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 June 30, 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: 001-38707

LogicBio Therapeutics, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**47-1514975**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

65 Hayden Avenue, 2nd Floor, Lexington, MA 02421
(Address of principal executive offices) (Zip code)

(617) 245-0399
(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, par value $0.0001 per share	**LOGC**	**Nasdaq Global Market**

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

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

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

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

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

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

As of August 6, 2020, the registrant had 23,642,009 shares of common stock, $0.0001 par value per share, outstanding.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements. All statements other than statements of historical fact are "forward-looking statements" for purposes of this Quarterly Report on Form 10-Q. In some cases, you can identify forward-looking statements by terminology such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "expect," or similar expressions, or the negative or plural of these words or expressions. These forward-looking statements include statements concerning the following:

- the initiation, cost, timing, progress and results of our current and future research and development activities and preclinical studies and potential future clinical trials, including our plans to initiate, advance and complete our SUNRISE Phase 1/2 clinical trial and other development activities for LB-001 in methylmalonic acidemia, or MMA;
- potential attributes and benefits of our GeneRide technology platform and our existing or future product candidates;
- our ability to take advantage of the modular nature of our GeneRide platform to simplify and accelerate development of new product candidates;
- the potential benefits of strategic partnership agreements and our ability to enter into selective strategic partnership arrangements;
- the timing of, and our ability to obtain and maintain, regulatory approvals for our existing or future product candidates;
- our ability to quickly and efficiently identify and develop additional product candidates;
- our ability to advance any product candidate into and successfully complete clinical trials;
- our intellectual property position, including with respect to our trade secrets and the duration of our patent protection; and
- our estimates regarding expenses, future revenues, capital requirements, the sufficiency of our current and expected cash resources and our need for additional financing.

These statements are only current predictions and are subject to known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. We discuss many of these risks in greater detail under Part I, Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the Securities and Exchange Commission on March 16, 2020 and under Part II, Item 1A. Risk Factors in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020 filed with the Securities and Exchange Commission on May 11, 2020, each as may be amended or updated in our Quarterly Reports on Form 10-Q. In particular, the impact of the ongoing COVID-19 pandemic on our ability to progress with our research, development, manufacturing and regulatory efforts, including our plans to initiate, advance and complete our SUNRISE Phase 1/2 clinical trial for LB-001 in MMA, and the value of and market for our common stock, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration of the pandemic, travel restrictions, quarantines, social distancing and business closure requirements in the United States and in other countries, and the effectiveness of actions taken globally to contain and treat the disease. Any forward-looking statement in this Quarterly Report on Form 10-Q reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not rely on these forward-looking statements as predictions of future events. We cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Unless the context otherwise requires, the terms "LogicBio," "LogicBio Therapeutics, Inc.," the "Company," "we," "us," "our" and similar references in this Quarterly Report on Form 10-Q refer to LogicBio Therapeutics, Inc. and its subsidiaries.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited).

LogicBio Therapeutics, Inc.

Condensed Consolidated Balance Sheets
(In thousands, except share and per share data)

	June 30, 2020	December 31, 2019
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 36,697	$ 33,107
Short-term investments	—	17,540
Prepaid expenses and other current assets	1,949	2,045
Restricted cash	—	146
Total current assets	38,646	52,838
Property and equipment, net	1,788	1,696
Restricted cash	622	622
Operating lease right-of-use asset	6,287	504
TOTAL ASSETS	$ 47,343	$ 55,660
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 564	$ 624
Accrued expenses and other current liabilities	2,214	2,435
Operating lease liabilities	1,147	504
Deferred revenue	101	—
Total current liabilities	4,026	3,563
Long-term debt, net of issuance costs and discount	9,641	9,810
Operating lease liabilities, net of current portion	5,520	—
Total liabilities	19,187	13,373
COMMITMENTS AND CONTINGENCIES (Note 14)		
STOCKHOLDERS' EQUITY:		
Preferred stock, par value of $0.0001 per share; 25,000,000 shares authorized; no shares issued and outstanding as of June 30, 2020 and December 31, 2019.	—	—
Common stock, par value of $0.0001 per share; 175,000,000 shares authorized; 23,504,843 and 23,036,943 shares issued and outstanding as of June 30, 2020 and December 31, 2019, respectively	3	3
Additional paid-in capital	113,205	109,640
Accumulated other comprehensive income	—	14
Accumulated deficit	(85,052)	(67,370)
Total stockholders' equity	28,156	42,287
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 47,343	$ 55,660

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Operations
(In thousands, except share and per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
REVENUE				
Service revenue	$ 965	$ —	$ 1,986	$ —
Total revenue	965	—	1,986	—
OPERATING EXPENSES				
Research and development	5,895	7,934	13,068	$ 13,420
General and administrative	3,029	2,524	6,221	5,156
Total operating expenses	8,924	10,458	19,289	18,576
LOSS FROM OPERATIONS	(7,959)	(10,458)	(17,303)	(18,576)
OTHER INCOME (EXPENSE), NET:				
Interest income	10	411	177	854
Interest expense	(273)	—	(545)	—
Other expense, net	(5)	(1)	(11)	(1)
Total other (expense) income, net	(268)	410	(379)	853
Loss before income taxes	(8,227)	(10,048)	(17,682)	(17,723)
Income tax provision	—	—	—	(22)
Net loss	$ (8,227)	$ (10,048)	$ (17,682)	$ (17,745)
Net loss per share—basic and diluted	$ (0.35)	$ (0.45)	$ (0.76)	$ (0.79)
Weighted-average common stock outstanding—basic and diluted	23,326,018	22,479,511	23,250,910	22,396,780

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Comprehensive Loss
(In thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net loss	$ (8,227)	$ (10,048)	$ (17,682)	$ (17,745)
Other comprehensive income:				
Unrealized gain on investments	—	27	—	36
Foreign currency translation adjustment	—	3	—	6
Comprehensive loss	$ (8,227)	$ (10,018)	$ (17,682)	$ (17,703)

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Stockholders' Equity
(In thousands, except share and per share data)

	Common Stock $0.0001 Par Value		Additional Paid-in	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	(Loss) Income	Deficit	Equity
BALANCE, January 1, 2019	22,188,393	$ 3	$ 107,473	$ (9)	$ (27,242)	$ 80,225
Vesting of restricted stock	160,337	—	—	—	—	—
Unrealized gain on investments	—	—	—	9	—	9
Foreign currency translation adjustment	—	—	—	3	—	3
Stock-based compensation expense	—	—	276	—	—	276
Net loss	—	—	—	—	(7,697)	(7,697)
BALANCE, March 31, 2019	22,348,730	3	107,749	3	(34,939)	72,816
Vesting of restricted stock	160,332	—	—	—	—	—
Exercise of options	13,454	—	82	—	—	82
Unrealized gain on investments	—	—	—	27	—	27
Foreign currency translation adjustment	—	—	—	3	—	3
Stock-based compensation expense	—	—	531	—	—	531
Net loss	—	—	—	—	(10,048)	(10,048)
BALANCE, June 30, 2019	22,522,516	$ 3	$ 108,362	$ 33	$ (44,987)	$ 63,411
BALANCE, January 1, 2020	23,036,943	$ 3	$ 109,640	$ 14	$ (67,370)	$ 42,287
Vesting of restricted stock	160,340	—	—	—	—	—
Exercise of options	19,378	—	84	—	—	84
Realized gain on investments	—	—	—	(14)	—	(14)
Stock-based compensation expense	—	—	805	—	—	805
Net loss	—	—	—	—	(9,455)	(9,455)
BALANCE, March 31, 2020	23,216,661	3	110,529	—	(76,825)	33,707
Vesting of restricted stock	18,642	—	—	—	—	—
Issuance of common stock, net of issuance costs of $33	269,540	—	1,907	—	—	1,907
Stock-based compensation expense	—	—	769	—	—	769
Net loss	—	—	—	—	(8,227)	(8,227)
BALANCE, June 30, 2020	23,504,843	$ 3	$ 113,205	$ —	$ (85,052)	$ 28,156

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Cash Flows
(In thousands)

	Six Months Ended June 30,	
	2020	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (17,682)	$ (17,745)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	226	104
Net amortization of premiums and discounts on investments	26	(337)
Stock-based compensation expense	1,574	807
Non-cash interest expense	103	—
Non-cash lease expense	1,025	567
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	96	(683)
Accounts payable	(113)	448
Accrued expenses and other current liabilities	(1,201)	(123)
Deferred revenue	101	—
Net cash used in operating activities	(15,845)	(16,962)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of investments	—	(48,028)
Maturities of investments	17,500	10,200
Purchase of property and equipment	(202)	(749)
Net cash provided by (used in) investing activities	17,298	(38,577)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from exercise of stock options	84	82
Net proceeds from stock issuances	1,907	—
Net cash provided by financing activities	1,991	82
Effect on foreign exchange rates on cash and cash equivalents	—	7
NET INCREASE (DECREASE) IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	3,444	(55,450)
Cash, cash equivalents and restricted cash at beginning of year	33,875	81,052
Cash, cash equivalents and restricted cash at end of period	$ 37,319	$ 25,602
RECONCILIATION OF CASH, CASH EQUIVALENTS AND RESTRICTED CASH		
Cash and cash equivalents	$ 36,697	$ 25,456
Short-term restricted cash	—	146
Long-term restricted cash	622	—
Total cash, cash equivalents and restricted cash	$ 37,319	$ 25,602
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:		
Cash paid for interest	$ 442	$ —
Cash paid for income taxes	$ —	$ 4
SUPPLEMENTAL DISCLOSURE OF NON-CASH ACTIVITIES:		
Right-of-use assets obtained in exchange for operating lease obligation	$ 6,428	$ 1,323
Property and equipment purchases in accounts payable and accrued expenses	$ 116	$ 56
Deferred financing costs in accounts payable and accrued expenses	$ —	$ 39

See notes to unaudited condensed consolidated financial statements.

