UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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, 2020

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: 001-38443

UNUM THERAPEUTICS INC.

(Exact name of registrant as specified in its charter)

Delaware	**46-5308248**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**
200 Cambridge Park Drive, Suite 3100 Cambridge, Massachusetts	**02140**
(Address of principal executive offices)	**(Zip code)**

(617) 945-5576
(Registrant's telephone number, including area code)

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, $0.001 Par Value	**UMRX**	**The 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, 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 ☒

As of May 8, 2020, the registrant had 31,161,941 shares of common stock, $0.001 par value per share, outstanding.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements, which reflect our current views with respect to, among other things, our operations and financial performance. All statements other than statements of historical facts contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plan, objectives of management and expected market growth are forward-looking statements. These statements involve known and unknown risks, uncertainties, and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “should,” “expects,” “might,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential,” “seek,” “would” or “continue,” or the negative of these terms or other similar expressions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Some of the key factors that could cause actual results to differ from our expectations include, but are not limited to, the following:

- conditions and events that raise substantial doubt about our ability to continue as a going concern;
- the effects of our recently-initiated restructuring, including a substantial reduction in our workforce to reduce our operating costs;
- the potential impacts of raising additional capital, including dilution to our existing stockholders, restrictions our operations or requirements that we relinquish rights to our technologies or product candidates;
- business interruptions resulting from the coronavirus disease (COVID-19) outbreak or similar public health crises, which could cause a disruption of the development of our product candidates and adversely impact our business;
- our ability to regain compliance with Nasdaq listing requirements;
- the success, cost, and timing of our product development activities and clinical trials;
- the timing of our planned IND submission to the FDA for our product candidate BOXR1030;
- our ability to obtain and maintain regulatory approval for our BOXR product candidates and any other product candidates we may develop, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- the potential for our identified research priorities to advance our BOXR platform;
- the ability to license additional intellectual property relating to our product candidates from third-parties and to comply with our existing license agreements and collaboration agreements;
- the ability and willingness of our third-party research institution collaborators to continue research and development activities relating to our product candidates;
- our ability to commercialize our products in light of the intellectual property rights of others;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;
- the scalability and commercial viability of our manufacturing methods and processes;
- the commercialization of our product candidates, if approved;
- our plans to research, develop, and commercialize our product candidates;
- our ability to attract collaborators with development, regulatory, and commercialization expertise;
- future agreements with third parties in connection with the commercialization of our product candidates and any other approved product;

- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- the rate and degree of market acceptance of our product candidates;
- the pricing and reimbursement of our product candidates, if approved;
- regulatory developments in the United States and foreign countries;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing;
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act;
- our use of the proceeds from the initial public offering and the Concurrent Private Placement as defined herein; and
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this Quarterly Report on Form 10-Q. The forward-looking statements contained in this Quarterly Report on Form 10-Q are made as of the date of this Quarterly Report on Form 10-Q, and we undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise.

Unum Therapeutics Inc.
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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

UNUM THERAPEUTICS INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)
(unaudited)

	March 31, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 29,604	$ 37,424
Accounts receivable	—	2,000
Prepaid expenses and other current assets	1,581	1,167
Total current assets	31,185	40,591
Operating lease, right-of-use asset	4,929	5,285
Property and equipment, net	1,570	1,865
Restricted cash	1,255	1,255
Other assets	—	427
Total assets	$ 38,939	$ 49,423
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 628	$ 3,183
Accrued expenses and other current liabilities	6,123	7,131
Operating lease liability	1,658	1,619
Deferred revenue	841	1,315
Total current liabilities	9,250	13,248
Operating lease liability, net of current portion	3,987	4,413
Total liabilities	13,237	17,661
Commitments and contingencies (Note 8)		
Stockholders’ equity:		
Preferred stock, $0.001 par value; 10,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock, $0.001 par value; 150,000,000 shares authorized; 30,821,892 shares and 30,663,054 shares issued and outstanding at March 31, 2020 and December 31, 2019, respectively	31	30
Additional paid-in capital	155,657	155,624
Accumulated deficit	(129,986)	(123,892)
Total stockholders’ equity	25,702	31,762
Total liabilities and stockholders' equity	$ 38,939	$ 49,423

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

UNUM THERAPEUTICS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands, except share and per share amounts)
(unaudited)

	Three Months Ended March 31,	
	2020	**2019**
Collaboration revenue	$ 7,031	$ 3,053
Operating expenses:		
Research and development	9,498	12,403
General and administrative	3,674	2,491
Total operating expenses	13,172	14,894
Loss from operations	(6,141)	(11,841)
Other income (expense):		
Interest income	47	150
Total other income (expense), net	47	150
Net loss	$ (6,094)	$ (11,691)
Net loss per common share, basic and diluted	$ (0.20)	$ (0.39)
Weighted average common shares outstanding, basic and diluted	30,136,749	30,083,006
Comprehensive loss:		
Net loss	$ (6,094)	$ (11,691)
Other comprehensive income (loss):		
Unrealized gains on marketable securities, net of tax of $0	—	10
Total other comprehensive income	—	10
Comprehensive loss	$ (6,094)	$ (11,681)

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

UNUM THERAPEUTICS INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share amounts)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balances at December 31, 2019	30,663,054	$ 30	$ 155,624	$ (123,892)	$ 31,762
Issuance of common stock upon exercise of stock options	207,292	1	37	—	38
Issuance of common stock under Employee Stock Purchase Plan	57,011	—	35	—	35
Issuance of common stock, net of issuance costs	726,382	1	261	—	262
Acquisition and retirement of treasury stock	(831,847)	(1)	(807)	—	(808)
Stock-based compensation expense	—	—	507	—	507
Unrealized gains on marketable securities	—	—	—	—	—
Net loss	—	—	—	(6,094)	(6,094)
Balances at March 31, 2020	30,821,892	$ 31	$ 155,657	$ (129,986)	$ 25,702

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at December 31, 2018	30,057,970	$ 30	$ 152,275	$ (12)	$ (92,059)	$ 60,234
Issuance of common stock upon exercise of stock options	60,852	—	11	—	—	11
Stock-based compensation expense	—	—	726	—	—	726
Unrealized gains on marketable securities	—	—	—	10	—	10
Net loss	—	—	—	—	(11,691)	(11,691)
Balances at March 31, 2019	30,118,822	$ 30	$ 153,012	$ (2)	$ (103,750)	$ 49,290

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

UNUM THERAPEUTICS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Three Months Ended March 31,	
	2020	2019
Cash flows from operating activities:		
Net loss	$ (6,094)	$ (11,691)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	295	330
Stock-based compensation expense	769	726
Realized loss on sales of marketable securities	—	1
Noncash consideration received from a customer	(808)	—
Net amortization (accretion) of premiums (discounts) on marketable securities	—	(49)
Changes in operating assets and liabilities:		
Accounts receivable	2,000	(372)
Prepaid expenses and other current assets	(414)	(17)
Operating lease, right-of-use asset	356	334
Other assets	427	(427)
Accounts payable	(2,555)	317
Accrued expenses and other current liabilities	(1,008)	696
Operating lease liability	(387)	(352)
Deferred revenue	(474)	(1,014)
Net cash used in operating activities	(7,893)	(11,518)
Cash flows from investing activities:		
Purchases of property and equipment	—	(42)
Proceeds from maturities and sales of marketable securities	—	14,992
Net cash provided by investing activities	—	14,950
Cash flows from financing activities:		
Proceeds from issuance of common stock upon stock option exercises	38	11
Proceeds from issuance of stock from employee stock purchase plan	35	—
Net cash provided by financing activities	73	11
Net (decrease) increase in cash, cash equivalents and restricted cash	(7,820)	3,443
Cash, cash equivalents and restricted cash at beginning of period	38,679	56,926
Cash, cash equivalents and restricted cash at end of period	$ 30,859	$ 60,369

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

1. Nature of the Business and Basis of Presentation

Unum Therapeutics, Inc. ("Unum" or "the Company") is a biopharmaceutical company focused on developing curative cell therapies for solid tumors. Unum's novel proprietary technology includes Bolt-On Chimeric Receptor (BOXR), designed to improve the functionality of engineered T cells by incorporating a "bolt-on" transgene to overcome resistance of the solid tumor microenvironment (TME) to T cell attack. Unum was incorporated in March 2014 under the laws of the State of Delaware.

Unum also developed product candidates using its novel proprietary technology, Antibody-Coupled T cell Receptor (ACTR), an autologous engineered T-cell therapy that combines the cell-killing ability of T cells and the tumor-targeting ability of co-administered antibodies to exert potent antitumor immune responses. In March 2020, the Company announced a strategic restructuring plan to shift away from ACTR, and prioritize its resources towards advancing its preclinical program, BOXR1030, for the treatment of solid tumor cancers.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, 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. Product candidates currently under development will require significant additional 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 and extensive compliance-reporting capabilities. Even if the Company's drug development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

On April 1, 2019, the Company filed a shelf registration statement on Form S-3 with the SEC. The shelf registration statement allows the Company to sell from time-to-time up to $150 million of common stock, preferred stock, debt securities, warrants, or units comprised of any combination of these securities, for its own account in one or more offerings. The terms of any offering under the shelf registration statement will be established at the time of such offering and will be described in a prospectus supplement filed with the SEC prior to the completion of any such offering.

Additionally, on April 1, 2019 and pursuant to the Form S-3, the Company entered into a Sales Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which the Company may issue and sell, from time to time, shares of its common stock having an aggregate offering price of up to $50.0 million through Cowen as the sales agent. As of March 31, 2020, no shares have been sold under this Sales Agreement.

As announced on March 2, 2020, the Company initiated a reduction in force that resulted in the termination of approximately 60% of the Company's employee workforce, or 43 employees. These reductions were substantially completed by the end of first quarter of 2020. The reduction in force was approved in connection with the Company's restructuring plans to prioritize resources towards advancing its preclinical program, BOXR1030, for the treatment of solid tumor cancers.

On March 19, 2020, the Company entered into a Purchase Agreement with Lincoln Park Capital Fund, LLC ("LPC"), pursuant to which the Company may elect to sell to LPC up to $25,000,000 in shares of its Common Stock, subject to certain limitations and conditions set forth in the Purchase Agreement. Pursuant to the Purchase Agreement, the Company issued 726,382 shares of Common Stock to LPC as a commitment fee.

On March 26, 2020, the Company announced that we would be exploring strategic alternatives in order to maximize stockholder value and that the Company had engaged Ladenburg Thalmann & Co. Inc. to act as its strategic financial advisor to assist in the strategic review process. Despite undertaking this process, the Company may not be successful in completing a transaction, and, even if a strategic transaction is completed, it ultimately may not deliver the anticipated benefits or enhance stockholder value.

In accordance with Accounting Standards Update ("ASU") No. 2014-15, Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern (Subtopic 205-40), the Company has evaluated whether there are conditions and events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the condensed consolidated financial statements are issued.

On December 31, 2019, the Company received a deficiency letter from the Listing Qualifications Department of the Nasdaq Stock Market notifying it that, for the last 30 consecutive business days, the bid price for the Company's common stock had closed below the minimum $1.00 per share requirement for continued inclusion on the Nasdaq Global Select Market ("Minimum Bid Price Requirement"). In accordance with Nasdaq Listing Rules, the Company had an initial period of 180 calendar days to regain compliance with the minimum bid price rule, which has been tolled as of April 16, 2020 and will restart on July 1, 2020. If the Company does not regain compliance with the Minimum Bid Price Requirement by September 11, 2020, then, under Nasdaq Listing Rules, the Company may transfer to The Nasdaq Capital Market, provided that it meets the continued listing requirement for the market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, except for the Minimum Bid Price Requirement, and the Company would need to provide written notice to Nasdaq of our intention to cure the deficiency during the

additional compliance period. Following a transfer to The Nasdaq Capital Market, under Nasdaq Listing Rules, the Company may be eligible for an additional 180 calendar day compliance period. The Company is actively monitoring its stock price and will consider any and all options available to regain compliance. The alternatives to trading on the Nasdaq Stock Market or another national securities exchange are generally considered to be less efficient and less broad-based than the national securities exchanges and the liquidity of the Company's common stock will likely be reduced if it fails to regain compliance with the Minimum Bid Price Requirement.

