non-controlling equity investment of $7.7 million, depreciation and amortization expense of $3.3 million and a change in operating lease ROU assets of $2.0 million. These sources of cash were partially offset by our net loss of $69.2 million, decreases in accrued expenses and other liabilities of $16.5 million, deferred revenue of $8.4 million, operating lease liabilities of $1.8 million and accounts payable of $1.3 million, and an increase in prepaid expenses and other current assets of $9.2 million, as well as noncash items including decreases in the fair value of derivative liabilities of $13.6 million and in the fair value of contingent consideration liabilities of $0.5 million as well as amortization of investment premiums of $0.4 million.

Net cash used in operating activities for the three months ended March 31, 2021 was $38.6 million, consisting primarily of our net loss of $201.6 million, a decrease in accrued expenses and other liabilities of $4.5 million, an increase in prepaid expenses and other current assets of $2.4 million, a decrease in accounts payable of $0.7 million and other non-cash items of $1.0 million; offset by a change in operating lease liabilities of $6.1 million, and noncash expenses consisting primarily of in-process research and development expense of $155.0 million related to our acquisition of Guide, stock-based compensation expense of $4.6 million, change

in operating lease ROU assets of $2.4 million, change in fair value of derivative liabilities of $1.9 million, depreciation and amortization expense of $1.4 million and change in contingent consideration liabilities of $0.3 million.

Investing activities

For the three months ended March 31, 2022, cash used in investing activities was primarily the net purchases of marketable securities of $530.1 million, and purchases of property and equipment of $7.3 million.

For the three months ended March 31, 2021, cash used in investing activities was primarily the net purchases of marketable securities of $268.8 million, and purchases of property and equipment of $11.5 million. We also received $0.6 million in cash from our acquisition of Guide, after the payment of acquisition costs.

Financing activities

Net cash provided by financing activities for the three months ended March 31, 2022 consisted primarily of proceeds from equity offerings of $54.0 million, $1.4 million of proceeds from the issuance of common stock under benefit plans, and proceeds from the exercise of stock options of $0.8 million, offset in part by repayments of equipment financing liabilities of $0.6 million.

Net cash provided by financing activities for the three months ended March 31, 2021 consisted primarily of proceeds from our private placement offering of $260.0 million and proceeds from the exercise of stock options of $1.8 million, offset in part by the payment of equity offering costs of $8.0 million and repayments of equipment financing liabilities of $0.5 million.

Funding requirements

Our operating expenses are expected to increase substantially as we continue to advance our portfolio of programs.

Specifically, our expenses will increase if and as we:

- initiate clinical trials of our product candidates, including our BEACON-101 trial;
- continue our research programs and our preclinical development of product candidates from our research programs;
- seek to identify additional research programs and additional product candidates;
- initiate preclinical studies and clinical trials for additional product candidates we identify and develop;
- maintain, expand, enforce, defend, and protect our intellectual property portfolio and provide reimbursement of third-party expenses related to our patent portfolio;
- seek marketing approvals for any of our product candidates that successfully complete clinical trials;
- establish a sales, marketing, and distribution infrastructure to commercialize any medicines for which we may obtain marketing approval';
- further develop our base editing platform;
- further develop delivery technology for our base editors, including the LNP technology we acquired through our acquisition of Guide;
- continue to hire additional personnel including research and development, clinical and commercial personnel;
- add operational, financial, and management information systems and personnel, including personnel to support our product development;
- acquire or in-license products, intellectual property, medicines and technologies; and
- build, maintain, and operate a commercial-scale cGMP manufacturing facility.

We expect that our cash, cash equivalents and marketable securities at March 31, 2022 will enable us to fund our current and planned operating expenses and capital expenditures for at least the twelve calendar months beginning March 31, 2022 and beyond such twelve-month period. We have based these estimates on assumptions that may prove to be imprecise, and we may exhaust our available capital resources sooner that we currently expect. Because of the numerous risks and uncertainties associated with the development our programs, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates.