1. NATURE OF BUSINESS AND BASIS OF PRESENTATION

Business Overview

LogicBio Therapeutics, Inc. ("LogicBio" or the "Company") was incorporated in 2014 as a Delaware corporation. Its principal offices are in Lexington, Massachusetts. LogicBio is a company dedicated to extending the reach of genetic medicine with pioneering targeted delivery platforms. The Company's proprietary genome editing technology platform, GeneRide, enables the site-specific integration of a therapeutic transgene without nucleases or exogenous promoters by harnessing the native process of homologous recombination. LogicBio is developing LB-001, a wholly owned genome editing program leveraging GeneRide for the treatment of methylmalonic acidemia ("MMA"). In addition, the Company has a research collaboration with Takeda to develop LB-301, an investigational therapy leveraging GeneRide for the treatment of the rare pediatric disease Crigler-Najjar syndrome ("CN").

LogicBio is also developing a Next Generation Capsid platform for use in gene editing and gene therapy. Data presented have shown that the capsids deliver highly efficient functional transduction of human hepatocytes with improved manufacturability with low levels of pre-existing neutralizing antibodies in human samples. Top-tier capsid candidates from this effort demonstrated significant improvements over benchmark AAVs currently in clinical development. The Company is developing these highly potent vectors for internal development candidates and potentially for business development collaborations.

Based on the Company's GeneRide technology, LogicBio is developing its lead product candidate, LB-001, to treat MMA. In August 2020, the Company announced the clearance of an investigational new drug application, or IND, to support the initiation of a Phase 1/2 clinical trial on LB-001 in pediatric patients with MMA. LogicBio expects to enroll the first patient in early 2021.

LogicBio believes that achieving clinical proof of concept in an inherited liver disease such as MMA will validate the Company's platform technology, including its potential application to other organs and diseases. In addition to MMA and CN, LogicBio has demonstrated proof of concept of its platform in hemophilia B and alpha-1-antitrypsin deficiency ("A1ATD") animal disease models. The Company expects to select future product candidates from these and other genetic diseases addressed by targeting the liver initially, and later by targeting the central nervous system, or CNS, and muscle.

Since its inception, the Company has devoted the majority of its efforts to business planning, research and development, developing markets, raising capital, and recruiting management and technical staff. The Company is subject to a number of risks similar to those of other companies conducting high-risk, early-stage research and development of product candidates. Principal among these risks are a dependency on key individuals and intellectual property, competition from other products and companies, and the technical risks associated with the successful research, development and clinical manufacturing of its product candidates. The Company's success is dependent upon its ability to continue to raise additional capital in order to fund ongoing research and development, meet its obligations and, ultimately, obtain regulatory approval of its products, successfully commercialize its products, generate revenue and attain profitable operations.

COVID-19 Impact

The Company is closely monitoring the COVID-19 pandemic in order to ensure the safety of its personnel and to continue advancing its research and development activities. Since mid-March, the Company has ceased all business travel and most of its non-laboratory employees have been working remotely. After being limited to working in shifts on-premises through early July, the Company's laboratory employees have returned to normal working schedules on-premises to conduct in-house research and development activities with social distancing and other protective measures. The Company plans to maintain these or similar restrictions until it believes employees can fully resume such activities in accordance with federal, state and local requirements and guidelines.

The COVID-19 pandemic did not have a material impact on the Company's results of operations, cash flow and financial position as of and for the three and six months ended June 30, 2020. However, the full extent to which the COVID-19 pandemic will directly or indirectly impact the Company's business, results of operations and financial position will depend on future developments that are uncertain and cannot be accurately predicted.

Liquidity and Capital Resources

The Company has had recurring losses and incurred a loss of $17,682 during the six months ended June 30, 2020. Net cash used in operations for the six months ended June 30, 2020 was $15,845. The Company expects to continue to generate operating losses and

use cash in operations for the foreseeable future. As of June 30, 2020, the Company had cash and cash equivalents of $36,697 which management believes will be sufficient to fund its operating expenses and capital expenditure requirements into the third quarter of 2021. However, based on the Company's operating losses since inception, the expectation of continued operating losses for the foreseeable future, and the need to raise additional capital to finance its future operations, it has been deemed there is substantial doubt about the Company's ability to continue as a going concern within one year from the date these condensed consolidated financial statements are issued.

The Company will require substantial additional capital to fund its research and development and ongoing operating expenses. Management's plans to mitigate this risk include raising additional capital through equity or debt financings, or through strategic transactions. These plans may also include the possible deferral of certain operating expenses unless and until additional capital is received. There can be no assurance that the Company will be successful in raising additional capital or that such capital, if available, will be on terms that are acceptable to the Company, or that the Company will be successful in deferring certain operating expenses. While there can be no assurance the Company will be able to successfully reduce operating expenses or raise additional capital, management believes its historical success in managing cash flows and obtaining capital will continue in the foreseeable future.

The accompanying condensed consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared by the Company in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") and 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 financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. However, the Company believes that the disclosures are adequate to make the information presented not misleading. These condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and the notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 16, 2020.

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the accompanying unaudited interim condensed consolidated financial statements contain all adjustments which are necessary for a fair statement of the Company's financial position as of June 30, 2020 , consolidated results of operations for the three and six months ended June 30, 2020 and 2019 and cash flows for the six months ended June 30, 2020 and 2019. Such adjustments are of a normal and recurring nature. The results of operations for the three and six months ended June 30, 2020 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2020.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Significant Accounting Policies

The Company's significant accounting policies are disclosed in the audited consolidated financial statements and the notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 16, 2020. Since the date of those financial statements, there have been no material changes to its significant accounting policies other than the Company's significant accounting policy over revenue recognition under ASC 606 (defined below) which is discussed in this note.

Revenue Recognition

To date the Company's only revenue has consisted of service revenue, all of which is attributable to research cost reimbursement under the Company's January 2020 research agreement with Takeda Pharmaceutical Company Limited ("Takeda") for the development of product candidate LB-301 to treat Crigler-Najjar Syndrome (the "Takeda Agreement"). The Company has not generated any revenue from product sales and does not expect to generate any revenue from product sales for the foreseeable future.

The Company recognizes revenue in accordance with Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). ASC 606 applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under ASC 606, the

Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the Company performs the following five steps:

(i) identification of the promised goods or services in the contract;

(ii) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract;

(iii) measurement of the transaction price, including the constraint on variable consideration;

(iv) allocation of the transaction price to the performance obligations; and

(v) recognition of revenue when (or as) each performance obligation is satisfied.

If a contract is determined to be within the scope of ASC 606 at inception, the Company assesses the goods or services promised within such contract, determines which of those goods and services are performance obligations, and assesses whether each promised good or service is distinct. The Company may provide options to additional items in such arrangements, which are accounted for as separate contracts when the customer elects to exercise such options, unless the option provides a material right to the customer. The Company determines transaction price based on the amount of consideration the Company expects to receive for transferring the promised goods or services in the contract. Consideration may be fixed, variable, or a combination of both. The Company then allocates the transaction price to each performance obligation based on the relative standalone selling price and recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) control is transferred to the customer and the performance obligation is satisfied.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in the Company’s condensed consolidated balance sheets. If the related performance obligation is expected to be satisfied within the next twelve months this will be classified in current liabilities. Amounts recognized as revenue prior to receipt are recorded as contract assets in the Company's balance sheets. If the Company expects to have an unconditional right to receive the consideration in the next twelve months, this will be classified in current assets. A net contract asset or liability is presented for each contract with a customer.

Recently Adopted Accounting Pronouncements

On January 1, 2020, the Company adopted Financial Accounting Standards Board (“FASB”) Accounting Standards Update (“ASU”) 2016-13, *Measurement of Credit Losses on Financial Instruments*. This ASU requires that credit losses be reported using an expected losses model rather than the incurred losses model that was previously used, and establishes additional disclosures related to credit risks. For available-for-sale debt securities with unrealized losses, the standard requires allowances to be recorded instead of reducing the amortized cost of the investment. The adoption of this standard did not have a material impact on the Company’s condensed consolidated financial statements and related disclosures.

Recently Issued Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that are adopted by the Company as of the specified effective date. The Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on the Company’s consolidated financial statements upon adoption.

In March 2020, the FASB issued ASU 2020-04, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting (Topic 848)*. This ASU provides optional expedients and exceptions for applying U.S. GAAP to transactions affected by reference rate (e.g., LIBOR) reform if certain criteria are met, for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. The ASU is effective as of March 12, 2020 through December 31, 2022. The Company will evaluate transactions or contract modifications, including any related to its July 2019 loan and security agreement which uses LIBOR as a reference rate, occurring as a result of reference rate reform and determine whether to apply the optional guidance on an ongoing basis. The ASU is currently not expected to have a material impact on the Company’s condensed consolidated financial statements and related disclosures.