The accompanying condensed consolidated financial statements have been prepared on the basis of continuity of operations, realization of assets and the satisfaction of liabilities and commitments in the ordinary course of business. The Company has incurred recurring losses since inception, including a net loss of $6.1 million for the three months ended March 31, 2020. As of March 31, 2020, the Company had an accumulated deficit of $130.0 million. The Company expects to continue to generate operating losses in the foreseeable future. As of the issuance date of the interim consolidated financial statements, the Company expects that its cash and cash equivalents will be sufficient to fund its operating expenses and capital expenditure requirements into mid-2021. Based on our available cash resources, recurring losses and cash outflows from operations, since our inception, an expectation of continuing operating losses and cash outflows from operations for the foreseeable future, we have concluded that there is substantial doubt about our ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The Company expects that it will continue to incur significant expenses in connection with its ongoing business activities. The Company will need to seek additional funding through equity offerings, debt financings, collaborations, licensing arrangements and other marketing and distribution arrangements, partnerships, joint ventures, combinations or divestitures of one or more of its businesses. The Company may not be able to obtain financing on acceptable terms, or at all, and the Company may not be able to enter into collaborative arrangements or divest its assets. The terms of any financing may adversely affect the holdings or the rights of the Company's stockholders. Arrangements with collaborators or others may require the Company to relinquish rights to certain of its technologies or product candidates. If the Company is unable to obtain funding, the Company could be forced to delay, reduce or eliminate its research and development programs or commercialization efforts, which could adversely affect its business prospects, or the Company may be unable to continue operations.

The Company's condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP").

2. Summary of Significant Accounting Policies

Unaudited Interim Financial Information

The consolidated balance sheet at December 31, 2019 was derived from audited financial statements but does not include all disclosures required by GAAP. The accompanying unaudited condensed consolidated financial statements as of March 31, 2020 and for the three months ended March 31, 2020 and 2019 have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission (SEC) for interim financial statements. Certain information and footnote disclosures normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. These consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and the notes thereto for the year ended December 31, 2019 included in the Company's Annual Report on Form 10-K on file with the SEC. In the opinion of management, all adjustments, consisting only of normal recurring adjustments necessary for a fair statement of the Company's financial position as of March 31, 2020 and results of operations for the three months ended March 31, 2020 and 2019 and cash flows for the three months ended March 31, 2020 and 2019 have been made. The Company's results of operations for the three months ended March 31, 2020 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2020.

Principles of Consolidation

The accompanying consolidated financial statements include those of the Company and its wholly-owned subsidiary, Mono, Inc. All intercompany balances and transactions have been eliminated.

Risks and Uncertainties - Impact of the COVID-19 Coronavirus

The Company is subject to risks and uncertainties as a result of the COVID-19 pandemic. The virus continues to spread globally, has been declared a pandemic by the World Health Organization and has spread to over 100 countries, including the United States. The impact of this pandemic has been and will likely continue to be extensive in many aspects of society, which has resulted in and will likely continue to result in significant disruptions to the global economy, as well as businesses and capital markets around the world.

The spread of COVID-19 has caused us to modify our business practices, including implementing a work-from-home policy for all employees who are able to perform their duties remotely and restricting all nonessential travel, and we expect to continue to take actions as may be required or recommended by government authorities or as we determine are in the best interests of our employees, the patients we serve and other business partners in light of COVID-19. Potential impacts to our business include temporary closures of our facilities or those of our vendors, disruptions or restrictions on our employees' ability to travel, disruptions to or delays in ongoing laboratory experiments and operations and the potential diversion of healthcare resources away from the conduct of clinical trials to focus on pandemic concerns, and our ability to raise capital. As of March 31, 2020, there have been no material impacts to the Company. As the impacts of COVID-19 continue to unfold, the Company will continually assess the impacts, as the extent to which the COVID-19 pandemic may materially impact the Company's financial condition, liquidity or results of operations in the future is uncertain.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates, assumptions, and judgments that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting periods. Significant estimates and assumptions reflected in these condensed consolidated financial statements include, but are not limited to, revenue recognition, the accrual of research and development expenses and the valuation of stock-based awards. The Company bases its estimates on historical experience, known trends and other market-specific or other relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates, as there are changes in circumstances, facts and experience. The extent to which the COVID-19 pandemic may directly or indirectly impact our business, financial condition, and results of operations is highly uncertain and subject to change. We considered the potential impact of the COVID-19 pandemic on our estimates and assumptions and there was not a material impact to our condensed consolidated financial statements as of and for the three months ended March 31, 2020; however, actual results could differ from those estimates and there may be changes to our estimates in future periods.

Recently Adopted Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires certain financial assets measured at amortized cost be presented at the net amount expected to be collected. The Company adopted ASU 2016-13 on January 1, 2020. The adoption of this guidance did not have a material impact on the Company's condensed consolidated financial statements.

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606*. The main provisions of ASU 2018-18 include: (i) clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue when the collaborative arrangement participant is a customer in the context of a unit of account and (ii) precluding the presentation of transactions with collaborative arrangement participants that are not directly related to sales to third parties together with revenue. This guidance will be effective for annual reporting periods beginning after December 15, 2019, including interim periods within those annual reporting periods, and early adoption is permitted. The guidance per ASU 2018-18 is to be adopted retrospectively to the date of initial application of Topic 606. The Company adopted ASU 2018-18 on January 1, 2020. The adoption of this guidance did not have a material impact on the Company's condensed consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, ("ASU 2018-13"). The new standard removes certain disclosures, modifies certain disclosures and adds additional disclosures related to fair value measurement. The new standard became effective on January 1, 2020. The adoption of this guidance did not have a material impact on the Company's condensed consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Adopted

In December 2019, the FASB issued ASU 2019-12 *Simplifying the Accounting for Income Taxes*, which eliminates the need for an organization to analyze whether the following apply in a given period: (1) exception to the incremental approach for intra-period tax allocation; (2) exceptions to accounting for basis differences when there are ownership changes in foreign investments; and (3) exceptions in interim period income tax accounting for year-to-date losses that exceed anticipated losses. ASU No. 2019-12 is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The Company does not expect that this standard will have a material effect on its consolidated financial statements.

3. Fair Value of Financial Assets and Liabilities

The following tables present information about the Company's assets that are measured at fair value on a recurring basis *(in thousands)*:

	Fair Value Measurements at March 31, 2020 Using:			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ —	$ 487	$ —	$ 487
	$ —	$ 487	$ —	$ 487

	Fair Value Measurements at December 31, 2019 Using:			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ —	$ 485	$ —	$ 485
	$ —	$ 485	$ —	$ 485

We evaluate transfers between levels at the end of each reporting period. We have no financial assets or liabilities that were classified as Level 3 at any point during the three months ended March 31, 2020.

4. Accrued Expenses and Other Current Liabilities

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

	March 31, 2020	December 31, 2019
Accrued employee compensation and benefits	$ 1,185	$ 2,500
Accrued external research and development expense	3,436	2,987
Accrued external manufacturing costs	590	750
Other	912	894
	$ 6,123	$ 7,131

5. Collaboration Agreement

In June 2015, the Company entered into a Collaboration Agreement with Seattle Genetics (the "Collaboration Agreement"). Pursuant to the terms of the Collaboration Agreement, the Company and Seattle Genetics agreed to jointly develop two product candidates incorporating our ACTR platform and Seattle Genetics' antibodies. Under the Collaboration Agreement, we conduct preclinical research and clinical development activities related to the two specified product candidates through Phase 1 clinical development, and Seattle Genetics provides the funding for those activities. Seattle Genetics will continue development activities of the two specified product candidates in collaboration with the Company unless it exercises one of its two options to opt-out from further development and commercialization activities for each of the two product candidates during specified periods subsequent to Phase 1 clinical development. In addition, the Company has an option to opt-out from further development and commercialization activities for each of the two product candidates, exercisable during a specified period subsequent to Phase 2 clinical development. If neither party exercises its options to opt-out from further development and commercialization activities for each product candidate, the parties will work together to co-develop and fund each product candidate after Phase 1 clinical development and Seattle Genetics will pay the Company specified collaboration and milestone payments upon the occurrence of specified events related to each product candidate of up to an aggregate of $400.0 million across the two active product candidates, consisting of $100.0 million of aggregate collaboration payments, $100.0 million of aggregate regulatory milestone payments and $200.0 million of aggregate commercial milestone payments. The individual collaboration payments are payable upon the occurrence of specified clinical development events and range up to $30.0 million per product candidate. The individual regulatory milestone payments are payable upon the first regulatory approval of each product in the United States and the first regulatory approval of each product in specified territories outside the United States and range up to $35.0 million per product. The individual commercial milestone payments are payable upon the achievement of specified aggregate annual net sales for each product and range up to $60.0 million per product. Through December 31, 2019, no milestones had been achieved or paid.

On January 16, 2020, the Company and Seattle Genetics entered into an agreement to terminate the Collaboration Agreement (the "Termination Agreement") effective as of January 16, 2020 (the "Termination Effective Date"), pursuant to which the Parties will cease all research, development, manufacturing and other exploitations of any and all research candidates and development candidates under the Collaboration Agreement, including, without limitation, the development candidate ACTR-BCMA and a research candidate.

Pursuant to terms of the Termination Agreement, among other things, (i) Seattle Genetics paid the Company $5.75 million, (ii) Seattle Genetics surrendered, assigned and transferred to the Company all of its right, title and interest in the 831,847 shares of the Company's common stock owned by Seattle Genetics, (iii) the Company will continue to pay all expenses for the wind-down of the ACTR-BCMA trial and (iv) Seattle Genetics paid all research and development costs incurred through the Termination Effective Date. In addition, the exclusivity provisions in the Collaboration Agreement terminate and each party will be free to research, develop and commercialize its individual intellectual property either by themselves or with third parties, subject to the intellectual property rights of the other party.

In considering all facts, including the suspension of the ATTCK-17-01 clinical trial as announced in November 2019 and the expected termination of the Collaboration Agreement in January 2020, as of December 31, 2019, the Company adjusted the estimated transaction price to be the $25.0 million upfront payment from 2015 and the total payments to be earned for preclinical research and clinical development activities through the Termination Date. During the three months ended March 31, 2020, the Company adjusted the transaction price to include the Termination Payment of $5.75 million as well as the aggregate fair value of $0.8 million as of January 16, 2020 of the 831,847 shares of common stock received. The aggregate fair value of common stock received has been included as a noncash adjustment to reconcile net loss to net cash used in operating activities within the consolidated statement of cash flows. The Company also adjusted the costs to complete the remaining performance obligations to represent our best estimate as of March 31, 2020.

Under the Collaboration Agreement and Termination Agreement, the Company recognized revenue of $7.0 million and $3.1 million for the three months ended March 31, 2020 and 2019, respectively. As of March 31, 2020 and December 31, 2019, deferred revenue of $0.8 million and $1.3 million, respectively, was recorded related to these agreements. As of March 31, 2020, the aggregate amount of the transaction price allocated to the remaining performance obligation for preclinical research and clinical development activities related to the two specified product candidates through Phase 1 is estimated to be approximately $0.8 million, which is expected to be recognized as revenue through fiscal 2020.

6. Loan and Security Agreement

The Company has a loan and security agreement (the "Loan Agreement") with Pacific Western Bank ("PWB"), entered into in 2017, which provided for term loan borrowings of up to $15.0 million through January 19, 2019. Borrowings under the Loan Agreement bear interest at a variable annual rate equal to the greater of (i) the prime rate plus 0.25% or (ii) 3.75%, and were payable over an interest-only period until January 19, 2019, followed by a 24-month period of equal monthly payments of principal and interest. All amounts outstanding as of the maturity date of January 19, 2021 become immediately due and payable. In January 2019, the Company amended the Loan Agreement to extend the available date for borrowings from January 19, 2019 to June 30, 2019 and extend the interest only period from January 19, 2019 to June 30, 2020, with the possibility of further extension to March 31, 2021 if certain equity financing considerations are met. Additionally, the loan repayment period will be over a 24-month period following the end of the interest-only period. In June 2019, the Company further amended the Loan Agreement to extend the available date for borrowings from June 30, 2019 to June 30, 2020. On July 31, 2019, the Company amended the Loan Agreement to provide for changes to the primary depository requirements with PWB.