Our future funding requirements will depend on many factors including:

- the cost of continuing to build our base editing platform;
- the costs of acquiring licenses for the delivery modalities that will be used with our product candidates;

- the scope, progress, results, and costs of discovery, preclinical development, laboratory testing, manufacturing and clinical trials for the product candidates we may develop;
- the costs of preparing, filing, and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights, and defending intellectual property-related claims;
- the costs, timing, and outcome of regulatory review of the product candidates we develop;
- the costs of future activities, including product sales, medical affairs, marketing, manufacturing, distribution, coverage and reimbursement for any product candidates for which we receive regulatory approval;
- the success of our license agreements and our collaborations;
- our ability to establish and maintain additional collaborations on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements we are a party to or may become a party to;
- the payment of success liabilities to Harvard and Broad Institute pursuant to the respective terms of the Harvard License Agreement and the Broad Institute License Agreement, should we choose to pay in cash;
- the extent to which we acquire or in-license products, intellectual property, and technologies;
- the costs of obtaining, building, operating and expanding our manufacturing capacity; and;
- the impacts of the COVID-19 pandemic and our response to it.

A change in the outcome of any of these or other variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of that product candidate. Further, our operating plans may change in the future, and we may need additional funds to meet operational needs and capital requirements associated with such operating plans.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements. We do not have any committed external source of capital. We have historically relied on equity issuances to fund our capital needs and will likely rely on equity issuances in the future. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends.

If we raise capital through additional collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates, or we may have to grant licenses on terms that may not be favorable to us. If we are unable to raise additional capital through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate our product development or, if approved, future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. We can give no assurance that we will be able to secure such additional sources of funds to support our operations, or, if such funds are available to us, that such additional funding will be sufficient to meet our needs.

Contractual obligations

We enter into contracts in the normal course of business with contract research organizations and other vendors to assist in the performance of our research and development activities and other services and products for operating purposes. These contracts generally provide for termination on notice, and therefore are cancelable contracts and not included in our calculations of contractual obligations and commitments. During the three months ended March 31, 2022, there were no material changes to our contractual obligations and commitments described under Management's Discussion and Analysis of Financial Condition and Results of Operations in the 2021 Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to market risk related to changes in interest rates. As of March 31, 2022, we had cash, cash equivalents, and marketable securities of $1.2 billion, which consisted of cash, money market funds, commercial paper, corporate notes and a corporate equity security. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in short-term marketable securities. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, we believe an immediate 10% change in interest rates would not have a material effect on the fair market value of our investment portfolio. We have the ability to hold our investments until maturity, and therefore, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investment portfolio.

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we do contract with vendors that are located outside of the United States and may be subject to fluctuations in foreign currency rates. We may enter into additional contracts with vendors located outside of the United States in the future, which may increase our foreign currency exchange risk.

Inflation generally affects us by increasing our cost of labor and research, manufacturing and development costs. We believe that inflation has not had a material effect on our financial statements included elsewhere in this Quarterly Report on Form 10-Q. However, our operations may be adversely affected by inflation in the future.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and our principal financial officer, evaluated, as of the end of the period covered by this Quarterly Report on Form 10-Q, the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on the evaluation of our disclosure controls and procedures as of March 31, 2022, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures as of such date are effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

We continuously seek to improve the efficiency and effectiveness of our internal controls. This results in refinements to processes throughout our company. There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended March 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently subject to any material legal proceedings.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. For a detailed discussion of the risks that affect our business. Please refer to the sections titled "Risk Factors Summary" and "Item 1A. Risk Factors" in the 2021 Form 10-K. The COVID-19 pandemic may also have the effect of heightening many of the other risks described in the section titled "Item 1A. Risk Factors" in each of the 2021 Form 10-K and our quarterly reports, such as risks related to our need to raise additional funding, fluctuation of our quarterly financial results, and our ability to obtain regulatory approvals for our product candidates.

The risk factors set forth below represent new risk factors or those containing changes to the similarly titled risk factor included in "Item 1.A Risk Factors" of the 2021 Form 10-K.