3. FAIR VALUE MEASUREMENTS

The following tables present information about the Company's financial assets measured at fair value on a recurring basis and indicate the level of the fair value hierarchy utilized to determine such fair values:

Description	June 30, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Observable Inputs (Level 3)
Assets				
Money market funds and other cash equivalents	$ 36,697	$ 36,697	$ —	$ —
Total financial assets	$ 36,697	$ 36,697	$ —	$ —

Description	December 31, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Observable Inputs (Level 3)
Assets				
Overnight repurchase agreements	$ 30,001	$ —	$ 30,001	$ —
U.S. Treasury securities	17,540	17,540	—	—
Money market funds and other cash equivalents	1,093	1,093	—	—
Total financial assets	$ 48,634	$ 18,633	$ 30,001	$ —

When developing fair value estimates, the Company maximizes the use of observable inputs and minimizes the use of unobservable inputs. When available, the Company uses quoted market prices to measure fair value. The valuation technique used to measure fair value for the Company's Level 1 and Level 2 assets is a market approach, using prices and other relevant information generated by market transactions involving identical or comparable assets. If market prices are not available, the fair value measurement is based on models that use primarily market-based parameters including yield curves, volatilities, credit ratings and currency rates. In certain cases where market rate assumptions are not available, the Company is required to make judgments about assumptions market participants would use to estimate the fair value of a financial instrument.

The Company did not have any transfers of assets between Level 1 and Level 2 of the fair value measurement hierarchy during the six months ended June 30, 2020.

4. INVESTMENTS

As of June 30, 2020, the Company did not hold any short-term or long-term investments.

As of December 31, 2019, the Company held available-for-sale investments which were included in short-term investments on the condensed consolidated balance sheet and summarized in the table below:

	December 31, 2019			
	Cost Basis	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury securities	$ 17,526	$ 14	$ —	$ 17,540
Total	$ 17,526	$ 14	$ —	$ 17,540

Certain short-term debt securities with original maturities of less than 90 days are included in cash and cash equivalents on the condensed consolidated balance sheet and are not included in the table above. As of December 31, 2019, all investments had a contractual maturity within one year.

5. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities at June 30, 2020 and December 31, 2019 consisted of the following:

	June 30, 2020	December 31, 2019
Accrued compensation and benefits	$ 458	$ 1,155
Accrued professional services	1,310	1,004
Other	446	276
Total accrued expenses and other current liabilities	$ 2,214	$ 2,435

Accrued compensation and benefits consists primarily of accrued bonuses. Accrued professional services consists primarily of consulting services, legal services and services provided by contract research organizations (“CRO”) and contract manufacturing organizations (“CMO”). Other primarily consists of the short-term portion of the Company’s loan and security agreement.

6. DEBT

On July 2, 2019 (the “Closing Date”), the Company entered into a loan and security agreement (the “Loan Agreement”), for term loans with Oxford Finance LLC (“Oxford”) and Horizon Technology Finance Corporation (“Horizon,” and, together with Oxford, the “Lenders”). The Loan Agreement allows the Company to borrow up to $20,000 issuable in two equal tranches (the “Term Loans”). On the Closing Date, the first tranche of $10,000 was drawn down by the Company (the “Term A Loan”). The second tranche of $10,000 will be available to the Company through September 30, 2020, subject to certain clinical milestones (the “Term B Loan”).

The outstanding loan balance will accrue interest at the greater of (i) the rate of the one-month U.S. LIBOR rate plus 6.25% and (ii) 8.75%. The Loan Agreement provides for an interest only period until July 1, 2021, followed by thirty-six equal monthly payments of principal and interest continuing through June 1, 2024 (the “Maturity Date”). The Company has the option to prepay the outstanding balance prior to maturity, subject to a prepayment fee of 1.0% to 3.0% depending upon when the prepayment occurs. Upon repayment of the Term Loans, the Company is required to make a final payment to the Lenders equal to 4.5% of the original principal amount of the Term Loans funded which will be accrued by charges to interest expense over the term of the loans using the effective interest method.

In conjunction with the Loan Agreement, the Company issued 15,686 of common stock warrants (“Warrants”) to the Lenders at a per share exercise price of $12.75, a maximum contractual term of 10 years and exercisable immediately. The fair value of the Warrants was accounted for as a debt discount and calculated to be approximately $136 using the Black-Scholes method. The Company determined the Warrants met the criteria for equity classification, and, as such, the fair value of the Warrants is recorded as additional paid-in capital on the condensed consolidated balance sheets. Finally, the Company incurred issuance costs of approximately $150. Both the debt discount and issuance costs will be accreted to Notes payable by charges to interest expense over the term of the Term A Loan using the effective interest method.

The Loan Agreement contains customary representations, warranties and covenants and also includes customary events of default. Events of default include, among other things, the Company’s failure to pay amounts due, a breach of certain covenants, a material adverse change event, misrepresentations and judgments. Upon the occurrence of an event of default, a default interest rate of an additional 5.00% per annum may be applied to the outstanding loan balances, and the Lenders may declare all outstanding obligations immediately due and payable. Borrowings under the Loan Agreement are collateralized by substantially all the Company’s assets, other than its intellectual property, which include maintaining certain cash balances in controlled accounts.

Interest expense was $273 and $545 for the three and six months ended June 30, 2020, respectively. The effective rate on the Loan Agreement, including the amortization of the debt discount and issuance costs, and accretion of the final payment, was 9.7% at June 30, 2020. The components of the long-term debt balance are as follows:

	June 30, 2020	December 31, 2019
Notes payable, gross	$ 10,000	$ 10,000
Less: Unamortized debt discount and issuance costs	(216)	(254)
Accretion of final payment fee	129	64
Carrying value of notes payable	9,913	9,810
Less: Current portion of long-term debt	(272)	—
Long-term debt, net of issuance costs and discount	$ 9,641	$ 9,810

As of June 30, 2020, the estimated future principal payments due were as follows:

	As of June 30, 2020
2020	—
2021	1,945
2022	3,333
2023	3,333
2024	1,389
Total principal payments	$ 10,000

7. STOCK-BASED COMPENSATION

Equity Incentive Plans

In December 2014, the Company adopted the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended (the “2014 Plan”), for the issuance of stock options and other stock-based awards. In October 2018, the Company’s 2018 Equity Incentive Plan (the “2018 Plan”) became effective and as a result, no further awards will be made under the 2014 Plan. The 2018 Plan was established to provide equity-based ownership opportunities for employees and directors, as well as outside consultants and advisors. Any previously granted awards under the 2014 Plan will remain outstanding in accordance with their respective terms.

Under the 2018 Plan, there is an annual increase on January 1 of each year from 2019 until 2028, by the lesser of (i) 4% of the number of shares of common stock outstanding on December 31 of the prior year and (ii) an amount determined by the Board. On January 1, 2020, the Company increased the number of shares available for future grant under the 2018 Plan by 926,786 shares. At June 30, 2020, there were 1,308,921 shares available for future grant under the 2018 Plan.

The 2018 Plan is administered by the Board. The exercise prices, vesting and other restrictions are determined at the discretion of the Board, except that the exercise price per share of stock options may not be less than 100% of the fair market value of the common stock on the date of grant. Stock options awarded under the 2018 Plan expire 10 years after the grant date, unless the Board sets a shorter term. Vesting periods for awards under the 2018 Plan are determined at the discretion of the Board. Incentive stock options granted to employees and shares of restricted stock granted to employees, officers, members of the Board, advisors, and consultants of the Company typically vest over four years. Non-statutory options, shares of restricted stock and restricted stock units (“RSU”) granted to employees, officers, members of the Board, advisors, and consultants of the Company typically vest over one to four years.

Stock Options

During the six months ended June 30, 2020 and 2019, the Company granted options to purchase 785,203 and 174,591 shares of common stock, respectively, with a weighted-average grant date fair value per share of $4.76 and $6.34, respectively. The Company recorded stock-based compensation expense for options granted of $1,382 and $674 during the six months ended June 30, 2020 and 2019, respectively. As of June 30, 2020, there were 2,815,612 outstanding options, of which 1,450,910 were unvested corresponding to $6,062 of unrecognized stock-based compensation expense related to unvested stock options to be recognized over a weighted-average period of 2.8 years.

Restricted Common Stock

The Company has granted shares of restricted common stock with time-based and performance-based vesting conditions from time to time. The Company did not grant any restricted common stock during the six months ended June 30, 2020 or 2019. The Company recorded stock-based compensation expense for restricted common stock granted of $77 and $133 during the six months ended June 30, 2020 and 2019, respectively. As of June 30, 2020, there were 64,681 shares of unvested restricted common stock outstanding and $183 of unrecognized stock-based compensation expense related to unvested restricted common stock to be recognized over a weighted-average period of 1.5 years.