In connection with the Loan Agreement, the Company agreed to enter into warrant agreements with PWB pursuant to which warrants will be issued to purchase a number of shares of the Company's capital stock equal to 1% of the amount of each term loan borrowing under the Loan Agreement, divided by the applicable exercise price.

No amounts have been borrowed as term loans under the Loan Agreement as of March 31, 2020. Potential borrowings under the Loan Agreement are collateralized by substantially all of the Company's assets, except for its intellectual property. Under the Loan Agreement, the Company has agreed to affirmative and negative covenants to which it will remain subject until maturity. These covenants include limitations on the Company's ability to incur additional indebtedness and engage in certain fundamental business transactions, such as mergers or acquisitions of other businesses. There are no financial covenants associated with the Loan Agreement. Events of default under the Loan Agreement include failure to make payments when due, insolvency events, failure to comply with covenants and material adverse effects with respect to the Company.

7. Stock-Based Compensation

2018 Stock Option and Incentive Plan

The Company's 2018 Stock Option and Incentive Plan, (the "2018 Plan"), which became effective on March 27, 2018 provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock units, restricted stock awards, unrestricted stock awards, cash-based awards and dividend equivalent rights. The number of shares initially reserved for issuance under the 2018 Plan was 2,800,721. Additionally, the shares of common stock that remained available for issuance under the previously outstanding 2015 Stock Incentive Plan (the "2015 Plan") became available under the 2018 Plan. The number of shares reserved for the 2018 Plan automatically increase on each January 1 by 4% of the number of shares of the Company's common stock outstanding on the immediately preceding December 31 or a lesser number of shares determined by the Company's board of directors. The shares of common stock underlying any awards that are forfeited, canceled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, repurchased or are otherwise terminated by the Company under the 2018 Plan or the 2015 Plan will be added back to the shares of common stock available for issuance under the 2018 Plan. The number of authorized shares reserved for issuance under the 2018 Plan was increased by 1,226,500 shares effective as of January 1, 2020. As of March 31, 2020, 3,612,870 shares remained available for future issuance under the 2018 Plan.

2018 Employee Stock Purchase Plan

The Company's 2018 Employee Stock Purchase Plan (the "ESPP") became effective on March 28, 2018 at which time a total of 314,000 shares of common stock were reserved for issuance. In addition, the number of shares of common stock that may be issued under the ESPP automatically increase on each January 1 through January 1, 2027, by the least of (i) 500,000 shares of common stock, (ii) 1% of the number of shares of the Company's common stock outstanding on the immediately preceding December 31 or (iii) such lesser number of shares as determined by the ESPP administrator. The number of authorized shares reserved for issuance under the ESPP was increased by 306,631 shares effective as of January 1, 2020. The first six month offering period was initiated on July 1, 2019. As of March 31, 2020, 57,011 shares have been issued under the ESPP and 864,200 shares remain available for issuance.

Stock Option Issuances

During the three months ended March 31, 2020, the Company granted service-based options to participants for the purchase of 2,001,600 shares of common stock with a weighted average exercise price of $5.28 per share and a weighted average grant-date fair value of $0.54 per share.

During three months ended March 31, 2019, the Company granted options to certain employees for the purchase of 635,000 shares of common stock with a weighted average grant-date fair value of $2.46 per share that vest under a combination of performance-based and service-based vesting conditions if certain performance vesting criteria are achieved on or before March 31, 2020. As of March 31, 2020, the Company has not recorded stock-based compensation expense as the performance conditions were not met and the options were subsequently canceled.

Stock-Based Compensation

The Company recorded stock-based compensation expense in the following expense categories of its consolidated statements of operations and comprehensive loss *(in thousands)*:

	Three Months Ended March 31,	
	2020	2019
Research and development expenses	$ 237	$ 599
General and administrative expenses	532	127
Total	$ 769	$ 726

As of March 31, 2020, total unrecognized compensation cost related to the unvested stock-based awards was $3.6 million, which is expected to be recognized over a weighted average period of 2.91 years.

8. Commitments and Contingencies

License Agreement

Under its license agreement with National University of Singapore and St. Jude Children's Research Hospital, Inc. (collectively the "Licensors") entered into in 2014, the Company is obligated to pay license maintenance fees on each anniversary of the effective date of the agreement that escalate from less than $0.1 million for each of the first seven years to $0.1 million on the eighth anniversary and each year thereafter. The Company is also obligated to make aggregate milestone payments of up to 5.5 million Singapore dollars (equivalent to approximately $3.9 million as of March 31, 2020) upon the achievement of specified clinical and regulatory milestones and to pay tiered royalties ranging in the low single-digit percentages on annual net sales of licensed products sold by the Company or its sublicensees. The royalties are payable on a product-by-product and country-by-country basis and may be reduced in specified circumstances. Additionally, under certain circumstances, the Company is obligated to pay the Licensors a percentage of amounts received from sublicensees.

The license agreement will expire on a country-by-country basis until the last to expire of the patents and patent applications covering such licensed product or service. The Licensors may terminate the license agreement within 60 days after written notice in the event of a breach of contract. The Licensors may also terminate the agreement upon written notice in the event of the Company's bankruptcy, liquidation, or insolvency. In addition, the Company has the right to terminate this agreement in its entirety at will upon 90 days' advance written notice to the Licensors. However, if the Company has commenced the commercialization of licensed products, the Company can only terminate at will if it ceases all development and commercialization of licensed products. As of March 31, 2020, no milestones have been met.

Manufacturing Commitment

As of March 31, 2020, the Company had non-cancelable minimum purchase commitments under contract manufacturing agreements for payments totaling $0.3 million over the following 12 months.

Indemnification Agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, business partners and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with members of its board of directors and its executive officers that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is, in many cases, unlimited. To date, the Company has not incurred any material costs as a result of such indemnifications. The Company does not believe that the outcome of any claims under indemnification arrangements will have a material effect on its financial position, results of operations or cash flows, and it has not accrued any liabilities related to such obligations in its consolidated financial statements as of March 31, 2020 or December 31, 2019.

Legal Proceedings

The Company is not currently party to any material legal proceedings. At each reporting date, the Company evaluates whether or not a potential loss amount or a potential range of loss is probable and reasonably estimable under the provisions of the authoritative guidance that addresses accounting for contingencies. The Company expenses as incurred the costs related to such legal proceedings.

9. Net Loss Per Share

Basic and diluted net loss per common share was calculated as follows *(in thousands, except share and per share amounts)*:

	Three Months Ended March 31,	
	2020	2019
Numerator:		
Net loss	$ (6,094)	$ (11,691)
Denominator:		
Weighted average common shares outstanding, basic and diluted	30,136,749	30,083,006
Net loss per common share, basic and diluted	$ (0.20)	$ (0.39)

The Company's potential dilutive securities have been excluded from the computation of diluted net loss per share as the effect would be anti-dilutive and would result in a reduction to net loss per share. The Company excluded the following potential common shares, presented based on amounts outstanding at each period end, from the computation of diluted net loss per share attributable to common stockholders for the periods indicated above because including them would have had an anti-dilutive effect:

	March 31,	
	2020	2019
Stock options to purchase common stock	4,105,808	4,267,697
Unvested restricted common stock units	353,485	—
	4,459,293	4,267,697

10. Retirement Plan

The Company has a defined-contribution plan under Section 401(k) of the Internal Revenue Code (the "401(k) Plan"). The 401(k) Plan covers all employees who meet defined minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. As currently established, the Company is not required to make and to date has not made any contributions to the 401(k) Plan. The Company did not make any matching contributions during the three months ended March 31, 2020 and 2019.

11. Restructuring

On March 2, 2020, the Company announced the board of directors approved plans to reduce workforce and prioritize resources towards advancing the Company's preclinical program, BOXR1030, for the treatment of solid tumor cancers. As a result, the Company reduced its headcount by approximately 60% in the quarter ended March 31, 2020.

The Company incurred restructuring charges consisting of one-time severance payments and other employee related costs of $1.7 million in the quarter ended March 31, 2020. Cash payments for employee related restructuring charges of $1.1 million were paid as of March 31, 2020. The remaining $0.6 million of payments will be paid in the second quarter of 2020. The Company recorded these restructuring charges based on each employee's role to the respective research and development and general and administrative operating expense categories of $1.3 million and $0.4 million, respectively, on its consolidated statements of operations and comprehensive loss.

A summary of the charges related to the restructuring activities as of March 31, 2020 is as follows *(in thousands)*:

	Balance at December 31, 2019	Charges	Less: Payments	Balance at March 31, 2020
Severance, benefits and relates costs	$ —	$ 1,700	$ (1,138)	$ 562
Total	$ —	$ 1,700	$ (1,138)	$ 562

These amounts are included in accounts payable, accrued expenses and other current liabilities in the March 31, 2020 consolidated balance sheet.

12. Subsequent Events

On April 8, 2020, the Company launched a tender offer by the Company to certain employee optionholders, subject to specified conditions, to exchange some or all of their outstanding options to purchase shares of common stock, par value $0.001 per share, for equivalent number of new options to purchase shares of the Company's common stock. As disclosed in the Company's Definitive Proxy Statement filed with the Securities and Exchange Commission on February 18, 2020, the Company's chief executive officer, and members of the Company's board of directors are not eligible to participate in this tender offer.

Pursuant to the Exchange Offer, all eligible employees elected to exchange outstanding options, and the Company accepted for cancellation options to purchase an aggregate of 2,169,674 shares of the Company's common stock. On May 7, 2020, immediately following the expiration of the Exchange Offer, the company granted new options to purchase 2,169,674 shares of common stock, pursuant to the terms of the Exchange Offer and the Company's 2018 Stock Option and Incentive Plan. In relation to the Exchange Option, in the quarter ending June 30, 2020, the Company will recognize $0.1 million of compensation cost immediately related to the incremental fair value of vested stock-based awards. The incremental fair value of unvested stock-based awards that will be recognized prospectively over the remaining requisite service period is $0.1 million.

In April 2020, our board of directors unanimously approved an amendment to our certificate of incorporation, which would allow the board to effect a reverse stock split, or Reverse Stock Split, of all issued and outstanding shares of our common stock, at a ratio ranging from 1-for-5 to 1-for-10, inclusive, subject to shareholder approval. On April 29, 2020, the Company filed a Definitive Proxy Statement which includes the proposal that our stockholders approve the amendment to our certificate of incorporation to effect the Reverse Stock Split. The stockholders will vote on the proposal at the annual meeting on June 9, 2020. All disclosures of common shares and per common share data in the accompanying interim financial statements and related notes have not been adjusted to reflect the Reverse Stock Split.

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 financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors, including but not limited to those set forth under the caption "Risk Factors in this Quarterly Report on Form 10-Q and in our Annual Report on Form 10-K for the year ended December 31, 2019.

Overview

We are a biopharmaceutical company focused on developing curative cell therapies for solid tumors. Our novel proprietary technology includes our Bolt-On Chimeric Receptor ("BOXR") platform, designed to discover "bolt-on" transgenes to improve the functionality of engineered T cells and overcome resistance of the solid tumor microenvironment (TME) to T cell attack. We have also developed product candidates using our novel proprietary technology, Antibody-Coupled T cell Receptor (ACTR), an autologous engineered T-cell investigational therapy that is designed to combine the cell-killing ability of T cells and the tumor-targeting ability of co-administered antibodies to exert potent antitumor immune responses.