Our owned patents and patent applications and in-licensed patents and patent applications and other intellectual property may be subject to priority disputes or to inventorship disputes and similar proceedings. If we or our licensors are unsuccessful in any of these proceedings, we may be required to obtain licenses from third parties, which may not be available on commercially reasonable terms or at all, or to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop, which could have a material adverse impact on our business.

Although we have an option to exclusively license certain patents and patent applications directed to Cas9 and Cas12a from Editas, who in turn has licensed such patents from various academic institutions including Broad Institute, we do not currently have a license to such patents and patent applications. Certain of the U.S. patents and one U.S. patent application to which we hold an option are co-owned by Broad Institute and MIT, and in some cases co-owned by Broad Institute, Massachusetts Institute of Technology, or MIT, and Harvard, which we refer to together as the Boston Licensing Parties, and were involved in U.S. interference No. 106,048 with one U.S. patent application co-owned by the University of California, the University of Vienna, and Emmanuelle Charpentier, which we refer to together as the University of California. On September 10, 2018, the Court of Appeals for the Federal Circuit, or the CAFC, affirmed the Patent Trial and Appeal Board of the USPTO's, or PTAB's, holding that there was no interference-in-fact. An interference is a proceeding within the USPTO to determine priority of invention of the subject matter of patent claims filed by different parties.

On June 24, 2019, the PTAB declared an interference (U.S. Interference No. 106,115) between ten U.S. patent applications ((U.S. Serial Nos. 15/947,680; 15/947,700; 15/947,718; 15/981,807; 15/981,808; 15/981,809; 16/136,159; 16/136,165; 16/136,168; and 16/136,175) that are co-owned by the University of California, and 13 U.S. patents and one U.S. patent application (U.S. Patent Nos. 8,697,359; 8,771,945; 8,795,965; 8,865,406; 8,871,445; 8,889,356; 8,895,308; 8,906,616; 8,932,814; 8,945,839; 8,993,233; 8,999,641; and 9,840,713, and U.S. Serial No. 14/704,551)) that are co-owned by the Boston Licensing Parties, which we have an option to under the Editas License Agreement. In the declared interference, the University of California has been designated as the junior party and the Boston Licensing Parties have been designated as the senior party.

As a result of the declaration of interference, an adversarial proceeding in the USPTO before the PTAB has been initiated, which is declared to ultimately determine priority, specifically and which party was first to invent the claimed subject matter. An interference is typically divided into two phases. The first phase is referred to as the motions or preliminary motions phase while the second is referred to as the priority phase. In the first phase, each party may raise issues including but not limited to those relating to the patentability of a party's claims based on prior art, written description, and enablement. A party also may seek an earlier priority benefit or may challenge whether the declaration of interference was proper in the first place. Priority, or a determination of who first invented the commonly claimed invention, is determined in the second phase of an interference.

The ten University of California patent applications and the 13 U.S. patents and one U.S. patent application co-owned by the Boston Licensing Parties involved in U.S. Interference No. 106,115 generally relate to CRISPR/Cas9 systems or eukaryotic cells comprising CRISPR/Cas9 systems having fused or covalently linked RNA and the use thereof in eukaryotic cells. On February 28, 2022, the PTAB issued a decision that the Boston Licensing Parties have priority of invention over University of California with respect to a single RNA CRISPR-Cas9 system that functions in eukaryotic cells. This decision is being appealed.

There can be no assurance that the U.S. interference will be resolved in favor of the Boston Licensing Parties on appeal. If the U.S. interference resolves in favor of University of California, or if the Boston Licensing Parties' patents and patent application are narrowed, invalidated, or held unenforceable, we may lose the ability to license the optioned patents and patent application and our ability to commercialize our product candidates may be adversely affected if we cannot obtain a license to relevant third party patents that cover our product candidates. We may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be nonexclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. If we are unable to obtain a

necessary license to a third-party patent on commercially reasonable terms, we may be unable to commercialize our base editing platform technology or product candidates or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business.