Restricted Stock Units

The Company has granted restricted stock units ("RSUs") with time-based conditions from time to time. Each RSU represents the right to receive one share of the Company's common stock upon vesting. The Company has issued RSUs that vest based on the passage of time assuming continued service with the Company. The fair value is calculated based upon the Company's closing stock price on the date of grant, and the stock-based compensation expense is recognized over the vesting period. During the six months ended June 30, 2020, the Company granted 120,939 RSUs. There were no RSUs granted during the six months ended June 30, 2019. The Company recorded stock-based compensation for RSUs granted of $115 and $0 during the six months ended June 30, 2020 and 2019, respectively. As of June 30, 2020, there were 115,639 RSUs outstanding and $541 of unrecognized stock-based compensation expense related to unvested RSUs to be recognized over a weighted-average period of 0.7 years.

Stock-Based Compensation Expense

Total stock-based compensation expense recorded as research and development and general and administrative expenses, respectively, for employees, directors and non-employees for the six months ended June 30, 2020 and 2019 is as follows:

	Six Months Ended June 30,	
	2020	2019
Research and development	$ 575	$ 352
General and administrative	999	455
Total stock-based compensation expense	$ 1,574	$ 807

8. STOCKHOLDERS' EQUITY

Open Market Sale Agreement

On November 15, 2019, the Company entered into an Open Market Sale Agreement (the "Open Market Sale Agreement") with Jefferies LLC, as agent ("Jefferies"), pursuant to which the Company may issue and sell shares of its common stock having an aggregate offering price of up to $50,000 (the "Open Market Shares") from time to time through Jefferies (the "Open Market Offering").

Under the Open Market Sale Agreement, Jefferies may sell the Open Market Shares by methods deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Exchange Act of 1934, as amended. The Company may sell the Open Market Shares in amounts and at times to be determined by the Company from time to time subject to the terms and conditions of the Open Market Sale Agreement, but it has no obligation to sell any of the Open Market Shares in the Open Market Offering.

The Company or Jefferies may suspend or terminate the offering of Open Market Shares upon notice to the other party and subject to other conditions. The Company has agreed to pay Jefferies commissions for its services in acting as agent in the sale of the Open Market Shares in the amount of up to 3.0% of gross proceeds from the sale of the Open Market Shares pursuant to the Open Market Sale Agreement. The Company has also agreed to provide Jefferies with customary indemnification and contribution rights.

During the six months ended June 30, 2020, the Company issued 269,540 shares of its common stock at a weighted-average price of $7.20 per share, resulting in net proceeds to the Company of $1,907. At June 30, 2020, the Company had $48,060 in aggregate gross offering amount available under the Open Market Sale Agreement. In July 2020, the Company issued 66,335 shares of its common stock at an average weighted price of $8.64 per share, resulting in net proceeds to the Company of $556.

9. REVENUE

In January 2020, the Company entered into a research agreement with Takeda for the development of product candidate LB-301 to treat Crigler-Najjar Syndrome. Under the terms of the Takeda Agreement, Takeda will fund all research and development activities related to the development of LB-301 under a pre-agreed upon research plan (the “Research Plan”). The Takeda Agreement also provides Takeda with an exclusive, non-binding option to enter into a license agreement to the LB-301 program upon the exercise of an option (the “License Option”).

The Company assessed the Takeda Agreement in accordance with ASC 606 and concluded that it represents a contract with a customer and is within the scope of ASC 606. The promised goods and services represent one combined performance obligation and the entire transaction price will be allocated to that single combined performance obligation. In addition, the Company concluded that the License Option does not provide any discounts or other rights. Terms related to an exclusive license negotiated after the exercise of the License Option will be part of a separate contract and reflect applicable standalone selling prices. As such, the Company concluded the License Option is not considered to be a material right.

Under the Takeda Agreement, Takeda is obligated to reimburse the Company for the costs incurred under the Research Plan. Costs incurred are billed by the Company to Takeda from time to time. The Company elected to recognize revenue under the "right to invoice" practical expedient based on the Company's right to invoice Takeda at an amount that approximates the value to the customer and the performance completed to date. The Company recognized $965 and $1,986 as service revenue under the Takeda Agreement during the three and six months ended June 30, 2020, respectively. Further, as of June 30, 2020, the Company recorded $101 as deferred revenue within current liabilities on the Company’s condensed consolidated balance sheets related to the Takeda Agreement.

10. INCOME TAXES

For the six months ended June 30, 2020 and the year ended December 31, 2019, the Company maintained a full valuation allowance on federal and state deferred tax assets since management does not forecast the Company to be in a profitable position in the near future. The income tax provision within the condensed consolidated statements of operations for the six months ended June 30, 2019 related to tax expense of the wholly owned foreign subsidiary, LogicBio Therapeutics Research Ltd, which ceased operations in 2018 and was formally dissolved in November 2019.

11. LOSS PER SHARE

Basic loss per share is computed by dividing net loss by the weighted-average shares of common stock outstanding, without consideration to common stock equivalents:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net loss	$ (8,227)	$ (10,048)	$ (17,682)	$ (17,745)
Denominator:				
Weighted-average common stock outstanding	23,326,018	22,479,511	23,250,910	22,396,780
Net loss per share — basic and diluted	$ (0.35)	$ (0.45)	$ (0.76)	$ (0.79)

The Company’s potentially dilutive shares, which include any outstanding stock options, warrants and unvested restricted stock, are considered to be common stock equivalents and are only included in the calculation of diluted net loss when their effect is dilutive.

The Company excluded the following potential common stock equivalents from the computation of diluted net loss per share attributable to common stockholders because including them would have had an anti-dilutive effect for the three and six months ended June 30, 2020 and 2019.

	June 30, 2020	June 30, 2019
Unvested restricted common stock	64,681	564,027
Unvested restricted stock units	115,639	—
Options to purchase common stock	2,815,612	2,509,572
Term A Loan warrants	15,686	—

12. LEASES

The Company has historically entered into lease arrangements for its facilities and certain equipment. As of June 30, 2020, the Company had two operating leases with required future minimum payments. In applying the guidance under ASC Topic 842 *Leases* ("ASC 842"), the Company determined the classification of these leases to be operating leases and recorded a right-of-use asset and lease liability as of the commencement date of each lease. The Company's leases generally do not include termination or purchase options. From time to time, leases may include options to renew the lease after the expiration of the initial lease term. A renewal period is included in the lease term only when it reasonably certain that the Company will exercise such renewal options. As of June 30, 2020, no renewal options existed that the Company felt were reasonably certain of being exercised.

In November 2019, the Company entered into a lease agreement for office, laboratory and vivarium space located at 65 Hayden Avenue Lexington, Massachusetts ("65 Hayden Ave Lease") to replace the Company's prior headquarters located at 99 Erie Street Cambridge, Massachusetts. Under the terms of the 65 Hayden Ave Lease, the Company leases approximately 23,901 square feet of space and pays an initial annual base rent of approximately $1,494, which is subject to scheduled annual increases, plus certain operating expenses and taxes. The Company took possession of the space on April 1, 2020 ("Lease Commencement Date") and the lease will continue through July 1, 2025 ("Lease Termination Date"). The Company has an option to extend the lease for a single additional term of 5 years. Upon execution of the 65 Hayden Ave Lease, the Company executed a $622 cash-collateralized letter of credit. Lease payments are anticipated to begin three months after the Lease Commencement Date and will continue in monthly installments through the Lease Termination Date.

At the Lease Commencement Date, the Company performed a lease assessment under the guidance prescribed in ASC 842 and concluded that the 65 Hayden Ave Lease was an operating lease. As such, the Company recorded an operating lease right-of-use asset and corresponding operating lease liability on the consolidated balance sheets of $6,428 which reflected the net present value of future payments under the lease. The discount rate used to calculate the net present value of future payments was the Company's incremental borrowing rate at the Lease Commencement Date, which was 7.6%.

Operating Leases

The following table contains a summary of the lease costs recognized under ASC 842 and other information pertaining to the Company's operating leases for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Operating leases				
Lease cost				
Operating lease cost	$ 464	$ 315	$ 789	$ 589
Variable lease cost	186	92	284	134
Total lease cost	$ 650	$ 407	$ 1,073	$ 723
Other year-to-date lease information				
Operating cash flows used for operating leases			$ 496	$ 521
Operating lease liabilities arising from obtaining right-of-use assets			$ 6,428	$ 1,323

The following table contains a summary of the lease liabilities recognized on the Company's condensed consolidated balance sheets as of June 30, 2020 and December 31, 2019:

	As of June 30, 2020	As of December 31, 2019
Other operating lease information		
Operating lease liabilities — short-term	$ 1,147	$ 504
Operating lease liabilities — long-term	$ 5,520	$ —
Weighted-average remaining lease term	4.9 years	0.7 years
Weighted-average discount rate	7.59%	7.04%

The variable lease costs for the three and six months ended June 30, 2020 and 2019 include common area maintenance and other operating charges. As the Company's leases do not provide an implicit rate, the Company utilized its incremental borrowing rate based on what it would normally pay to borrow on a collateralized basis over a similar term for an amount equal to the lease payments at the commencement date in determining the present value of lease payments.