On March 2, 2020, we announced plans to prioritize resources towards advancing our preclinical program, BOXR1030, for the treatment of solid tumor cancers along with plans to reduce our current workforce by 43 employees (approximately 60 percent) to focus efforts on the BOXR1030 program and BOXR platform. BOXR1030 expresses a glypican-3 (GPC3) targeted chimeric antigen receptor (CAR) and incorporates the novel transgene glutamic-oxaloacetic transaminase 2 (GOT2) to potentially improve T cell function in the TME by enhancing T cell metabolism. Our BOXR platform led to the discovery of the utility of GOT2, a critical enzyme for cell survival, proliferation and differentiation. We have initiated formal preclinical development activities, including preclinical safety testing and GMP process development, to support submitting an investigational new drug (IND) application to the U.S. Food & Drug Administration (FDA) for BOXR1030 in late 2020. We plan to continue to leverage our BOXR discovery platform to create and develop new BOXR product candidates to address a broad range of solid tumor cancers.

As part of the prioritization towards BOXR1030 and BOXR platform, we will be concluding our ACTR707 clinical trials, including the Phase 1 trial (ATTCK-20-03) in combination with rituximab in patients with relapsed or/refractory CD20+ non-Hodgkin lymphoma (r/r NHL) and the Phase 1 trial (ATTCK-34-01) in combination with trastuzumab to treat patients with advanced HER2+ solid tumor cancers. We previously announced plans to conclude our ACTR087 clinical trials, including the Phase 1 trial (ATTCK-17-01) in combination with Seattle Genetics' SEA-BCMA antibody for r/r multiple myeloma and the Phase 1 trial (ATTCK-20-2) in combination with rituximab in r/r NHL. We anticipate concluding these Phase 1 trials during the remainder of this year and into early 2021.

We are focused on developing curative cell therapies through the use of immuno-oncology, or a patient's immune system, to treat cancer. We are developing a pipeline of adoptive cell therapies, which are one immuno-oncology approach for cancer treatment. Adoptive cell therapy starts with the isolation of a specific type of immune cells, T cells, from a patient, often followed by genetic modification of these T cells outside the patient's body. Modified immune cells are then re-introduced into the patient to treat disease. Our vision is to use our BOXR platform and derived product candidates to transform cancer treatment and deliver patient cures in many different solid tumor cancers, improving upon current therapies.

The use of Chimeric Antigen Receptor T cells (CAR-T) are one type of adoptive cell therapy. While demonstrating efficacy in hematologic cancers, demonstrating safety and efficacy with CAR-T in solid tumor cancers has been more challenging. Severe side effects, such as cytokine release syndrome (CRS) and neurotoxicity, have been observed in some patients and for certain CAR-Ts, on-target, off-tumor effects have led to patient deaths. In addition, solid tumor cells can create a hostile microenvironment by stimulating the production of inhibitory factors, recruiting immune suppressor cells, and exhausting T-cells due to chronic stimulation that can block the body's immune system, including T cells, from attacking tumor cells. Another way that solid tumors create these harsh microenvironments is by competing for metabolites, essentially starving T cells of critical nutrients and thereby reducing their ability to attack tumor cells. These toxicities and specific solid tumor challenges create a need to develop better cell therapies. We have engineered our BOXR platform technology, and derived product candidates, to improve the functionality of T cells and more effectively target and kill cancer cells.

Our BOXR platform is designed to discover and incorporate novel "bolt-on" transgenes to be co-expressed with CARs, a T-cell receptor, or ACTR, to help T cells survive longer and perform better in the solid tumor microenvironment. BOXR candidates consist of two main components: 1) A targeting receptor that directs the T cell to attack tumor cells, which may be a traditional CAR receptor, a T-cell receptor, or Unum's ACTR receptor, and 2) A novel "bolt-on" transgene that is designed to improve the intrinsic function of the T cell. Once discovered, BOXR transgenes are designed to be incorporated into several different types of therapeutic T cells, including both ACTR T cells and CAR-T cells, to impart new functionality to T cells. Our BOXR platform objectives include expanding the scope of biological mechanisms and transgenes in our proprietary BOXR library, enabling BOXR bolt-on applications for a broad range of immune cell therapies, including both autologous and allogeneic approaches, and advancing new BOXR product candidates into the clinic.

We have an emerging pipeline in solid tumor cancers that includes that includes four BOXR programs in preclinical development. Our priorities in solid tumors include advancing BOXR1030 towards the clinic with an anticipated IND filing in late 2020; and expanding our BOXR platform to accelerate discovery of new product candidates across a broad range of immune cell therapies, including both autologous and allogeneic approaches.

Our most advanced program from our BOXR platform, BOXR1030, is engineered to specifically target tumor cells expressing an oncofetal antigen called glypican-3, also known as GPC3. BOXR1030 expresses a GPC3 targeted CAR and incorporates the bolt-on transgene GOT2 to improve T cell function in the TME by enhancing T cell metabolism. Preclinical data with BOXR1030 was presented at the Society for Immunotherapy of Cancer (SITC) Annual Meeting in November 2019. In preclinical studies, BOXR1030 T cells were resistant to suppressive TME-like conditions, showing improved T cell proliferation under both hypoxic and low glucose conditions compared with control GPC3+ CAR-T cells. In vivo, BOXR1030 demonstrated superior activity compared to the parental CAR-T with treated animals achieving complete tumor regressions. Tumor infiltrating lymphocytes isolated from the tumors of treated animals revealed that BOXR1030 cells were more resistant to dysfunction and had fewer markers of exhaustion as compared to the control CAR-T cells. We have initiated formal preclinical development activities, including preclinical safety testing and GMP process development, to support filing of an investigational new drug (IND) application in late 2020.

Since our inception in 2014, we have focused significant efforts and financial resources on building our ACTR and BOXR platforms, establishing and protecting our intellectual property portfolio, conducting research and development of our product candidates, manufacturing drug product material for use in preclinical studies and clinical trials, staffing our company, and raising capital. We do not have any products approved for sale and have not generated any revenue from product sales. To date, we have funded our operations primarily with proceeds from the sales of preferred stock, our initial public offering of common stock and Concurrent Private Placement (as further discussed below), and payments received under our Collaboration Agreement with Seattle Genetics. On April 3, 2018, we completed our initial public offering (IPO) of our common stock and issued and sold 5,770,000 shares of our common stock at a public offering price of $12.00 per share, resulting in net proceeds of approximately $61.5 million, after deducting underwriting discounts and commissions and other offering costs. In addition, we completed a Concurrent Private Placement of $5.0 million of shares of common stock at the public offering price of $12.00 per share, or 416,666 shares, with Seattle Genetics (“Concurrent Private Placement”).

In connection with our IPO, we issued and sold an additional 215,000 shares of our common stock on April 25, 2018, pursuant to the underwriters’ partial exercise of their option to purchase additional shares of common stock at the public offering price of $12.00 and received additional net proceeds of $2.4 million, after deducting underwriting discounts and commissions.

On April 1, 2019, we filed a shelf registration statement on Form S-3 with the SEC. The shelf registration statement allows us to sell from time-to-time up to $150.0 million of common stock, preferred stock, debt securities, warrants, or units comprised of any combination of these securities, for its own account in one or more offerings. The terms of any offering under the shelf registration statement will be established at the time of such offering and will be described in a prospectus supplement filed with the SEC prior to the completion of any such offering.

Additionally, on April 1, 2019 and pursuant to the Form S-3, we entered into a Sales Agreement (the “Sales Agreement”) with Cowen and Company, LLC (“Cowen”), pursuant to which we may issue and sell, from time to time, shares of our common stock having an aggregate offering price of up to $50.0 million through Cowen as the sales agent. As of March 31, 2020, no shares have been sold under this Sales Agreement.

On March 19, 2020, we entered into a Purchase Agreement with Lincoln Park Capital Fund, LLC (“LPC”), pursuant to which we may elect to sell to LPC up to $25.0 million in shares of our common stock, subject to certain limitations and conditions set forth in the Purchase Agreement. Pursuant to the Purchase Agreement, we issued 726,382 shares of common stock to LPC as a commitment fee.

On March 26, 2020, we announced that it would be exploring strategic alternatives in order to maximize stockholder value and that we had engaged Ladenburg Thalmann & Co. Inc. to act as our strategic financial advisor to assist in the strategic review process. Despite undertaking this process, we may not be successful in completing a transaction, and, even if a strategic transaction is completed, it ultimately may not deliver the anticipated benefits or enhance stockholder value.

Since our inception, we have incurred significant operating losses. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our product candidates. Our net losses were $6.1 million for the three months ended March 31, 2020. As of March 31, 2020, we had an accumulated deficit of $130.0 million. We expect to continue to incur significant expenses and operating losses for at least the next several years. We expect that our expenses and capital requirements will increase substantially in connection with our ongoing activities, particularly if and as we:

- continue additional clinical trials for our product candidates;
- continue to discover and develop additional product candidates;
- acquire or in-license other product candidates and technologies;

- maintain, expand, and protect our intellectual property portfolio;
- hire additional clinical, scientific, and commercial personnel;
- establish manufacturing capabilities in-house;
- establish a commercial manufacturing source and secure supply chain capacity sufficient to provide commercial quantities of any product candidates for which we may obtain regulatory approval;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- establish a sales, marketing, and distribution infrastructure to commercialize any products for which we may obtain regulatory approval; and
- add operational, financial, and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts, as well as to support our transition to a public reporting company.

We will not generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for our product candidates. If we obtain regulatory approval for any of our product candidates and do not enter into a commercialization partnership, we expect to incur significant expenses related to developing our internal commercialization capability to support product sales, marketing, and distribution.

As a result, we will need substantial additional funding 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 marketing, distribution, or licensing arrangements. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back, or discontinue the development and commercialization of one or more of our product candidates.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve or maintain profitability. Even if we are able to generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of March 31, 2020, we had cash and cash equivalents of $29.6 million and available borrowings under our loan and security agreement of $15.0 million. We expect that our current cash and cash equivalents will be sufficient to fund our operating expenses and capital expenditure requirements into mid-2021, before considering available borrowings under our loan and security agreement. In accordance with the requirements of Accounting Standards Update, or ASU, No. 2014-15, Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern (Accounting Standards Codification, or ASC, Subtopic 205-40), or ASC 205-40, we have determined that there is substantial doubt about our ability to continue as a going concern. See “—Liquidity and Capital Resources”.

The COVID-19 Pandemic

In March 2020, the World Health Organization declared the outbreak of a novel strain of coronavirus, or COVID-19, as a pandemic, which continues to spread throughout the United States and worldwide. We could be materially and adversely affected by the risks, or the public perception of the risks, related to an epidemic, pandemic, outbreak, or other public health crisis, such as the recent outbreak of COVID-19. We are monitoring the global outbreak and spread of COVID-19 and have taken steps to identify and mitigate the adverse impacts on, and risks to, our business posed by its spread and actions taken by governmental and health authorities to address the COVID-19 pandemic. The spread of COVID-19 has caused us to modify our business practices, including implementing a work-from-home policy for all employees who are able to perform their duties remotely and restricting all nonessential travel, and we expect to continue to take actions as may be required or recommended by government authorities or as we determine are in the best interests of our employees, the patients we serve and other business partners in light of COVID-19. Given the fluidity of the COVID-19 pandemic however, we do not yet know the full extent of the potential impact of COVID-19 on our business operations. The ultimate extent of the impact of any epidemic, pandemic, outbreak, or other public health crisis on our business, financial condition and results of operations will depend on future developments, which are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of such epidemic, pandemic, outbreak, or other public health crisis and actions taken to contain or prevent the further spread, among others. Accordingly, we cannot predict the extent to which our business, financial condition and results of operations will be affected. We will continue to work diligently with our partners and stakeholders to continue advancing our product candidate under regulatory review as well as in our clinical studies to the extent safe to do so for patients, caregivers and healthcare practitioners, and ensuring the continuity of our manufacturing and supply chain. For additional information related to the potential impact of COVID-19 on our business, please read Part II-Item 1A, “Risk Factors” of this Quarterly Report on Form 10-Q.

Components of Our Results of Operations

Revenue

To date, we have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products in the near future. If our development efforts for our product candidates are successful and result in regulatory approval or additional license or collaboration agreements with third parties, we may generate revenue in the future from a combination of product sales or payments from additional collaboration or license agreements that we may enter into with third parties. We expect that our revenue for the next several years will be derived primarily from any collaborations that we may enter into in the future.