We or our licensors may be subject to similar interferences in the future with the same risks as described above. For example, on December 14, 2020, the PTAB declared an interference (U.S. Interference No. 106,126) between 14 U.S. patents and two U.S. patent applications (U.S. Patent Nos. 8,697,359; 8,771,945; 8,795,965; 8,865,406; 8,871,445; 8,889,356; 8,889,418; 8,895,308; 8,906,616; 8,932,814; 8,945,839; 8,993,233; 8,999,641; and 9,840,713, and U.S. Serial Nos. 14/704,551 and 15/330,876) that are co-owned by the Boston Licensing Parties, which we have an option to under the Editas License Agreement, and one U.S. patent application (U.S. Serial No. 14/685,510) that is owned by Toolgen, Inc, or Toolgen. In the declared interference, the Boston Licensing Parties have been designated as the junior party and Toolgen has been designated as the senior party. In March 2021, the PTAB issued an order on preliminary motions, granting, in part, and denying, in part, certain motions proposed by the Boston Licensing Parties and Toolgen. Although we cannot predict with any certainty how long the preliminary motions phase will actually take, it may take approximately a year or longer before a decision on the motions is made by the PTAB. The 14 U.S. patents and two U.S. patent applications co-owned by the Boston Licensing Parties involved in U.S. Interference No. 106,126 generally relate to CRISPR/Cas9 systems or eukaryotic cells comprising CRISPR/Cas9 systems having fused or covalently linked RNA and the use thereof in eukaryotic cells.

On June 21, 2021, the PTAB declared an interference (U.S. Interference No. 106,133) between the same 14 U.S. patents and two U.S. patent applications (U.S. Patent Nos. 8,697,359; 8,771,945; 8,795,965; 8,865,406; 8,871,445; 8,889,356; 8,889,418; 8,895,308; 8,906,616; 8,932,814; 8,945,839; 8,993,233; 8,999,641; and 9,840,713, and U.S. Serial Nos. 14/704,551 and 15/330,876, co-owned by the Boston Licensing Parties) as named in the interference with Toolgen, and one U.S. patent application (U.S. Serial No. 15/456,204) that is owned by Sigma-Aldrich Co., LLC, or Sigma-Aldrich. In the declared interference, the Boston Licensing Parties have been designated as the junior party and Sigma-Aldrich has been designated as the senior party. In September 2021, the PTAB issued an order on preliminary motions, granting, deferring, dismissing, or denying, certain motions proposed by the Boston Licensing Parties and Sigma-Aldrich. Although we cannot predict with any certainty how long the preliminary motions phase will actually take, it may take approximately a year or longer before a decision on the motions is made by the PTAB.

We or our licensors may also be subject to claims that former employees, collaborators, or other third parties have an interest in our owned patents or patent applications or in-licensed patents or patent applications or other intellectual property as an inventor or co-inventor. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors. In addition, we may need the cooperation of any such co-owners to enforce any patents that issue from such patent applications against third parties, and such cooperation may not be provided to us.

If we or our licensors are unsuccessful in any interference proceedings or other priority, validity (including any patent oppositions), or inventorship disputes to which we or they are subject, we may lose valuable intellectual property rights through the loss of one or more of our owned, licensed, or optioned patents, or such patent claims may be narrowed, invalidated, or held unenforceable, or through loss of exclusive ownership of or the exclusive right to use our owned or in-licensed patents. In the event of loss of patent rights as a result of any of these disputes, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceedings or other priority or inventorship disputes. Such licenses may not be available on commercially reasonable terms or at all, or may be non-exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop. The loss of exclusivity or the narrowing of our patent claims could limit our ability to stop others from using or commercializing similar or identical technology and product candidates. Even if we or our licensors are successful in an interference proceeding or other similar priority or inventorship disputes, it could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could result in a material adverse effect on our business, financial condition, results of operations, or prospects.