Future minimum lease payments under the Company's operating leases as of June 30, 2020 and December 31, 2019, were as follows:

	As of June 30, 2020	As of December 31, 2019
Maturity of lease liabilities		
2020	$ 864	$ 523
2021	1,516	—
2022	1,562	—
2023	1,609	—
2024	1,657	—
Thereafter	841	—
Total lease payments	$ 8,049	$ 523
Less: imputed interest	(1,382)	(19)
Total operating lease liabilities	$ 6,667	$ 504

13. RELATED PARTIES

From time to time, the Company is or has been party to consulting service agreements with each of its three co-founders. Under the terms of each agreement, the Company pays an annual fee of $68 for research and development consulting services. For the three and six months ended June 30, 2020, the Company recorded research and development expense of $17 and $34, respectively, related to consulting services received from Mark Kay, who is one of the co-founders and a member of the Board. For the three and six months ended June 30, 2019, the Company recorded $34 and $84, respectively, to research and development expenses under consulting service agreements with its three co-founders.

14. COMMITMENTS AND CONTINGENCIES

Litigation

On March 18, 2020, a purported shareholder class action, John R. Afinowicz v. LogicBio Therapeutics, Inc., et al., No. 2:20-cv-03009, was filed in the United States District Court for the District of New Jersey, naming the Company and certain of its officers as defendants. The lawsuit alleges that the Company made material misrepresentations and/or omissions of material fact relating to its Investigational New Drug submission for LB-001 in its public disclosures, in violation of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, and Rule 10b-5 promulgated thereunder. The complaint seeks certification of a class of purchasers of the Company's common stock during the period from December 3, 2018 through February 10, 2020. The plaintiff seeks unspecified monetary damages on behalf of the putative class and an award of costs and expenses, including attorney's fees. On May 13, 2020, the defendants moved to transfer the action from the District of New Jersey to the District of Massachusetts, and on May 18, 2020, shareholder John R. Afinowicz moved for appointment as lead plaintiff. The Court granted Defendants' motion to transfer on June 2, 2020, and the case was transferred to the District of Massachusetts (No. 1:20-cv-11158) on June 18, 2020. The motion for appointment as lead plaintiff remains outstanding. The Company believes that this action is without merit and intends to defend it vigorously. At this time, no assessment can be made as to the likely outcome of this lawsuit or whether the outcome will be material to the Company.

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 the unaudited condensed consolidated financial statements and the accompanying notes included in this Quarterly Report on Form 10-Q and the audited consolidated financial information and the notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the Securities and Exchange Commission, or SEC, on March 16, 2020.

This discussion contains certain forward-looking statements that involve risks and uncertainties. Forward-looking statements are identified by words such as "believe," "will," "may," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," "predict," "could," "potentially" or the negative of these terms or similar expressions. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in the "Risk Factors" section of our Annual Report on Form 10-K and our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. These statements, like all statements in this Quarterly Report on Form 10-Q, speak only as of their date, and except as required by law, we undertake no obligation to update or revise these statements in light of future developments. We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Overview

We are a company dedicated to extending the reach of genetic medicine with pioneering targeted delivery platforms. Our proprietary genome editing technology platform, GeneRide, enables the site-specific integration of a therapeutic transgene without nucleases or exogenous promoters by harnessing the native process of homologous recombination. We are developing LB-001, a wholly owned genome editing program leveraging GeneRide for the treatment of methylmalonic acidemia, or MMA. In addition, we have a research collaboration with Takeda to develop LB-301, an investigational therapy leveraging GeneRide for the treatment of the rare pediatric disease Crigler-Najjar syndrome, or CN.

We are also developing a Next Generation Capsid platform for use in gene editing and gene therapy. Data presented have shown that the capsids deliver highly efficient functional transduction of human hepatocytes with improved manufacturability with low levels of pre-existing neutralizing antibodies in human samples. Top-tier capsid candidates from this effort demonstrated significant improvements over benchmark AAVs currently in clinical development. We are developing these highly potent vectors for internal development candidates and potentially for business development collaborations.

Based on our GeneRide technology, we are developing our lead product candidate, LB-001, to treat MMA. In August 2020, we announced the clearance of an investigational new drug application, or IND, to support the initiation of a Phase 1/2 clinical trial in pediatric patients with MMA. The SUNRISE trial is a multi-center, open-label, Phase 1/2 clinical trial designed to assess the safety and tolerability of a single intravenous infusion of LB-001 in pediatric patients with MMA characterized by methylmalonyl-CoA mutase gene (*MMUT*) mutations. Six leading centers in the United States are expected to participate in the SUNRISE Phase 1/2 trial. The trial is expected to enroll eight pediatric patients with ages ranging from 6 months to 12 years, initially starting with 3 to 12 year-old patients and then adding patients aged 6 months to 2 years. The SUNRISE Phase 1/2 trial will evaluate two doses of LB-001. Patients will participate in a pre-dosing observational period and will be administered a prophylactic steroid regimen. The primary endpoint of the SUNRISE trial is to assess the safety and tolerability of LB-001 at 52 weeks after a single infusion. Additional endpoints include changes in disease-related biomarkers, including serum methylmalonic acid, clinical outcomes such as growth and healthcare utilization, and the pharmacodynamic marker albumin-2A. The company expects to enroll the first patient in early 2021.

We believe that achieving clinical proof of concept in an inherited liver disease such as MMA will validate our platform technology, including its potential application to other organs and diseases. In addition to MMA and CN, we have demonstrated proof of concept of our platform in hemophilia B and alpha-1-antitrypsin deficiency, or A1ATD, animal disease models. We expect to select future product candidates from these and other genetic diseases addressed by targeting the liver initially, and later by targeting the central nervous system, or CNS, and muscle.

Since our inception in 2014, we have devoted the majority of our efforts to business planning, research and development, developing and protecting our intellectual property, raising capital and recruiting management and technical staff. We do not have any products approved for sale and our only revenue has consisted of service revenue related to research cost reimbursement received under the Takeda agreement. As of June 30, 2020, we have raised approximately $9.8 million in net proceeds through the loan and security agreement in July 2019, approximately $72.3 million in net proceeds through our initial public offering, or IPO, in October 2018, approximately $33.1 million in net proceeds from the sale of our convertible preferred stock in 2016 and 2017 and $1.9 million in net

proceeds through at-the-market sales of our common stock. We have incurred significant operating losses since our inception. Our ability to generate product revenue sufficient to achieve profitability will depend on the successful development and commercialization of our product candidate and any future product candidates. Our net loss was $17.7 million for the six months ended June 30, 2020 and our accumulated deficit was $85.1 million as of June 30, 2020. We expect to continue to incur significant expenses and operating losses for the foreseeable future in connection with our ongoing activities.

Impact of COVID-19

We have been actively monitoring the COVID-19 pandemic and its impact globally. Our objectives have remained the same throughout the pandemic: to support the safety of our team members and their families and to continue our research and development activities to develop genetic medicines that have the potential to durably treat rare diseases in patients with significant unmet medical need.

Since mid-March 2020, our non-laboratory employees have been working remotely in order to comply with social distancing and other applicable orders and guidelines from federal, state and local government agencies. After being limited to working in shifts on-premises through early July, laboratory employees, whose work must be performed on premises, have returned to normal working schedules on-premises. We have also ceased all business travel for our employees. We plan to maintain these or similar restrictions on our business activities until we believe our employees can fully resume such business activities in accordance with federal, state and local requirements and guidelines.

Our research, development and manufacturing activities are dependent on our ability to continue our work on premises at our laboratory. We also rely on third parties located in countries that are affected by the COVID-19 pandemic, including the United States, for certain research, development and manufacturing activities. Similar to how we have restricted business activities at our premises, many of these third parties have also limited their staff from working on premises as part of their response to COVID-19. While we believe we and our third party vendors, suppliers and collaborators have largely been able to continue or resume essential business activities to a certain degree, we cannot predict the impact of the progression of the COVID-19 pandemic on future results due to a variety of factors, including the health of our and their employees, our ability to maintain operations, the ability of our third party vendors, suppliers and collaborators to continue operations, any further government and/or public actions taken in response to the pandemic and ultimately the length of the pandemic.

In April 2020, as part of our effort to preserve capital, our leadership team volunteered to accept salary cuts ranging from 15% to 20%. We have also adopted certain other cost-cutting measures aimed at enhancing our capital position. During the three months ended June 30, 2020, we entered into “at-the-market” sales of our common stock resulting in net proceeds of approximately $1.9 million. While we intend to continue to evaluate ways to enhance our liquidity and capital position, our efforts will largely depend on future developments that are highly uncertain and cannot be predicted with confidence at this time.

We plan to continue to closely monitor the COVID-19 pandemic in order to ensure the safety of our personnel and to continue advancing our research and development activities.

Components of Results of Operations

Revenue

To date, our only revenue has consisted of research cost reimbursements recognized as service revenue, all of which is attributable to the January 2020 research agreement with Takeda to develop LB-301 in CN. We have not generated any revenue from product sales and do not expect to generate any revenue from product sales for the foreseeable future.

Operating Expenses

Research and Development Expenses

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

- salaries, benefits and other related costs, including stock-based compensation expense, for personnel engaged in research and development functions;
- license maintenance fees and milestone fees incurred in connection with various license agreements;
- the costs of laboratory supplies and acquiring, developing and manufacturing preclinical study and, eventually, clinical trial materials;

- expenses incurred under agreements with contract research organizations, or CROs, contract manufacturing organizations, or CMOs, as well as academic institutions and consultants that conduct our preclinical studies and other scientific development services;
- facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs;
- costs of outside consultants, including their fees, stock-based compensation and related travel expenses; and
- costs related to compliance with regulatory requirements.