In June 2015, we entered into a Collaboration Agreement with Seattle Genetics (the "Collaboration Agreement"). Pursuant to the terms of the Collaboration Agreement, Unum and Seattle Genetics agreed to jointly develop two product candidates incorporating our ACTR platform and Seattle Genetics' antibodies. Under the Collaboration Agreement, we conduct preclinical research and clinical development activities related to the two specified product candidates through Phase 1 clinical development, and Seattle Genetics provides the funding for those activities. As a result of the Collaboration Agreement with Seattle Genetics, we recognized revenue of $7.0 million and $3.1 million for the three months ended March 31, 2020 and 2019, respectively, related to the upfront payment received from Seattle Genetics under our Collaboration Agreement as well as reimbursements of research and development costs. In November 2019, Unum and Seattle Genetics suspended further dose-escalation of the ATTCK-17-01 trial and associated research activities and are evaluating next steps for the programs. See Note 5 to the condensed consolidated financial statements herein for further discussion related to this suspension.

On January 16, 2020, Unum and Seattle Genetics announced an agreement to terminate the ATTCK-17-01 Phase 1 clinical trial and other research activities under the collaboration. Pursuant to terms of the Termination Agreement, among other things, (i) Seattle Genetics paid the Company $5.75 million, (ii) Seattle Genetics surrendered, assigned and transferred to Unum all of its right, title and interest in the 831,847 shares of our common stock owned by Seattle Genetics, (iii) we will continue to be responsible for and pay all expenses for the wind-down of the ACTR-BCMA trial and (iv) Seattle Genetics paid all research and development costs incurred through the Termination Effective Date. In addition, the exclusivity provisions in the Collaboration Agreement terminate and each party will be free to research, develop and commercialize their individual intellectual property (either by themselves or with third parties, subject to the intellectual property rights of the other party.

In considering all facts known, including the suspension of the ATTCK-17-01 clinical trial as announced in November 2019 and the expected termination of the Collaboration Agreement in January 2020, as of December 31, 2019, the Company adjusted the estimated transaction price to be the $25.0 million upfront payment from 2015 and the total payments to be earned for preclinical research and clinical development activities through the Termination Date. During the three months ended March 31, 2020, the Company adjusted the transaction price to include the Termination Payment of $5.75 million as well as the aggregate fair value of $0.8 million as of January 16, 2020 of the 831,847 shares of common stock received. The Company also adjusted the estimated costs to complete the remaining performance obligation to represent our best estimate as of March 31, 2020.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our drug discovery efforts, and the development of our product candidates, which include:

- employee-related expenses, including salaries, related benefits, and stock-based compensation expense for employees engaged in research and development functions;
- expenses incurred in connection with the preclinical and clinical development of our product candidates, including under agreements with third parties, such as consultants and contractors and contract research organizations (CROs);
- the cost of manufacturing drug products for use in our preclinical studies and clinical trials, including under agreements with third parties, such as consultants and contractors and contract manufacturing organizations (CMOs);
- laboratory supplies and animal care;
- facilities, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities and insurance; and
- payments made under third-party licensing agreements.

Our research and development costs include costs for the development of product candidates that were developed Seattle Genetics and for which we have received reimbursement as specified in our Collaboration Agreement. 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 related goods are delivered or the services are performed.

Our direct research and development expenses are tracked on a program-by-program basis and consist of costs, such as fees paid to consultants, contractors, CMOs, and CROs in connection with our preclinical and clinical development activities. We do not allocate employee costs, costs associated with our discovery efforts, laboratory supplies, and facilities, including depreciation or other indirect costs, to specific product development programs because these costs are deployed across multiple product development programs and, as such, are not separately classified.

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will increase substantially in connection with our planned clinical and preclinical development activities in the near term and in the future. At this time, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our product candidates. The successful development and commercialization of our product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with product development and commercialization, including the following:

- the timing and progress of preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs we decide to pursue;
- the progress of the development efforts of parties with whom we have entered, or may enter, into collaboration arrangements;
- our ability to maintain our current research and development programs and to establish new ones;
- our ability to establish new licensing or collaboration arrangements;
- the successful completion of clinical trials with safety, tolerability, and efficacy profiles that are satisfactory to the U.S. Food and Drug Administration (FDA) or any comparable foreign regulatory authority;
- the receipt of regulatory approvals from applicable regulatory authorities;
- the success in establishing and operating a manufacturing facility, or securing manufacturing supply through relationships with third parties;
- our ability to obtain and maintain patents, trade secret protection, and regulatory exclusivity, both in the United States and internationally;
- our ability to protect our rights in our intellectual property portfolio;
- the commercialization of our product candidates, if and when approved;
- the acceptance of our product candidates, if approved, by patients, the medical community, and third-party payors;
- competition with other products; and
- a continued acceptable safety profile of our therapies following approval.

A change in the outcome of any of these 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. We may never succeed in obtaining regulatory approval for any of our product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related costs, including stock-based compensation, for personnel in executive, finance, and administrative functions. General and administrative expenses also include direct and allocated facility-related costs as well as professional fees for legal, patent, consulting, investor and public relations, accounting, and audit services. We anticipate that our general and administrative expenses will decrease in the future as we have reduced our headcount to prioritize resourced towards advancing BOXR1030.

Other Income (Expense)

Interest Income

Interest income consists of interest earned on our cash equivalents and marketable securities balances. Our interest income has not been significant due to low interest earned on invested balances.

Other Income, Net

Other income, net consists of miscellaneous income and expense unrelated to our core operations, primarily income from subleasing a portion of our headquarters facilities.

Income Taxes

Since our inception, we have not recorded any current or deferred tax benefit for the net losses we have incurred in each year or for our earned research and development tax credits, as we believe, based upon the weight of available evidence, that it is more likely than not that all of our net operating loss carryforwards and tax credits will not be realized. As of December 31, 2019, we had U.S. federal and state net operating loss carryforwards of $109.8 million and $110.8 million, respectively, which may be available to offset future income tax liabilities and begin to expire in 2035. Of the 2019 federal net operating loss, $79.6 million is available to be carried forward indefinitely but can only offset 80% of taxable income per year. As of December 31, 2019, we also had U.S. federal and state research and development tax credit carryforwards of $5.3 million and $1.6 million, respectively, which may be available to offset future income tax liabilities and begin to expire in 2034 and 2030, respectively. As of December 31, 2019, the Company has Massachusetts investment tax credits of $0.1 million which generally have a 3 year carryover period.

We have recorded a full valuation allowance against our net deferred tax assets at each balance sheet date.

Results of Operations

Comparison of the three months ended March 31, 2020 and 2019

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

	Three Months Ended March 31,		
	2020	2019	Change
	(in thousands)		
Collaboration revenue	$ 7,031	$ 3,053	$ 3,978
Operating expenses:			
Research and development	9,498	12,403	(2,905)
General and administrative	3,674	2,491	1,183
Total operating expenses	13,172	14,894	(1,722)
Loss from operations	(6,141)	(11,841)	5,700
Other income (expense):			
Interest income	47	150	(103)
Total other income (expense), net	47	150	(103)
Net loss	$ (6,094)	$ (11,691)	$ 5,597

Collaboration Revenue

Collaboration revenue recognized during the three months ended March 31, 2020 and 2019 was $7.0 million and $3.1 million, respectively, this increase due to the recognition of revenue from payments received from Seattle Genetics under our recently terminated Collaboration Agreement. We recognize revenue from the upfront payment we received as well as ongoing reimbursements of research and development costs from Seattle Genetics by applying the costs-to-cost method over the performance period. Collaboration revenue fluctuates based upon our pattern of performance for each performance obligation and changes in estimated transaction price and costs to complete our performance obligations.

On January 16, 2020, the Company and Seattle Genetics entered into an agreement to terminate the Collaboration Agreement (the “Termination Agreement”) effective as of January 16, 2020 (the “Termination Effective Date”), pursuant to which the parties will cease all research, development, manufacturing and other exploitations of any and all research candidates and development candidates under the Collaboration Agreement, including, without limitation, the development candidate ACTR-BCMA and a research candidate.

Pursuant to terms of the Termination Agreement, among other things, (i) Seattle Genetics paid the Company $5.75 million and (ii) Seattle Genetics surrendered, assigned and transferred to the Company all of its right, title and interest in the 831,847 shares of the Company’s common stock owned by Seattle Genetics.

The Company adjusted the estimated transaction price to be the $25.0 million upfront payment from 2015 and the total payments to be earned for preclinical research and clinical development activities through the Termination Date. During the three months ended March 31, 2020, the Company adjusted the transaction price to include the Termination Payment of $5.75 million as well as the aggregate fair value of $0.8 million as of January 16, 2020 of the 831,847 shares of common stock received. The Company also adjusted the costs to complete the remaining performance obligations to represent our best estimate as of March 31, 2020. Under the Collaboration Agreement and termination Agreement, the Company recognized revenue of $7.0 million and $3.1 million for the three months ended March 31, 2020 and 2019, respectively. The revenue in March 2020 includes the termination payments previously discussed.

Research and Development Expenses

	Three Months Ended March 31,		
	2020	2019	Change
	(in thousands)		
Direct research and development expenses:			
Hematologic Programs	$ 1,668	$ 4,614	$ (2,946)
Solid Tumor Programs	505	245	$ 260
Unallocated expenses:			
Personnel related (including stock-based compensation)	4,589	3,778	$ 811
Laboratory supplies, facility related and other	2,736	3,766	(1,030)
Total research and development expenses	$ 9,498	$ 12,403	$ (2,905)

Research and development expenses decreased to $9.5 million for the three months ended March 31, 2020 from $12.4 million for the three months ended March 31, 2019. The overall decrease in research and development expense during the three months ended March 31, 2020 compared to the three months ended March 31, 2019 primarily relates to the decrease in the hematologic programs. Direct research and development costs related to our hematologic programs have decreased $2.9 million in the current year, primarily related to deprioritizing these programs. The direct research and development costs related to our solid tumor programs increased by $0.3 million related to our ACTR707 used in combination with trastuzumab program. On March 2, 2020, as part of our effort to conserve resources for BOXR1030, Unum announced that we are concluding our ACTR707 clinical trials.

The increase in personnel-related costs of $0.8 million included in unallocated expenses was primarily a result of severance paid to employees during the three months ended March 31, 2020. The decrease in laboratory supplies, facility-related, and other costs of $1.0 million is primarily due to the conclusion of our ACTR707 clinical trials.

General and Administrative Expenses

General and administrative expenses for the three months ended March 31, 2020 were $3.7 million, compared to $2.5 million for the three months ended March 31, 2019. The increase in general and administrative expenses was primarily due to increased personnel costs of $1.0 million and increased professional and consultant fees and facility and other costs of $0.2 million. The increase in personnel-related costs was primarily due to severance paid to employees during the three months ended March 31, 2020. The increase in professional and consulting fees and facility and other costs was primarily due to an increase in various advisory and consulting fees.

Interest Income

Interest income for the three months ended March 31, 2020 and 2019 was less than $0.1 million and $0.2 million, respectively. Interest income decreased due to lower invested balances in the current year compared to the prior period.

Liquidity and Capital Resources

The COVID-19 outbreak created various impacts to our financials as a result of taking necessary precautions for essential personnel to operate safely both in person as well as remotely. Costs incurred include items like incremental payroll costs, consulting support, IT infrastructure and facilities related costs. The estimated impact of COVID-19 for the year is currently unknown. The final impact may vary based on the duration of the current social and economic conditions. We do not currently believe the accumulated costs will present a material impact to our financial liquidity or position. The extent to which the COVID-19 pandemic continues it may materially impact the Company’s financial condition, liquidity or results of operations in the future.

Since our inception, we have incurred significant operating losses. We have generated limited revenue to date from funding arrangements with our collaboration partner. We have not yet commercialized any of our product candidates and we do not expect to generate revenue from sales of any product candidates for several years, if at all. Prior to our IPO, we had funded our operations with proceeds from the sales of preferred stock and payments received under the Collaboration Agreement.