The intellectual property landscape around gene editing technology, including base editing and delivery technology, is highly dynamic, and third parties may initiate legal proceedings alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain and may prevent, delay or otherwise interfere with our product discovery and development efforts.

The field of gene editing, especially in the area of base editing technology, is still in its infancy, and no such product candidates have reached the market. Due to the intense research and development that is taking place by several companies, including us and our competitors, in this field and in the field of delivery technology, the intellectual property landscape is evolving and in flux, and it may remain uncertain for the coming years. There may be significant intellectual property related litigation and proceedings relating to our owned and in-licensed, and other third party, intellectual property and proprietary rights in the future.

Our commercial success depends upon our ability and the ability of our collaborators and licensors to develop, manufacture, market, and sell any product candidates that we may develop and use our proprietary technologies without infringing, misappropriating, or otherwise violating the intellectual property and proprietary rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights as well as administrative proceedings for challenging patents, including interference, derivation, *inter partes* review, post grant review, and reexamination proceedings

before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may be subject to and may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our base editing platform technology, delivery platform technology and any product candidates we may develop, including interference proceedings, post-grant review, *inter partes* review, and derivation proceedings before the USPTO and similar proceedings in foreign jurisdictions such as oppositions before the EPO. Numerous U.S. and foreign issued patents and pending patent applications that are owned by third parties exist in the fields in which we are developing our product candidates and they may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit.

As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our base editing platform technology, delivery platform technology and product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of therapies, products or their methods of use or manufacture. We are aware of certain third-party patents and patent applications that, if issued, may be construed to cover our base editing technology, delivery technology and product candidates. There may also be third-party patents of which we are currently unaware with claims to technologies, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents.

Numerous third-party U.S. and foreign issued patents and pending patent applications exist in the fields in which we are developing product candidates. Our product candidates make use of CRISPR-based technology, which is a field that is highly active for patent filings. The extensive patent filings related to CRISPR and Cas make it difficult for us to assess the full extent of relevant patents and pending applications that may cover our base editing platform technology and product candidates and their use or manufacture. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our base editing platform technology and product candidates. For example, we are aware of a patent portfolio that is co-owned by the University of California, University of Vienna and Emmanuelle Charpentier, or the University of California Portfolio, which contains multiple patents and pending applications directed to gene editing. The University of California portfolio includes, for example, U.S. Patent Nos. 10,266,850; 10,227,611; 10,000,772; 10,113,167; 10,301,651; 10,308,961; 10,337,029; 10,351,878; 10,407,697; 10,358,659; 10,358,658; 10,385,360; 10,400,253; 10,421,980; 10,415,061; 10,428,352; 10,443,076; 10,487,341; 10,513,712; 10,519,467; 10,526,619; 10,533,190; 10,550,407; 10,563,227; 10,570,419; 10,577,631; 10,597,680; 10,612,045; 10,626,419; 10,640,791; 10,669,560; 10,676,759; 10,752,920; 10,774,344; 10,793,878; 10,900,054; 10,982,230; 10,982,231; 10,988,780; 10,988,782; 11,001,863; 11,008,589; 11,008,590; 11,028,412; 11,186,849; 11,242,543; 11,274,318; 11,293,034, which are expected to expire around March 2033, excluding any additional term for patent term adjustment, or PTA, or patent term extension, or PTE, and any disclaimed term for terminal disclaimers. The University of California portfolio also includes numerous additional pending patent applications. If these patent applications issue as patents, they are expected to expire around March 2033, excluding any PTA, PTE, and any disclaimed term for terminal disclaimers. As discussed above, certain applications in the University of California Portfolio are currently subject to U.S. Interference No. 106,115 with certain U.S. patents and one U.S. patent application that are co-owned by the Boston Licensing Parties to which we have an option under the Editas License Agreement. Although we have an option to exclusively license certain patents and patent applications directed to Cas9 and Cas12a from Editas, who in turn has licensed such patents from various academic institutions including Broad Institute, we do not currently have a license to such patents and patent applications. Certain members of the University of California Portfolio are being opposed in Europe by multiple parties. For example, the EPO Opposition Division has initiated opposition proceedings against European Patent Nos. EP2,800,811 B1, and EP3,241,902 B1and EP3401400 B1, which are estimated to expire in March 2033 (excluding any patent term adjustments or extensions). The opposition procedure before the EPO allows one or more third parties to challenge the validity of a granted European patent within nine months after grant date of the European patent. Opposition proceedings may involve issues including, but not limited to, priority, patentability of the claims involved, and procedural formalities related to the filing of the patent application. As a result of the opposition proceedings, the Opposition Division can revoke a patent, maintain the patent as granted, or maintain the patent in an amended form. Most of the claims of European patent EP 2,800,811 B1 were maintained without amendment by the Opposition Division, but this decision is being appealed. In April 2021, the claims of European patent EP3,241,902 B1 were revoked in their entirety, and that decision is not being appealed. In February 2022, the claims of European patent EP3,401,400 B1 were maintained in amended form by the Opposition Division, and it is uncertain if this decision will be appealed. If these patents are maintained by the Opposition Division with claims similar to those that are currently opposed, our ability to commercialize our product candidates may be adversely affected if we do not obtain a license to these patents. We may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be nonexclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, we may be unable to commercialize our base editing platform technology or product candidates or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business.