We expense research and development costs as incurred. Costs for external development activities are recognized based on an evaluation of the progress to completion of specific tasks. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our financial statements as prepaid or accrued research and development expenses.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, finance, corporate and business development and administrative functions. General and administrative expenses also include professional fees for legal, patent, accounting, auditing, tax and consulting services, travel expenses, and facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

Other Income (Expense), Net

Interest income consists primarily of interest on our cash and cash equivalents and investments. Interest expense consists of interest expense related to the aggregate $10.0 million principal amount of the Term A Loan borrowing under the loan and security agreement in July 2019. A portion of the interest expense on the Term A Loan is non-cash expense relating to the accretion of the debt discount and amortization of issuance costs. During the three and six months ended June 30, 2020, we recorded $0.3 million and $0.5 million, respectively, in interest expense, of which $0.2 million and $0.4 million, respectively, related to cash interest paid and the remainder to the accretion of the debt discount and amortization of issuance costs. Other expense, net consists primarily of foreign exchange losses.

Results of Operations

Comparison of the Three Months Ended June 30, 2020 and 2019

The following table summarizes our results of operations for the three months ended June 30, 2020 and 2019:

	Three Months Ended June 30,	
	2020	2019
	(in thousands)	
REVENUE		
Service revenue	$ 965	$ —
Total revenue	965	—
OPERATING EXPENSES		
Research and development	5,895	7,934
General and administrative	3,029	2,524
Total operating expenses	8,924	10,458
Loss from operations	(7,959)	(10,458)
Other (expense) income:		
Other (expense) income, net	(268)	410
Loss before income taxes	(8,227)	(10,048)
Income tax provision	—	—
Net loss	$ (8,227)	$ (10,048)

Revenue

Our revenue for the three months ended June 30, 2020 consisted solely of the $1.0 million in research cost reimbursements recognized as service revenue under the January 2020 research agreement with Takeda.

Research and Development Expenses

The following table summarizes our research and development expenses for the three months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		
	2020	2019	(Decrease) / Increase
	(in thousands)		
LB-001 external development and manufacturing costs	$ 2,393	$ 4,676	$ (2,283)
Personnel-related costs	1,398	1,498	(100)
Other research and development costs	2,104	1,760	344
Total research and development expenses	$ 5,895	$ 7,934	$ (2,039)

Research and development expenses for the three months ended June 30, 2020 were $5.9 million, compared to $7.9 million for the three months ended June 30, 2019. The decrease of approximately $2.0 million was primarily due to decreases of approximately $2.3 million in external development and manufacturing expenses for our lead product candidate, LB-001 and $0.1 million in personnel-related costs as our increased headcount has been offset by salary cuts related to the COVID-19 pandemic. These decreases were partially offset by an increase of $0.3 million in other research and development expenses as we increased our overall research and development activities related to general platform development. While there may be fluctuations on a quarterly basis, we expect that our research and development costs will decrease during 2020, as compared to 2019, as we have already incurred a significant proportion of the LB-001 external development and manufacturing costs needed to bring LB-001 into clinical development.

General and Administrative Expenses

General and administrative expenses were $3.0 million for the three months ended June 30, 2020, compared to $2.5 million for the three months ended June 30, 2019. The increase of approximately $0.5 million was primarily due to an increase of $0.2 million in corporate legal expense, an increase of $0.1 million related to D&O insurance premiums and an increase of $0.1 million related to non-capitalizable facilities expense. We expect that our general and administrative expenses will remain relatively consistent during 2020 as compared to 2019, although there may be fluctuations on a quarterly basis.

Other (Expense) Income, Net

Other expense, net was $0.3 million for the three months ended June 30, 2020, compared to other income, net of $0.4 million for the three months ended June 30, 2019. The net decrease was primarily related to a decrease in interest income due to lower interest rates and lower capital resource balances as well as interest expense related to the loan and security agreement.

Comparison of the Six Months Ended June 30, 2020 and 2019

The following table summarizes our results of operations for the six months ended June 30, 2020 and 2019:

	Six Months Ended June 30,	
	2020	2019
	(in thousands)	
REVENUE		
Service revenue	$ 1,986	—
Total revenue	1,986	—
OPERATING EXPENSES		
Research and development	13,068	13,420
General and administrative	6,221	5,156
Total operating expenses	19,289	18,576
Loss from operations	(17,303)	(18,576)
Other (expense) income:		
Other (expense) income, net	(379)	853
Loss before income taxes	(17,682)	(17,723)
Income tax provision	—	(22)
Net loss	$ (17,682)	$ (17,745)

Revenue

Our revenue for the six months ended June 30, 2020 consisted solely of the $2.0 million in research cost reimbursements recognized as service revenue under the January 2020 research agreement with Takeda.

Research and Development Expenses

The following table summarizes our research and development expenses for the six months ended June 30, 2020 and 2019:

	Six Months Ended June 30,		
	2020	2019	(Decrease) / Increase
	(in thousands)		
LB-001 external development and manufacturing costs	$ 5,887	$ 7,430	$ (1,543)
Personnel-related costs	3,164	2,695	469
Other research and development costs	4,017	3,295	722
Total research and development expenses	$ 13,068	$ 13,420	$ (352)

Research and development expenses for the six months ended June 30, 2020 were $13.1 million, compared to $13.4 million for the six months ended June 30, 2019. The decrease of approximately $0.4 million was primarily due to a decrease of approximately $1.5 million related to external development and manufacturing expenses for our lead product candidate, LB-001. This was partially offset by an increase of $0.7 million in other research and development expenses as we increased our overall research and development activities related to general platform development and $0.5 million in personnel-related costs due to increases in research and development headcount. Personnel-related costs for the six months ended June 30, 2020 included stock-based compensation expense of $0.6 million, compared to $0.4 million for the six months ended June 30, 2019.

General and Administrative Expenses

General and administrative expenses for the six months ended June 30, 2020 were $6.2 million, compared to $5.2 million for the six months ended June 30, 2019. The increase of approximately $1.0 million reflects a $0.5 million increase in personnel-related costs which was mainly the result of a $0.5 million increase in stock-based compensation expense, a $0.3 million increase in corporate and IP legal expenses and an increase of $0.3 million related to D&O insurance premiums.

Other (Expense) Income, Net

Other expense, net was $0.4 million for the six months ended June 30, 2020, compared to other income, net of $0.9 million for the six months ended June 30, 2019. The net decrease was primarily related to a decrease in interest income due to lower interest rates and lower capital resource balances as well as interest expense related to the loan and security agreement.

Liquidity and Capital Resources

Overview

Since our inception and through June 30, 2020, we have not generated any sales revenue and have incurred significant losses and negative cash flows from our operations.

As a result of the uncertainties for our business caused by the COVID-19 pandemic, we have implemented certain measures as part of our effort to preserve capital as described further under the heading “Impact of COVID-19.” As of June 30, 2020, we had cash and cash equivalents of $36.7 million, which we believe will be able to fund our operating expenses and capital expenditure requirements into the third quarter of 2021. While we intend to continue to evaluate ways to enhance our liquidity and capital position, our efforts will largely depend on future developments that are highly uncertain and cannot be predicted with confidence at this time. As such, there is substantial doubt about our ability to continue as a going concern within one year of the date of this filing.

Cash Flows

The following table summarizes our cash flows for the six months ended June 30, 2020 and 2019:

	Six Months Ended June 30,	
	2020	2019
	(in thousands)	
Net cash used in operating activities	$ (15,845)	$ (16,962)
Net cash provided by (used in) investing activities	17,298	(38,577)
Net cash provided by financing activities	1,991	82
Effect of foreign exchange rates on cash and cash equivalents	—	7
Net increase (decrease) in cash, cash equivalents and restricted cash	$ 3,444	$ (55,450)

Operating Activities

During the six months ended June 30, 2020, net cash used in operating activities was approximately $15.8 million, primarily related to our net loss adjusted for non-cash charges and changes in the components of working capital. The $1.1 million decrease in net cash used in operating activities during the six months ended June 30, 2020 as compared to the six months ended June 30, 2019, was primarily driven by the three month rent abatement period received on the 65 Hayden Ave Lease as well as larger non-cash stock-based compensation expense.

Investing Activities

During the six months ended June 30, 2020, net cash provided by investing activities was $17.3 million as the proceeds from our short-term investments that matured during the period were not reinvested and were instead held as cash and cash equivalents. During the six months ended June 30, 2019, net cash used in investing activities was $38.6 million, primarily related to net short-term investments activity of $37.8 million and the purchase of property and equipment of $0.7 million.

Financing Activities

During the six months ended June 30, 2020, net cash provided by financing activities was $2.0 million primarily driven by approximately $1.9 million in net proceeds from sales of our common stock under the open market sales agreement with Jefferies LLC. During the six months ended June 30, 2019, net cash provided by financing activities consisted of approximately $0.1 million related to the exercise of stock options.