On April 3, 2018, we completed our IPO, and issued and sold 5,770,000 shares of common stock at a public offering price of $12.00 per share, resulting in net proceeds of $61.5 million after deducting underwriting discounts and commissions and other offering costs. We also completed the Concurrent Private Placement and sold 416,666 shares of common stock at a public offering price of $12.00 per share, resulting in proceeds of $5.0 million. On April 25, 2018, we issued and sold an additional 215,000 shares of our common stock at the IPO price of $12.00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock, resulting in additional net proceeds of $2.4 million after deducting underwriting discounts and commissions.

On March 19, 2020, we entered into a Purchase Agreement with LPC, pursuant to which we may elect to sell to LPC up to $25,000,000 in shares of our Common Stock, subject to certain limitations and conditions set forth in the Purchase Agreement. Pursuant to the Purchase Agreement, we issued 726,382 shares of Common Stock to LPC as a commitment fee.

As of March 31, 2020, we had cash and cash equivalents of $29.6 million and available borrowings under our loan and security agreement of $15.0 million.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented:

	Three Months Ended March 31,	
	2020	2019
	(in thousands)	
Cash used in operating activities	$ (7,893)	$ (11,518)
Cash provided by investing activities	—	14,950
Cash provided by financing activities	73	11
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (7,820)	$ 3,443

Operating Activities

During the three months ended March 31, 2020, operating activities used $7.9 million of cash, primarily resulting from our net loss of $6.1 million and from net cash used by changes in our operating assets and liabilities of $2.1 million, partially offset by net non-cash charges of $0.3 million. Net cash used by changes in our operating assets and liabilities for the three months ended March 31, 2020 consisted primarily of a $3.6 million decrease in accounts payable and accrued expenses and other current liabilities and a $0.5 million decrease in deferred revenue, partially offset by $2.0 million decrease in accounts receivable.

During the three months ended March 31, 2019, operating activities used $11.5 million of cash, primarily resulting from our net loss of $11.7 million and from net cash used by changes in our operating assets and liabilities of $0.8 million, partially offset by net non-cash charges of $1.0 million. Net cash used by changes in our operating assets and liabilities for the three months ended March 31, 2019 consisted primarily of a $1.0 million decrease in deferred revenue, a $0.4 million increase in accounts receivable and a $0.4 million increase in other assets, all partially offset by a $1.0 million increase in accounts payable and accrued expenses and other current liabilities.

Investing Activities

During the three months ended March 31, 2020, net cash from investing activities was nil. During the three months ended March 31, 2019, net cash provided by investing activities of $15.0 million, primarily consisted of maturities and sales of marketable securities.

Financing Activities

During the three months ended March 31, 2020, net used in financing activities was less than $0.1 million which consisted of the proceeds from the issuance of common stock upon stock option exercises and from the issuance of common stock under the Employee Stock Purchase Plan. During the three months ended March 31, 2019, net cash provided by financing activities was less than $0.1 million from the proceeds from the issuance of common stock upon stock option exercises.

Loan and Security Agreement

In January 2017, we entered into a loan and security agreement (the Loan Agreement) with Pacific West Bank (PWB), which provides for term loan borrowings of up to $15.0 million through January 19, 2019. Borrowings under the Loan Agreement bear interest at a variable annual rate equal to the greater of (i) the prime rate plus 0.25% or (ii) 3.75%, and are payable over an interest-only period until January 19, 2019, followed by a 24-month period of equal monthly payments of principal and interest. All amounts outstanding as of the maturity date of January 19, 2021 become immediately due and payable.

In January 2019, we amended the Loan Agreement to extend the available date for borrowings from January 19, 2019 to June 30, 2019 and extend the interest only period from January 19, 2019 to June 30, 2020, with the possibility of further extension to March 31, 2021 if certain equity financing considerations are met. Additionally, the loan repayment period will be over a 24-month period following the end of the interest-only period. We further amended the Loan Agreement in June 2019 to extend the available date for borrowings to June 30, 2020. On July 31, 2019, the Company amended the Loan Agreement t to provide for changes to the primary depository requirements with PWB. No amounts had been borrowed as term loans under the Loan Agreement as of March 31, 2020 and have no plans to borrow from the term loan through the remaining duration of the Loan Agreement.

Funding Requirements

We expect our expenses to increase in connection with our ongoing activities, particularly as we advance the preclinical activities, wind-down our current clinical trials and potential clinical development of our product candidates. The timing and amount of our operating expenditures will depend largely on:

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

We believe that our existing cash and cash equivalents of $29.6 million as of March 31, 2020 will enable us to fund our operating expenses and capital expenditure requirements into mid-2021. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. In accordance with the requirements of ASC 205-40, based on our recurring losses and cash outflows from operations, since our inception, an expectation of continuing operating losses and cash outflows from operations for the foreseeable future we have concluded that there is substantial doubt about our ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. There is no assurance that we will be successful in obtaining benefits from cost saving measures implemented or planned or in obtaining additional financing on terms acceptable to us, if at all, nor is it considered probable under the accounting standards. As such, under the requirements of ASC 205-40, management may not consider the potential for future capital raises or management plans to reduce costs that are not considered probable in their assessment of our ability to meet our obligations.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances, and marketing, distribution, or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures, or declaring dividends. If we raise additional funds through collaborations, strategic alliances, or marketing, distribution, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce, or terminate our research, product development, or future commercialization efforts, or grant rights to develop and market drug candidates that we would otherwise prefer to develop and market ourselves.

Critical Accounting Policies and Significant Judgments and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. The preparation of our consolidated financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that of our critical accounting policies described under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates” in our Annual Report on Form 10-K, the following involve the most judgment and complexity:

- revenue recognition of collaboration agreements;
- accrued research and development expenses; and
- stock-based compensation.

Accordingly, we believe the policies set forth above are critical to fully understanding and evaluating our financial condition and results of operations. If actual results or events differ materially from the estimates, judgments and assumptions used by us in applying these policies, our reported financial condition and results of operations could be materially affected.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2 to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012 (JOBS Act) permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have irrevocably elected to “opt out” of this provision and, as a result, we will comply with new or revised accounting standards when they are required to be adopted by public companies that are not emerging growth companies.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

We are a smaller reporting company, as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended, for this reporting period and are not required to provide the information required under this item.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our President and Chief Executive Officer and our Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2020. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or 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, 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, 2020, our President and Chief Executive Officer and our Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three months ended March 31, 2020 that has materially affected, or is 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

Other than as described below, there have been no material changes from our risk factors described in our annual report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on March 26, 2020. The risks described in our Form 10-K are not the only risks facing our Company. Additional risk and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results.

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

The trading price of our common stock is likely to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this Annual Report on Form 10-K, these factors include:

- the commencement, enrollment, or results of the clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- adverse results or delays in clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial, or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval of our product candidates;
- changes in laws or regulations applicable to our products, including but not limited to clinical trial requirements for approvals;
- adverse developments concerning our manufacturers;
- our inability to obtain adequate product supply for any approved product or inability to do so at acceptable prices;
- our inability to establish collaborations if needed;
- our failure to commercialize our product candidates;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our product candidates;
- introduction of new products or services offered by us or our competitors;
- announcements of significant acquisitions, strategic partnerships, joint ventures, or capital commitments by us or our competitors;
- our ability to effectively manage our growth;
- the size and growth of our initial cancer target markets;
- our ability to successfully treat additional types of cancers or at different stages;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or immunotherapy in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;

- changes in the market valuations of similar companies;
- overall performance of the equity markets;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock;
- changes in accounting practices;
- ineffectiveness of our internal controls;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or stockholder litigation;
- general political and economic conditions; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and The Nasdaq Global Select Market and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. If the market price of our common stock does not exceed your purchase price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which would harm our business, operating results, or financial condition.

On December 31, 2019, we received a letter from the Listing Qualifications Department (the "Staff") of the Nasdaq Stock Market ("Nasdaq") notifying us that, for the last 30 consecutive business days, our common stock had not maintained a minimum closing bid price of $1.00 per share (the "Minimum Bid Price Requirement") pursuant to Nasdaq Listing Rule 5450(a)(1). The Nasdaq letter does not result in the immediate delisting of our common stock from The Nasdaq Global Select Market.

In accordance with Nasdaq Listing Rule 5810(c)(3)(A) (the "Compliance Period Rule"), we have been provided an initial period of 180 calendar days to regain compliance with the Minimum Bid Price Requirement, which has been tolled as of April 16, 2020 and will restart on July 1, 2020. We now have until September 11, 2020 to regain compliance with the Minimum Bid Price Requirement (the "Compliance Date"). If, at any time during this 180-day period, the closing bid price for our common stock closes at $1.00 or more per share for a minimum of 10 consecutive business days, as required under the Compliance Period Rule, the Staff will provide written notification to us that we comply with the Minimum Bid Price Requirement and the common stock will continue to be eligible for listing on The Nasdaq Global Select Market.

If we do not regain compliance with the Minimum Bid Price Requirement by the Compliance Date, then, under Nasdaq Listing Rule 5810(c)(3)(A)(i), we may transfer to The Nasdaq Capital Market, provided that we meet the continued listing requirement for the market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, except for the Minimum Bid Price Requirement, and we would need to provide written notice to Nasdaq of our intention to cure the deficiency during the additional compliance period. Following a transfer to The Nasdaq Capital Market, under Nasdaq Listing Rule 5810(c)(3)(A)(ii), we may be eligible for an additional 180 calendar day compliance period.

If we are not eligible for the additional compliance period or it appears to the Staff that we will not be able to cure the deficiency or if the Staff exercises its discretion to not provide such additional compliance period, the Staff will provide written notice to us that our common stock will be subject to delisting. At that time, we may appeal the Staff's delisting determination to a Nasdaq Hearing Panel (the "Panel"). We expect that our stock would remain listed pending the Panel's decision. There can be no assurance that, if we do appeal the Staff's delisting determination to the Panel, such appeal would be successful.

We intend to monitor the closing bid price of its common stock and may, if appropriate, consider available options to regain compliance with the Minimum Bid Price Requirement. However, there can be no assurance that we will be able to regain compliance with the Minimum Bid Price Requirement, transfer to The Nasdaq Capital Market, secure a second period of 180 days to regain compliance, or maintain compliance with any of the other Nasdaq continued listing requirements.

The current pandemic of the novel coronavirus, or COVID-19, and the future outbreak of other highly infectious or contagious diseases, could seriously harm our development efforts, increase our costs and expenses and have a material adverse effect on our business, financial condition and results of operations.

Broad-based business or economic disruptions could adversely affect our ongoing or planned research and development activities. For example, in December 2019, an outbreak of a novel strain of coronavirus originated in Wuhan, China, and has since spread to a number of other countries, including the U.S. To date, the COVID-19 pandemic has caused significant disruptions to the U.S. and global economy and has contributed to significant volatility and negative pressure in financial markets. The global impact of the outbreak is continually evolving and, as additional cases of the virus are identified, many countries, including the U.S., have reacted by instituting quarantines, restrictions on travel and mandatory closures of businesses. Certain states and cities, including where we or the third parties with whom we engage operate, have also reacted by instituting quarantines, restrictions on travel, "shelter in place" rules, restrictions on types of business that may continue to operate, and/or restrictions on the types of construction projects that may continue.

The extent to which the COVID-19 pandemic, or the future outbreak of any other highly infectious or contagious diseases, impacts our operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the scope, severity and duration of such pandemic, the actions taken to contain the pandemic or mitigate its impact, and the direct and indirect economic effects of the pandemic and containment measures, among others. The rapid development and fluidity of this situation precludes any prediction as to the full adverse impact of the COVID-19 pandemic. Nevertheless, the COVID-19 pandemic may adversely affect our business, financial condition and results of operations, and it may have the effect of heightening many of the risks described in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2019, including the below.