Numerous other patents and patent applications have been filed by other third parties directed to gene editing, guide nucleic acids, PAM sequence variants, split inteins, Cas12b or gene editing in the context of immune therapy or chimeric antigen receptors.

Because of the large number of patents issued and patent applications filed in our field, third parties may allege they have patent rights encompassing our product candidates, technologies or methods. Third parties may assert that we are employing their proprietary technology without authorization and may file patent infringement claims or lawsuit against us, and if we are found to infringe such third-party patents, we may be required to pay damages, cease commercialization of the infringing technology, or obtain a license from such third parties, which may not be available on commercially reasonable terms or at all.

Our ability to commercialize our product candidates in the United States and abroad may be adversely affected if we cannot obtain a license on commercially reasonable terms to relevant third-party patents that cover our product candidates, delivery platform technology or base editing platform technology. Even if we believe third-party intellectual property claims are without merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, or priority. A court of competent jurisdiction could hold that these third-party patents are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any product candidates we may develop and any other product candidates or technologies covered by the asserted third-party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's intellectual property rights, and we are unsuccessful in demonstrating that such patents are invalid or unenforceable, we could be required to obtain a license from such third party to continue developing, manufacturing, and marketing any product candidates we may develop and our technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, we may be unable to commercialize our base editing platform technology, delivery platform technology or product candidates or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business. We also could be forced, including by court order, to cease developing, manufacturing, and commercializing the infringing technology or product candidates. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations, and prospects.

Defense of third-party claims of infringement of misappropriation, or violation of intellectual property rights involves substantial litigation expense and would be a substantial diversion of management and employee time and resources from our business. Some third parties may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, financial condition, results of operations and prospects. 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 have a substantial adverse effect on the price of our common stock. Any of the foregoing events could have a material adverse effect on our business, financial condition, results of operations and prospects.

Item 6. Exhibits.

Exhibit Number	Description of Exhibit	If Incorporated by Reference				Filed Herewith
		Form	File Number	Date of Filing	Exhibit Number	
3.1	Fourth Amended Certificate of Incorporation of Beam Therapeutics Inc.	8-K	001-39208	02/11/2020	3.1	
3.2	Amended and Restated By-laws of Beam Therapeutics Inc.	8-K	001-39208	02/11/2020	3.2	
10.1	Amended and Restated Non-employee Director Compensation Policy					X
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Presentation Linkbase Document					X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					X

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

BEAM THERAPEUTICS INC.