Funding Requirements

We expect to continue to incur a significant amount of expenses in connection with our ongoing activities for the foreseeable future. In particular, we will incur significant expenses related to the preclinical activities and clinical trials of our product candidates and any future product candidates.

We expect that our expenses will increase substantially if and as we:

- continue our research and preclinical development of any product candidates from our current or future research programs;
- initiate clinical trials for LB-001 and any other product candidates we identify and develop;
- seek to identify, assess, acquire and/or develop additional research programs and additional product candidates;
- seek marketing approvals for any product candidate that successfully complete clinical trials;
- develop, optimize, scale and validate a manufacturing process and analytical methods for any product candidates we may develop;
- establish and build out internal process and analytical development capabilities and preclinical and clinical grade production;
- obtain market acceptance of any product candidates we may develop as viable treatment options;
- address competing technological and market developments;
- maintain, expand and protect our intellectual property portfolio and provide reimbursement of third-party expenses related to our patent portfolio;
- further develop our GeneRide technology platform and our next generation capsid platform;
- hire additional technical, quality, regulatory, clinical, scientific and commercial personnel and add operational, financial and management information systems and personnel, including personnel to support our process and product development, manufacturing and planned future commercialization efforts;
- make royalty, milestone or other payments under current and any future in-license agreements;
- establish and maintain supply chain and manufacturing relationships with third parties that can provide adequate products and services, in both amount, timing and quality, to support clinical development and the market demand for any product candidate for which we obtain regulatory and marketing approval;
- lease and build new facilities, including offices and labs, to support organizational growth;
- validate and build-out a commercial-scale current Good Manufacturing Practices, or cGMP, manufacturing facility; and
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval.

We are unable to estimate the timing and amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates because of the numerous risks and uncertainties associated with the development of LB-001 and any other product candidates and programs we may develop and because the extent to which we may enter into collaborations with third parties for development of LB-001 and any other product candidates we may develop is unknown. Our future funding requirements, both near and long-term, will depend on many factors, including:

- the initiation, scope, progress, timing, costs and results of drug discovery, preclinical development, laboratory testing, and planned clinical trials for LB-001, including our SUNRISE Phase 1/2 clinical trial of LB-001 in MMA, and any other product candidates;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities, including resolving any potential clinical holds that may be imposed on us;
- the impact of the COVID-19 pandemic on our ability to progress with our research, development, manufacturing and regulatory efforts, including our ability to initiate, advance and complete our SUNRISE Phase 1/2 clinical trial of LB-001;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending potential intellectual property disputes, including patent infringement actions;

- the achievement of milestones or occurrence of other developments that trigger payments under any of our current agreements or other agreements we may enter into;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, clinical trial and other research and development costs under future collaboration agreements, if any;
- the effect of competing technological and market developments;
- the cost and timing of completion of clinical or commercial-scale manufacturing activities;
- the extent to which we in-license or acquire other products and technologies;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the cost of establishing sales, marketing and distribution capabilities for LB-001 and any other product candidates in regions where we choose to commercialize our product candidates, if approved; and
- the initiation, progress, timing and results of our commercialization of LB-001 and any other product candidates, if approved, for commercial sale.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the research and development of that product candidate. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant trial delays due to patient enrollment or other reasons, we would be required to expend significant additional financial resources and time on the completion of clinical development. Any significant delays in our programs may also require us to reevaluate our corporate strategy, resulting in the expenditure of significant resources and time. We may never succeed in obtaining regulatory approval for our product candidates or any future product candidates.

Until such time, if ever, that we can generate product revenue sufficient to achieve profitability, we expect to finance our cash needs through offerings of securities, private equity financing, debt financings, collaborations, government contracts or other strategic transactions. The terms of financing may adversely affect the holdings or the rights of our stockholders. If we are unable to obtain funding, we may be required to delay, limit, reduce or terminate some or all of our research and product development, product portfolio expansion or future commercialization efforts.

At-the-Market Sales of Common Stock

In November 2019, we entered into an open market sale agreement with Jefferies LLC as the sales agent. Under the terms of this sale agreement, we may sell shares of our common stock, from time to time, having an aggregate value of up to $50 million through Jefferies LLC. We pay a 3% cash commission to Jefferies LLC on the proceeds from sales under the program. During the six months ended June 30, 2020, we issued 269,540 shares of our common stock at a weighted-average price of $7.20 per share, resulting in net proceeds to us of $1.9 million. At June 30, 2020, we had $48.1 million in aggregate gross offering amount available under this sales agreement. In July 2020, we issued 66,335 shares of our common stock at an average weighted price of $8.64 per share, resulting in net proceeds to us of $0.6 million.

Contractual Obligations and Commitments

We are a smaller reporting company, as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, for this reporting period and are not required to provide additional information on our contractual obligations and commitments pursuant to Item 303 of Regulation S-K.

Policies and Significant Judgments and Estimates

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

There have been no significant changes to our critical accounting policies from those described in “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 16, 2020, other than the significant accounting policy over revenue recognition under ASC 606, which is described further in Note 2 to the financial statements included in this Quarterly Report on Form 10-Q.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012 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.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

Recently Issued Accounting Pronouncements

Refer to Note 2 in the accompanying notes to our unaudited condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q for a discussion of recent accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are a smaller reporting company, as defined in Rule 12b-2 under 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 Chief Executive Officer (principal executive officer) and Chief Financial Officer (principal financial officer), evaluated the effectiveness of our disclosure controls and procedures as of June 30, 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 (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 June 30, 2020, our 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

There were no changes in our internal control over financial reporting during the quarter ended June 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. As a result of the COVID-19 pandemic, certain employees began working remotely in March. Notwithstanding these changes to the working environment, we have not identified any material changes in our internal control over financial reporting. We are continually monitoring and assessing the COVID-19 situation to determine any potential impact on the design and operating effectiveness of our internal controls over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

On March 18, 2020, a purported shareholder class action, *John R. Afinowicz v. LogicBio Therapeutics, Inc., et al.*, No. 2:20-cv-03009, was filed in the United States District Court for the District of New Jersey, naming us and certain of our officers as defendants. The lawsuit alleges that we made material misrepresentations and/or omissions of material fact relating to our Investigational New Drug submission for LB-001 in our public disclosures, in violation of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, and Rule 10b-5 promulgated thereunder. The complaint seeks certification of a class of purchasers of our common stock during the period from December 3, 2018 through February 10, 2020. The plaintiff seeks unspecified monetary damages on behalf of the putative class and an award of costs and expenses, including attorney's fees. On May 13, 2020, the defendants moved to transfer the action from the District of New Jersey to the District of Massachusetts, and on May 18, 2020, shareholder John R. Afinowicz moved for appointment as lead plaintiff. The Court granted Defendants' motion to transfer on June 2, 2020, and the case was transferred to the District of Massachusetts (No. 1:20-cv-11158) on June 18, 2020. The motion for appointment as lead plaintiff remains outstanding. We believe that this action is without merit and intend to defend it vigorously. At this time, no assessment can be made as to the likely outcome of this lawsuit or whether the outcome will be material to us.

Item 1A. Risk Factors.

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2019 and in Part II, "Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020, which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K and our Quarterly Report on Form 10-Q for the quarterly period ended March 31,2020 may not be the only risks facing the Company. For example, our investigational new drug application, or IND, for LB-001 was recently placed on clinical hold by the FDA in order to evaluate certain clinical and preclinical aspects of our submission. While our IND clinical hold for LB-001 was lifted in August 2020, there can be no assurance that the FDA will not place this IND, or any IND relating to any other of our product candidates that we may file in the future, on clinical hold, requiring us to address any issues raised by the FDA in order to continue the applicable clinical trial. Additional risks and uncertainties not currently known to the Company or that the Company currently deems to be immaterial also may materially adversely affect the Company's business, financial condition and/or operating results.

There have been no material changes from the risk factors previously disclosed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 16, 2020, and our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020, filed with the SEC on May 11, 2020.

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

Use of Proceeds from Initial Public Offering

On October 23, 2018, we closed our IPO, in which we issued and sold 8,050,000 shares of our common stock, including 1,050,000 shares sold pursuant to the full exercise of the underwriters' option to purchase additional shares, at a public offering price of $10.00 per share for gross proceeds of $80.5 million, before deducting underwriting discounts and commissions and offering expenses payable by us. All of the shares issued and sold in the IPO were registered under the Securities Act pursuant to a Registration Statement on Form S-1 (File No. 333-227523), which was declared effective by the SEC on October 18, 2018. Jefferies LLC, Barclays Capital Inc. and William Blair & Company, L.L.C. acted as joint book-running managers of the offering and as representatives of the underwriters. Chardan Capital Markets, LLC acted as the lead manager for the offering. The offering commenced on October 18, 2018 and did not terminate until the sale of all of the shares offered.

The net offering proceeds to us, after deducting underwriting discounts and offering costs payable by us of an aggregate of approximately $8.2 million, were approximately $72.3 million. No material offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10.0% or more of any class of our equity securities or to any other affiliates.

There has been no material change in our planned use of the net offering proceeds from our IPO as described in our final prospectus filed with the SEC pursuant to Rule 424(b)(4) on October 22, 2018. We have been using and plan to continue to use the net proceeds from the IPO primarily to fund the development of LB-001 in MMA and for discovery and preclinical development of additional product candidates, and for working capital and general corporate purposes.