- Our operating plan currently includes efforts to advance our preclinical program, BOXR1030, for the treatment of solid tumor cancers, and to complete an IND application for BOXR1030 in late 2020. The COVID-19 pandemic could have an impact on various aspects of our preclinical program and the IND we expected to submit to FDA in late 2020. For example, our employees and contractors conducting research and development activities may not be able to access our laboratory for an extended period of time as a result of the closure of our offices and the possibility that governmental authorities further modify current restrictions. As a result, this could delay timely completion of our preclinical program, including completing IND-enabling studies.
- We currently rely on third parties to, among other things, manufacture raw materials, manufacture our product candidates for our preclinical program and supply other goods and services to run our business. If any such third party in our supply chain for materials is adversely impacted by restrictions resulting from the COVID-19 pandemic, including staffing shortages, production slowdowns and disruptions in delivery systems, our supply chain may be disrupted, limiting our ability to manufacture our product candidate for our preclinical program and conduct our research and development operations.
- We have closed our offices and requested that most of our personnel, including all of our administrative employees, work remotely, restricted on-site staff to only those personnel and contractors who must perform essential activities that must be completed on-site and limited the number of staff in any given research and development laboratory. Our increased reliance on personnel working from home may negatively impact productivity, or disrupt, delay, or otherwise adversely impact our business. In addition, this could increase our cyber security risk, create data accessibility concerns, and make us more susceptible to communication disruptions, any of which could adversely impact our business operations or delay necessary interactions with local and federal regulators, ethics committees, manufacturing sites, research sites and other important agencies and contractors.
- Health regulatory agencies globally may experience disruptions in their operations as a result of the COVID-19 pandemic. The FDA and comparable foreign regulatory agencies may have slower response times or be under-resourced to continue to monitor our clinical trials and, as a result, review, inspection, and other timelines may be materially delayed. It is unknown how long these disruptions could continue, were they to occur. Any delay in regulatory review resulting from such disruptions could materially affect the development and study of BOXR1030.
- The trading prices for our common stock and other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. As a result, we may face difficulties raising capital through sales of our common stock or such sales may be on unfavorable terms. In addition, a recession, depression or other sustained adverse market event resulting from the COVID-19 pandemic could materially and adversely affect our business and the value of our common stock.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

We had no sales of unregistered equity securities during the period covered by these condensed financial statements.

Item 6. Exhibits.

Exhibit Number	Description
10.1	Purchase Agreement dated as of March 19, 2020 between the Registrant and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K (File No. 001-38443) filed on March 20, 2020)
10.2	Registration Rights Agreement dated as of March 19, 2020 between the Registrant and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.2 to the Registrant's Form 8-K (file No. 001-38443) filed on March 20, 2020)
10.3#*	Employee Agreement by and between the Registrant and Seth Ettenberg, effective as of March 19, 2018
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1†	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2†	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Label Linkbase Document.
101.PRE	XBRL Taxonomy Presentation Linkbase Document.

* Filed herewith

\# Indicates a management contract or any compensatory plan, contract or arrangement.

† This certification will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 as amended (the "Exchange Act"), or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent specifically incorporated by reference into such filing.

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.

UNUM THERAPEUTICS INC.

Date: May 11, 2020

By: /s/ Charles Wilson
Charles Wilson, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Date: May 11, 2020

By: /s/ Matthew Osborne
Matthew Osborne
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 10.3

EMPLOYMENT AGREEMENT

This Employment Agreement ("Agreement") is made between Unum Therapeutics Inc., a Delaware corporation (the "Company"), and Seth Ettenberg, Ph.D. (the "Executive") and is made effective as of the closing of the Company's first underwritten public offering of its equity securities pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Effective Date").

In consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Employment.

(a) Term. The term of this Agreement shall commence on the Effective Date and continue until the Date of Termination (as defined herein) (such period shall hereinafter be referred to as the "Term"). No provision of this Agreement shall be construed as altering the "at will" nature of Executive's employment, and the Executive's employment may be terminated at any time for any reason.

(b) Position and Duties. During the Term, the Executive shall serve as the Chief Scientific Officer of the Company, and shall have supervision and control over and responsibility for the day-to-day business and affairs of the Company and shall have such other powers and duties as may from time to time be prescribed by the Chairman of the Board of Directors of the Company (the "Board"), the Chief Executive Officer of the Company (the "CEO") or other authorized executive, provided that such duties are consistent with the Executive's position or other positions that he may hold from time to time. The Executive shall devote his full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may serve on other boards of directors, with the approval of the CEO, or engage in religious, charitable or other community activities as long as such services and activities are disclosed to the CEO and do not materially interfere with the Executive's performance of his duties to the Company as provided in this Agreement.

2. Compensation and Related Matters.

(a) Base Salary. During the Term, the Executive's initial annual base salary shall be $390,000. The Executive's base salary shall be redetermined annually by the Board or the Compensation Committee. The base salary in effect at any given time is referred to herein as "Base Salary." The Base Salary shall be payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(b) Incentive Compensation. During the Term, the Executive shall be eligible to receive cash incentive compensation as determined by the Board or the Compensation Committee from time to time. The Executive's target annual incentive compensation shall be 35 percent of his Base Salary. To earn incentive compensation, the Executive must be employed by the Company on the day such incentive compensation is paid.

(c) Expenses. The Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by him during the Term in performing services hereunder, in accordance with the policies and procedures then in effect and established by the Company for its senior executive officers.

(d) Other Benefits. During the Term, the Executive shall be eligible to participate in or receive benefits under the Company's employee benefit plans in effect from time to time, subject to the terms of such plans.

(e) Vacations. During the Term, the Executive shall be subject to the Company's vacation policy as in effect from time to time at the Company. The Executive shall also be entitled to all paid holidays given by the Company to its executives.

3. Termination. During the Term, the Executive's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder shall terminate upon his death.

(b) Disability. The Company may terminate the Executive's employment if he is disabled and unable to perform the essential functions of the Executive's then existing position or positions under this Agreement with or without reasonable accommodation for a period of 180 days (which need not be consecutive) in any 12-month period. If any question shall arise as to whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 3(b) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 *et seq*. and the Americans with Disabilities Act, 42 U.S.C. §12101 *et seq.*

(c) Termination by Company for Cause. The Company may terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, "Cause" shall mean: (i) conduct by the Executive constituting a material act of misconduct in connection with the performance of his duties, including, without limitation, misappropriation of funds or property of the Company or any of its subsidiaries or affiliates other than the occasional, customary and de minimis use of Company property for personal purposes; (ii) the commission by the Executive of any felony or a misdemeanor involving moral turpitude, deceit, dishonesty or fraud, or any conduct by the Executive that would reasonably be expected to result in material injury or reputational harm to the Company or any of its subsidiaries and affiliates if he were retained in his position; (iii) continued non-performance by the Executive of his duties hereunder

(other than by reason of the Executive's physical or mental illness, incapacity or disability) which has continued for more than 30 days following written notice of such non-performance from the CEO; (iv) a breach by the Executive of any of the provisions contained in Section 7 of this Agreement; (v) a material violation by the Executive of the Company's written employment policies; or (vi) failure to cooperate with a bona fide internal investigation or an investigation by regulatory or law enforcement authorities, after being instructed by the Company to cooperate, or the willful destruction or failure to preserve documents or other materials known to be relevant to such investigation or the inducement of others to fail to cooperate or to produce documents or other materials in connection with such investigation.

(d) Termination Without Cause. The Company may terminate the Executive's employment hereunder at any time without Cause. Any termination by the Company of the Executive's employment under this Agreement which does not constitute a termination for Cause under Section 3(c) and does not result from the death or disability of the Executive under Section 3(a) or (b) shall be deemed a termination without Cause.

(e) Termination by the Executive. The Executive may terminate his employment hereunder at any time for any reason, including but not limited to Good Reason. For purposes of this Agreement, "Good Reason" shall mean that the Executive has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) a material diminution in the Executive's responsibilities, authority or duties, including a material change in reporting relationship; (ii) a material diminution of more than 10% in the Executive's Base Salary except for across-the-board salary reductions based on the Company's financial performance similarly affecting all or substantially all senior management employees of the Company; (iii) a change in the geographic location at which the Executive provides services to the Company more than sixty (60) miles away from the current location; or (iv) the material breach of this Agreement by the Company. "Good Reason Process" shall mean that (i) the Executive reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Executive notifies the Company in writing of the first occurrence of the Good Reason condition within 60 days of the first occurrence of such condition; (iii) the Executive cooperates in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "Cure Period"), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Executive terminates his employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

(f) Notice of Termination. Except for termination as specified in Section 3(a), any termination of the Executive's employment by the Company or any such termination by the Executive shall be communicated by written Notice of Termination to the other party hereto. For purposes of this Agreement, a "Notice of Termination" shall mean a notice which shall indicate the specific termination provision in this Agreement relied upon.

(g) Date of Termination. "Date of Termination" shall mean: (i) if the Executive's employment is terminated by his death, the date of his death; (ii) if the Executive's employment is terminated on account of disability under Section 3(b) or by the Company for Cause under Section 3(c), the date on which Notice of Termination is given; (iii) if the Executive's employment is terminated by the Company under Section 3(d), the date on which a

Notice of Termination is given; (iv) if the Executive's employment is terminated by the Executive under Section 3(e) without Good Reason, 30 days after the date on which a Notice of Termination is given, and (v) if the Executive's employment is terminated by the Executive under Section 3(e) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period. Notwithstanding the foregoing, in the event that the Executive gives a Notice of Termination to the Company, the Company may unilaterally accelerate the Date of Termination and such acceleration shall not result in a termination by the Company for purposes of this Agreement.

4. Compensation Upon Termination.

(a) Termination Generally. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to his authorized representative or estate) (i) any Base Salary earned through the Date of Termination, unpaid expense reimbursements (subject to, and in accordance with, Section 2(c) of this Agreement) and unused vacation that accrued through the Date of Termination on or before the time required by law but in no event more than 30 days after the Executive's Date of Termination; and (ii) any vested benefits the Executive may have under any employee benefit plan of the Company through the Date of Termination, which vested benefits shall be paid and/or provided in accordance with the terms of such employee benefit plans (collectively, the "Accrued Benefit").

(b) Termination by the Company Without Cause or by the Executive with Good Reason. During the Term, if the Executive's employment is terminated by the Company without Cause as provided in Section 3(d), or the Executive terminates his employment for Good Reason as provided in Section 3(e), then the Company shall pay the Executive his Accrued Benefit. In addition, subject to the Executive signing a separation agreement containing, among other provisions, a general release of claims in favor of the Company and related persons and entities, confidentiality, return of property and mutual non-disparagement, in a form and manner satisfactory to the Company (the "Separation Agreement and Release") and the Separation Agreement and Release becoming irrevocable, all within 60 days after the Date of Termination:

(i) the Company shall pay the Executive a lump sum in cash in an amount equal to 9 months of the Executive's current Base Salary; and

(ii) upon the Date of Termination, all stock options and other stock-based awards held by the Executive in which the Executive would have vested if he had remained employed for an additional 9 months following the Date of Termination shall vest and become exercisable or nonforfeitable as of the Date of Termination; and

(iii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 9 months or the Executive's COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iv) The amounts payable under this Section 4(b) shall be paid or commence to be paid within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, such payments shall be paid or commence to be paid in the second calendar year by the last day of such 60-day period; provided, further, that the initial payment shall include a catch-up payment to cover amounts retroactive to the day immediately following the Date of Termination. Notwithstanding the foregoing, if the Executive breaches any of the provisions contained in Section 7 of this Agreement, all payments under this Section 4(b) shall immediately cease.

5. Change in Control Payment. The provisions of this Section 5 set forth certain terms of an agreement reached between the Executive and the Company regarding the Executive's rights and obligations upon the occurrence of a Change in Control of the Company. These provisions are intended to assure and encourage in advance the Executive's continued attention and dedication to his assigned duties and his objectivity during the pendency and after the occurrence of any such event. These provisions shall apply in lieu of, and expressly supersede, the provisions of Section 4(b) regarding severance pay and benefits upon a termination of employment, if such termination of employment occurs within 12 months after the occurrence of the first event constituting a Change in Control. These provisions shall terminate and be of no further force or effect beginning 12 months after the occurrence of a Change in Control.