Date: May 9, 2022 By: /s/ John Evans

John Evans
Chief Executive Officer
(Principal executive officer)

Date: May 9, 2022 By: /s/ Terry-Ann Burrell

Terry-Ann Burrell
Chief Financial Officer and Treasurer
(Principal financial and accounting officer)

BEAM THERAPEUTICS INC.
NON-EMPLOYEE DIRECTOR COMPENSATION POLICY (AS AMENDED AND RESTATED AS OF MARCH 31, 2022)

Effective as of the date set forth above, each individual who provides services to Beam Therapeutics Inc. (the "Company") as a director, other than a director who is employed by the Company or a subsidiary (a "Non-Employee Director"), shall be entitled to receive the following amounts of compensation, subject to the limitations on annual Non-Employee Director compensation set forth in the Company's 2019 Equity Incentive Plan:

Type of Compensation	Amount and Form of Payment
Annual cash fee	$40,000 ($70,000 for the chairman of the Board of Directors (the "Board") and $55,000 for the lead independent director)
Additional annual cash fee for members of the Audit Committee	$7,500 ($15,000 for the Audit Committee chairman)
Additional annual cash fee for members of the Compensation Committee	$5,000 ($10,000 for the Compensation Committee chairman)
Additional annual cash fee for members of the Nominating and Corporate Governance Committee	$4,000 ($8,000 for the Nominating and Corporate Governance Committee chairman)

Equity compensation	Each Non-Employee Director who is first elected or appointed to the Board shall, upon his or her initial election or appointment to the Board, be granted an option to purchase shares of the Company's common stock having a grant date fair value, determined in accordance with FASB ASC Topic 718 (or any successor provision) ("ASC Topic 718"), approximately equal to $770,000 (the "Initial Option"), such option to vest as to one-third of the shares subject to the option on the first anniversary of the date of grant and in equal monthly installments as to the remainder of the shares for two years thereafter, subject to the Non-Employee Director's continued service to the Board through each applicable vesting date. On the date of the first meeting of the Board following each annual meeting of stockholders of the Company, each Non-Employee Director who was not first elected or appointed to the Board during the calendar year of such annual meeting (including, for the avoidance of doubt, at the time of such annual meeting) shall be granted an option to purchase shares of the Company's common stock having a grant date fair value, determined in accordance with ASC Topic 718, approximately equal to $385,000 (the "Annual Option"), such option to vest in full on the first anniversary of the date of grant, subject to the Non-Employee Director's continued service to the Board through the applicable vesting date. Each option granted to any Non-Employee Director will have a per share exercise price equal to the fair market value of a share of the Company's common stock on the date of grant, have a term of no more than ten (10) years and will be subject to the terms and conditions of the Company's 2019 Equity Incentive Plan (or any successor plan).

All cash fees shall be payable in arrears on a quarterly basis or upon the earlier resignation or removal of the Non-Employee Director and shall be prorated for any calendar quarter of partial service, based on the number of calendar days the Non-Employee Director was a member of the Board.

In addition, Non-Employee Directors will be reimbursed by the Company for (i) reasonable travel and other expenses incurred in connection with the Non-Employee Director's attendance at Board and committee meetings and (ii) reasonable expenses incurred related to continuing director education, in accordance with the Company's policies as in effect from time to time.

The Board (or the compensation committee thereof) may amend this Non-Employee Director Compensation Policy at any time.

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John Evans, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Beam Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2022

By: /s/ John Evans
John Evans
Chief Executive Officer
(Principal executive officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Terry-Ann Burrell, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Beam Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2022

By: /s/ Terry-Ann Burrell
Terry-Ann Burrell

Chief Financial Officer
(Principal financial and accounting officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with this Quarterly Report of Beam Therapeutics Inc. (the "Company") on Form 10-Q for the period ending March 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 9, 2022

By: /s/ John Evans
John Evans
Chief Executive Officer
(Principal executive officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with this Quarterly Report of Beam Therapeutics Inc. (the "Company") on Form 10-Q for the period ending March 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 9, 2022

By: /s/ Terry-Ann Burrell
Terry-Ann Burrell
Chief Financial Officer
(Principal financial and accounting officer)