Item 6. Exhibits.

EXHIBIT 3.1	—	Fourth Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, File No. 001-38707, filed on October 29, 2018).
EXHIBIT 3.2	—	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, File No. 001-38707, filed on October 29, 2018).
EXHIBIT 10.1*+	—	Amendment No 4 to Amendment and Restated (Equity) Agreement, dated as of April 29, 2020, between The Board of Trustees of the Leland Stanford University and LogicBio Therapeutics, Inc
EXHIBIT 31.1	—	Rule 13a—14(a) / 15d—14(a) Certifications — Chief Executive Officer.
EXHIBIT 31.2	—	Rule 13a—14(a) / 15d—14(a) Certifications — Chief Financial Officer.
EXHIBIT 32.1	—	Section 1350 Certifications.
EXHIBIT 101.INS	—	Inline XBRL Instance Document. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
EXHIBIT 101.SCH	—	Inline XBRL Taxonomy Extension Schema Document.
EXHIBIT 101.CAL	—	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
EXHIBIT 101.DEF	—	Inline XBRL Taxonomy Extension Definition Linkbase Document.
EXHIBIT 101.LAB	—	Inline XBRL Taxonomy Extension Label Linkbase Document.
EXHIBIT 101.PRE	—	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
EXHIBIT 104	—	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith

\+ Pursuant to 17 C.F.R §§230.406 and 230.83, the confidential portions of this exhibit have been omitted and are marked accordingly

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.

LogicBio Therapeutics, Inc.

Dated: August 10, 2020

By: /s/ Frederic Chereau
Frederic Chereau
President and Chief Executive Officer

Dated: August 10, 2020

By: /s/ Matthias Jaffé
Matthias Jaffé
Chief Financial Officer

Exhibit 10.1

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO LOGICBIO THERAPEUTICS, INC. IF PUBLICLY DISCLOSED

AMENDMENT NO. 4
TO
AMENDED AND RESTATED EXCLUSIVE (EQUITY) AGREEMENT

THIS AMENDMENT NO. 4 TO THE AMENDED AND RESTATED EXCLUSIVE (EQUITY) AGREEMENT (the "**Amendment No. 4**") is made as of April 29, 2020 ("**Amendment No. 4 Effective Date**"), by and between The Board of Trustees of the Leland Stanford Junior University, an institution of higher education having powers under the laws of the State of California ("**Stanford**"), and LogicBio Therapeutics, Inc., a Delaware corporation ("**LogicBio**"). Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in that certain Amended and Restated Exclusive (Equity) Agreement, dated as of January 31, 2018, by and between Stanford and LogicBio, as amended by that certain Amendment No. 1 dated as of May 3, 2018, and amended again by that certain Amendment No. 2 dated June 3, 2019, and amended again by that certain Amendment No. 3 dated January 29, 2020, to Amended and Restated Exclusive (Equity) Agreement (the "**Original Agreement**," and as amended by this Amendment No. 4, the "**Agreement**").

RECITALS

WHEREAS, the Parties desire in the future to revise the timeline for and/or definition of the Nomination of Tissues in the Original Agreement and revise certain timelines and diligence milestones set forth in the Original Agreement;

WHEREAS, LogicBio desires an additional few months to consider the tissue designations and timelines of the diligence milestones, as set forth in the Agreement and recently amended by Amendment No. 3;

WHEREAS, pursuant to Section 19.4 of the Original Agreement, the Original Agreement may be amended in writing executed by authorized representatives of Stanford and LogicBio; and

WHEREAS, in accordance with Section 19.4 of the Original Agreement, Stanford and LogicBio desire to amend the Agreement in the manner provided herein.

AGREEMENT

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, Stanford and LogicBio hereby agree as follows:

1. Amendment of Agreement.

a. Section 2.32 of the Original Agreement is hereby amended and restated in its entirety as follows:

2.32 "Tissue Field of Use" means:

(A) prior to [***]:

(1) the diagnosis, prevention or treatment of human disease, including, for clarity, hemophilia A and Alpha-1 antitrypsin disease, via genomic editing without a nuclease.

(B) from [***] until [***]

(1) the diagnosis, prevention or treatment of any human disease of liver tissue that affects less than 200,000 persons in the United States as of [***] via genome editing without a nuclease; and

(2) the diagnosis, prevention or treatment of human disease of the Nominated Tissues via genome editing without a nuclease.

(C) from [***] onward

(1) the prevention, treatment or diagnosis of Active Indications via genome editing without a nuclease.

b. Section 3.3 of the Original Agreement is hereby amended and restated in its entirety as follows:

3.3 Nomination of Tissues. At any time on or prior to [***], LogicBio may provide to Stanford a written notice listing up to [***] human tissues that will be the subject of LogicBio's development efforts with respect to the technology licensed under this Agreement. By way of example, and without limiting the foregoing, for purposes of this Agreement "human tissue" includes skeletal muscle tissue, lung tissue and the central nervous system. Beginning on the date on which LogicBio provides such written notice to Stanford, such tissues shall be deemed "Nominated Tissues"; provided that if LogicBio does not incur at least $[***] in research and development expenses with respect to the application of GT and VT to a Nominated Tissue in the [***]-month period beginning on [***] or [***] of any subsequent year, then such tissue will no longer be deemed a "Nominated Tissue" following the end of such [***]-month period.

c. Section 6.2 of the Original Agreement is hereby amended and restated in its entirety as follows:

6.2 Active Indications. On or prior to [***], LogicBio will provide to Stanford a written notice listing all indications that relate to human liver tissue and the Nominated Tissues that are the subject of LogicBio's research and development efforts with respect to the technology licensed under this Agreement as of [***]. Beginning on [***], such indications shall be deemed "Active Indications"; provided that, if LogicBio does not incur at least $[***] in research and development expenses with respect to the application of GT and VT to an Active Indication in the [***]-month period beginning on [***] or any [***]-month period thereafter, then such indication will no longer be deemed an "Active Indication" following the end of such [***]-month period.

d. Appendix C – Milestones of the Agreement are hereby amended by replacing Appendix C in the Original Agreement in its entirety with Appendix A to this Amendment No. 4.

e. Section 6.3 of the Original Agreement is hereby amended and restated in its entirety as follows:

6.3 Progress Report. By March 1 of each year, LogicBio will submit a written annual report to Stanford covering the preceding calendar year. The report will include information sufficient to enable Stanford to satisfy reporting requirements of the U.S. Government and for Stanford to ascertain progress by LogicBio toward meeting this Agreement's diligence requirements (including without limitation LogicBio's diligence obligations with respect to Nominated Tissues and Active Indications). Each report will describe, where relevant: (a) LogicBio's progress toward commercialization of Licensed Product, including work completed, key scientific discoveries, summary of work-in-progress, current schedule of anticipated events or milestones, market plans for introduction of Licensed Product, (b) significant corporate transactions involving Licensed Product, (c) beginning with the first annual report following [***], LogicBio's research and development efforts with respect to each Nominated Tissue, and (d) beginning with the first annual report following [***], LogicBio's research and development efforts with respect to each Active Indication. LogicBio will specifically describe how each Licensed Product is related to each Licensed Patent.

2. Payment. LogicBio will pay to Stanford a noncreditable, nonrefundable fee of [***] ($[***]) within [***] business days of its receipt of the invoice for such amount.

3. Continued Validity of Agreement. Except as specifically amended hereby, the Original Agreement shall continue in full force and effect as originally constituted and is ratified and affirmed by the parties hereto.

4. Successors and Assigns. The terms and conditions of this Amendment No. 4 shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Amendment No. 4, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Amendment No. 4, except as expressly provided in this Amendment No. 4.

5. Governing Law. This Amendment No. 4 shall be governed by and construed in accordance with the laws of the State of California, United States of America, applicable to agreements negotiated, executed, and performed within California.

6. Electronic Copy. This parties to this Amendment No. 4 agree that a copy of the original signature (including an electronic copy) may be used for any and all purposes for which the original signature may have been used. The parties further waive any right to challenge the admissibility or authenticity of this document in a court of law based solely on the absence of an original signature.

[*Signature pages to follow*]

The parties execute this Amendment in duplicate originals by their duly authorized officers or representatives.

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

Signature: /s/ Mona Wan

Name: Mona Wan

Title: Associate Director

LOGICBIO THERAPEUTICS, INC.

Signature: /s/ Bryan Yoon

Name: Bryan Yoon

Title: Chief Administrative Officer & General Counsel

Exhibit 31.1

Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Frederic Chereau, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of LogicBio 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: August 10, 2020

By: /s/ Frederic Chereau
Frederic Chereau
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Matthias Jaffé, certify that:

1. 1.I have reviewed this Quarterly Report on Form 10-Q of LogicBio 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: August 10, 2020

By: /s/ Matthias Jaffé
Matthias Jaffé
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 LogicBio Therapeutics, Inc. (the "Company") for the quarter ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the company, hereby certifies, pursuant to Section 1350 of Chapter 63 of Title 18, United States Code, 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.

Dated: August 10, 2020

/s/ Frederic Chereau
Frederic Chereau
President and Chief Executive Officer

Dated: August 10, 2020

/s/ Matthias Jaffé
Matthias Jaffé
Chief Financial Officer