(a) Change in Control. During the Term, if within 12 months after a Change in Control, the Executive's employment is terminated by the Company without Cause as provided in Section 3(d) or the Executive terminates his employment for Good Reason as provided in Section 3(e), then, subject to the signing of the Separation Agreement and Release by the Executive and the Separation Agreement and Release becoming irrevocable, all within 60 days after the Date of Termination,

(i) the Company shall pay the Executive a lump sum in cash in an amount equal to the sum of (A) 12 months of the Executive's current Base Salary (or the Executive's Base Salary in effect immediately prior to the Change in Control, if higher) plus (B) 100 percent of the Executive's target bonus; and

(ii) notwithstanding anything to the contrary in any applicable option agreement or stock-based award agreement, all stock options and other stock-based awards held by the Executive shall immediately accelerate and become fully exercisable or nonforfeitable as of the Date of Termination; and

(iii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 12 months or the Executive's COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iv) The amounts payable under this Section 5(a) shall be paid or commence to be paid within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, such payments shall be paid or commence to be paid in the second calendar year by the last day of such 60-day period; provided, further, that the initial payment shall include a catch-up payment to cover amounts retroactive to the day immediately following the Date of Termination. Notwithstanding the foregoing, if the Executive breaches any of the provisions contained in Section 7 of this Agreement, all payments under this Section 5(a) shall immediately cease.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, in the event that the amount of any compensation, payment or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Code and the applicable regulations thereunder (the "Aggregate Payments"), would be subject to the excise tax imposed by Section 4999 of the Code, then the Aggregate Payments shall be reduced to the extent necessary so that no portion of the Aggregate Payments would be subject to the excise tax. In such event, the Aggregate Payments shall be reduced in the following order: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits. To the extent any payment is to be made over time (e.g., in installments, etc.), then the payments shall be reduced in reverse chronological order.

(ii) The determination of the reduction provided in Section 5(b)(i) shall be made by a nationally recognized accounting firm selected by the Company (the "Accounting Firm"), which shall provide detailed supporting calculations both to the Company and the Executive within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive. Any determination by the Accounting Firm shall be binding upon the Company and the Executive.

(c) Definitions. For purposes of this Section 5, the following terms shall have the following meanings:

"Change in Control" shall mean any of the following:

(i) any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act") (other than the Company, any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2 under the Act) of such person, shall become the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50 percent or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the date a majority of the members of the Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Board before the date of the appointment or election; or

(iii) the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50 percent of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a "Change in Control" shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to 50 percent or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a "Change in Control" shall be deemed to have occurred for purposes of the foregoing clause (i).

6. Section 409A.

(a) Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive's separation from service within the meaning of Section 409A of the Code, the Company determines that the Executive is a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, then to the extent any payment or benefit that the Executive becomes entitled to under this Agreement on account of the Executive's separation from service would be considered deferred compensation otherwise subject to the 20 percent additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, such payment shall not be payable and such benefit shall not be provided until the date that is the earlier of (A) six months and one day after the Executive's separation from service, or (B) the Executive's death. If any such delayed cash payment is otherwise payable on an installment basis, the first payment shall include a catch-up payment covering amounts that would otherwise have been paid during the six-month period but for the application of this provision, and the balance of the installments shall be payable in accordance with their original schedule.

(b) All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Executive during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of

the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses). Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit.

(c) To the extent that any payment or benefit described in this Agreement constitutes "non-qualified deferred compensation" under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Executive's termination of employment, then such payments or benefits shall be payable only upon the Executive's "separation from service." The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h).

(d) The parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). The parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(e) The Company makes no representation or warranty and shall have no liability to the Executive or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section.

7. Confidential Information, Noncompetition and Cooperation.

(a) Confidential Information. As used in this Agreement, "Confidential Information" means information belonging to the Company which is of value to the Company in the course of conducting its business and the disclosure of which could result in a competitive or other disadvantage to the Company. Confidential Information includes, without limitation, financial information, reports, and forecasts; inventions, improvements and other intellectual property; trade secrets; know-how; designs, processes or formulae; software; market or sales information or plans; customer lists; and business plans, prospects and opportunities (such as possible acquisitions or dispositions of businesses or facilities) which have been discussed or considered by the management of the Company. Confidential Information includes information developed by the Executive in the course of the Executive's employment by the Company, as well as other information to which the Executive may have access in connection with the Executive's employment. Confidential Information also includes the confidential information of others with which the Company has a business relationship. Notwithstanding the foregoing, Confidential Information does not include information in the public domain, unless due to breach of the Executive's duties under Section 7(b).

(b) Confidentiality. The Executive understands and agrees that the Executive's employment creates a relationship of confidence and trust between the Executive and the Company with respect to all Confidential Information. At all times, both during the Executive's employment with the Company and after its termination, the Executive will keep in confidence and trust all such Confidential Information, and will not use or disclose any such Confidential Information without the written consent of the Company, except as may be necessary in the ordinary course of performing the Executive's duties to the Company. For avoidance of doubt, nothing in this Agreement shall be interpreted or applied to prohibit the Executive from making any good faith report to any governmental agency or other governmental entity concerning any act or omission that the Executive reasonably believes constitutes a possible violation of federal or state law or making other disclosures that are protected under the anti-retaliation or whistleblower provisions of applicable federal or state law or regulation. In addition, for the avoidance of doubt, pursuant to the federal Defend Trade Secrets Act of 2016, the Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (i) is made (A) in confidence to a federal, state or local government official, either directly or indirectly, or to an attorney and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

(c) Documents, Records, etc. All documents, records, data, apparatus, equipment and other physical property, whether or not pertaining to Confidential Information, which are furnished to the Executive by the Company or are produced by the Executive in connection with the Executive's employment will be and remain the sole property of the Company. The Executive will return to the Company all such materials and property as and when requested by the Company. In any event, the Executive will return all such materials and property immediately upon termination of the Executive's employment for any reason. The Executive will not retain with the Executive any such material or property or any copies thereof after such termination.

(d) Noncompetition and Nonsolicitation. During the Executive's employment with the Company and for twelve (12) months thereafter, regardless of the reason for the termination, the Executive (i) will not, directly or indirectly, whether as owner, partner, shareholder, consultant, agent, employee, co-venturer or otherwise, engage, participate, assist or invest in any Competing Business (as hereinafter defined); (ii) will refrain from directly or indirectly employing, attempting to employ, recruiting or otherwise soliciting, inducing or influencing any person to leave employment with the Company (other than terminations of employment of subordinate employees undertaken in the course of the Executive's employment with the Company); and (iii) will refrain from soliciting or encouraging any customer or supplier to terminate or otherwise modify adversely its business relationship with the Company. The Executive understands that the restrictions set forth in this Section 7(d) are intended to protect the Company's interest in its Confidential Information and established employee, customer and supplier relationships and goodwill, and agrees that such restrictions are reasonable and appropriate for this purpose. For purposes of this Agreement, the term "Competing Business" shall mean any person, entity or organization engaged in, or anticipated to become engaged in, research on or the acquisition, development, production, distribution, marketing, or providing of a cellular immunotherapy for the treatment of cancer anywhere in the United States of America. Notwithstanding the foregoing, the Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competing Business.

(e) Third-Party Agreements and Rights. The Executive hereby confirms that the Executive is not bound by the terms of any agreement with any previous employer or other party which restricts in any way the Executive's use or disclosure of information or the Executive's engagement in any business. The Executive represents to the Company that the Executive's execution of this Agreement, the Executive's employment with the Company and the performance of the Executive's proposed duties for the Company will not violate any obligations the Executive may have to any such previous employer or other party. In the Executive's work for the Company, the Executive will not disclose or make use of any information in violation of any agreements with or rights of any such previous employer or other party, and the Executive will not bring to the premises of the Company any copies or other tangible embodiments of non-public information belonging to or obtained from any such previous employment or other party.

(f) Litigation and Regulatory Cooperation. During and after the Executive's employment, the Executive shall cooperate fully with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive's full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall reimburse the Executive for any reasonable out-of-pocket expenses incurred in connection with the Executive's performance of obligations pursuant to this Section 7(f).

(g) Injunction. The Executive agrees that it would be difficult to measure any damages caused to the Company which might result from any breach by the Executive of the promises set forth in this Section 7, and that in any event money damages would be an inadequate remedy for any such breach. Accordingly, subject to Section 8 of this Agreement, the Executive agrees that if the Executive breaches, or proposes to breach, any portion of this Agreement, the Company shall be entitled, in addition to all other remedies that it may have, to an injunction or other appropriate equitable relief to restrain any such breach without showing or proving any actual damage to the Company.

8. Arbitration of Disputes. Any controversy or claim arising out of or relating to this Agreement or the breach thereof or otherwise arising out of the Executive's employment or the termination of that employment (including, without limitation, any claims of unlawful employment discrimination whether based on age or otherwise) shall, to the fullest extent permitted by law, be settled by arbitration in any forum and form agreed upon by the parties or, in the absence of such an agreement, under the auspices of the American Arbitration Association ("AAA") in Boston, Massachusetts in accordance with the Employment Dispute Resolution Rules of the AAA, including, but not limited to, the rules and procedures applicable to the selection of arbitrators. In the event that any person or entity other than the Executive or the Company may be a party with regard to any such controversy or claim, such controversy or claim shall be submitted to arbitration subject to such other person or entity's agreement.

Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. This Section 8 shall be specifically enforceable. Notwithstanding the foregoing, this Section 8 shall not preclude either party from pursuing a court action for the sole purpose of obtaining a temporary restraining order or a preliminary injunction in circumstances in which such relief is appropriate; provided that any other relief shall be pursued through an arbitration proceeding pursuant to this Section 8.

9. Consent to Jurisdiction. To the extent that any court action is permitted consistent with or to enforce Section 8 of this Agreement, the parties hereby consent to the jurisdiction of the Superior Court of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts. Accordingly, with respect to any such court action, the Executive (a) submits to the personal jurisdiction of such courts; (b) consents to service of process; and (c) waives any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

10. Integration. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties concerning such subject matter.

11. Withholding. All payments made by the Company to the Executive under this Agreement shall be net of any tax or other amounts required to be withheld by the Company under applicable law.

12. Successor to the Executive. This Agreement shall inure to the benefit of and be enforceable by the Executive's personal representatives, executors, administrators, heirs, distributees, devisees and legatees. In the event of the Executive's death after his termination of employment but prior to the completion by the Company of all payments due him under this Agreement, the Company shall continue such payments to the Executive's beneficiary designated in writing to the Company prior to his death (or to his estate, if the Executive fails to make such designation).

13. Enforceability. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of this Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

14. Survival. The provisions of this Agreement shall survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the terms contained herein.

15. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

16. Notices. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention of the Board.

17. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

18. Governing Law. This is a Massachusetts contract and shall be construed under and be governed in all respects by the laws of the Commonwealth of Massachusetts, without giving effect to the conflict of laws principles of such Commonwealth. With respect to any disputes concerning federal law, such disputes shall be determined in accordance with the law as it would be interpreted and applied by the United States Court of Appeals for the First Circuit.

19. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

20. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession shall be a material breach of this Agreement.

21. Gender Neutral. Wherever used herein, a pronoun in the masculine gender shall be considered as including the feminine gender unless the context clearly indicates otherwise.

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the date and year first above written.

UNUM THERAPEUTICS INC.

By: _____
Its: _____

EXECUTIVE

_____
Seth Ettenberg, Ph.D.
Chief Scientific Officer

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, Charles Wilson, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 11, 2020

By: /s/ Charles Wilson

Charles Wilson, Ph.D.
Chief Executive Officer and President
(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, Matthew Osborne, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 11, 2020

By: /s/ Matthew Osborne

Matthew Osborne
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Unum Therapeutics Inc. (the "Company") for the period ended March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Charles Wilson, President and Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(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 11, 2020

By: /s/ Charles Wilson
Charles Wilson, Ph.D.
Chief Executive Officer and President
(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 the Quarterly Report on Form 10-Q of Unum Therapeutics Inc. (the "Company") for the period ended March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Matthew Osborne, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(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 11, 2020

By: /s/ Matthew Osborne
Matthew Osborne
Chief Financial Officer
(Principal Financial Officer)