UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2021

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 May 5, 2021, the registrant had 32,160,459 shares of common stock, $0.0001 par value per share, outstanding.

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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™ and sAAVy™ technology platforms 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, 2020 filed with the Securities and Exchange Commission, or SEC, on March 15, 2021 as may be amended or updated in subsequent filings with the SEC. 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. Although we believe that the expectations reflected in the forward-looking statements are reasonable, 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)

	March 31, 2021	December 31, 2020
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 63,942	$ 70,075
Accounts receivable	89	263
Prepaid expenses and other current assets	2,096	2,205
Total current assets	66,127	72,543
Property and equipment, net	1,780	1,815
Restricted cash	622	622
Operating lease right-of-use asset	5,395	5,660
TOTAL ASSETS	$ 73,924	$ 80,640
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 709	$ 447
Accrued expenses and other current liabilities	3,133	2,701
Operating lease liabilities	1,126	1,094
Current portion of long-term debt	2,735	1,910
Total current liabilities	7,703	6,152
Long-term debt, net of issuance costs and discount	7,337	8,109
Operating lease liabilities, net of current portion	4,659	4,952
Total liabilities	19,699	19,213
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 March 31, 2021 and December 31, 2020.	—	—
Common stock, par value of $0.0001 per share; 175,000,000 shares authorized; 32,058,206 and 31,775,748 shares issued and outstanding as of March 31, 2021 and December 31, 2020, respectively	3	3
Additional paid-in capital	164,495	161,415
Accumulated other comprehensive income	—	—
Accumulated deficit	(110,273)	(99,991)
Total stockholders' equity	54,225	61,427
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 73,924	$ 80,640

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 March 31,	
	2021	**2020**
REVENUE		
Service revenue	$ 461	$ 1,021
Total revenue	461	1,021
OPERATING EXPENSES		
Research and development	6,419	7,173
General and administrative	4,059	3,192
Total operating expenses	10,478	10,365
LOSS FROM OPERATIONS	(10,017)	(9,344)
OTHER INCOME (EXPENSE):		
Interest income	6	167
Interest expense	(271)	(272)
Other expense, net	—	(6)
Total other expense, net	(265)	(111)
Loss before income taxes	(10,282)	(9,455)
Income tax provision	—	—
Net loss	$ (10,282)	$ (9,455)
Net loss per share—basic and diluted	$ (0.32)	$ (0.41)
Weighted-average common stock outstanding—basic and diluted	31,933,794	23,175,802

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Comprehensive Loss
(In thousands)

	Three Months Ended March 31,	
	2021	2020
Net loss	$ (10,282)	$ (9,455)
Other comprehensive income:		
Unrealized gain (loss) on investments	—	—
Foreign currency translation adjustment	—	—
Comprehensive loss	$ (10,282)	$ (9,455)

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 Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
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
BALANCE, January 1, 2021	31,775,748	$ 3	$ 161,415	$ —	$ (99,991)	$ 61,427
Vesting of restricted stock	31,372	—	—	—	—	—
Issuance of common stock related to at-the-market offerings, net of issuance costs of $65	251,086	—	2,091	—	—	2,091
Stock-based compensation expense	—	—	989	—	—	989
Net loss	—	—	—	—	(10,282)	(10,282)
BALANCE, March 31, 2021	32,058,206	$ 3	$ 164,495	$ —	$ (110,273)	$ 54,225

See notes to unaudited condensed consolidated financial statements.

LogicBio Therapeutics, Inc.

Condensed Consolidated Statements of Cash Flows
(In thousands)

	Three Months Ended March 31,	
	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (10,282)	$ (9,455)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	138	105
Net amortization of premiums and discounts on investments	—	26
Stock-based compensation expense	989	805
Non-cash interest expense	53	52
Non-cash lease expense	269	305
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	109	(993)
Accounts receivable	174	—
Accounts payable	262	1,557
Accrued expenses and other current liabilities	215	(1,005)
Deferred revenue	—	1,065
Net cash used in operating activities	(8,073)	(7,538)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Maturities of investments	—	17,500
Purchase of property and equipment	(151)	—
Net cash (used in) provided by investing activities	(151)	17,500
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from exercise of stock options	—	84
Net proceeds from at-the-market common stock issuances	2,091	—
Net cash provided by financing activities	2,091	84
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(6,133)	10,046
Cash, cash equivalents and restricted cash at beginning of year	70,697	33,875
Cash, cash equivalents and restricted cash at end of period	$ 64,564	$ 43,921
RECONCILIATION OF CASH, CASH EQUIVALENTS AND RESTRICTED CASH		
Cash and cash equivalents	$ 63,942	$ 43,153
Short-term restricted cash	—	146
Long-term restricted cash	622	622
Total cash, cash equivalents and restricted cash	$ 64,564	$ 43,921
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:		
Cash paid for interest	$ 218	$ 220
SUPPLEMENTAL DISCLOSURE OF NON-CASH ACTIVITIES:		
Property and equipment purchases in accrued expenses	$ 70	$ —

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 genome editing company focused on developing medicines to durably treat rare diseases in patients with significant unmet medical need using GeneRide, the Company's proprietary technology platform. The Company's GeneRide technology 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 Pharmaceutical Company Limited ("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, sAAVy, for use in gene editing and gene therapy. At the American Society of Gene & Cell Therapy ("ASGCT") conference in May 2020, data was presented showing that the capsids delivered highly efficient functional transduction of human hepatocytes in a humanized mouse model. The data also showed the capsids exhibited improved manufacturability with low levels of pre-existing neutralizing antibodies in human samples. Based on these data, the Company believes the top-tier capsid candidates from this effort demonstrated the potential to achieve significant improvements over benchmark adeno-associated viruses ("AAVs") that are currently in clinical development. The Company is developing these highly potent vectors for internal development candidates and potentially for further business development collaborations.

Based on the Company's GeneRide technology, LogicBio is developing its lead product candidate, LB-001, to treat MMA 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. We expect six leading centers in the United States and one center in Saudi Arabia to participate in the SUNRISE Phase 1/2 trial.

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 genetic diseases or others addressed by targeting the liver initially, and later by targeting other tissues such as the central nervous system, or CNS, muscle, or other tissues.

In April 2021, the Company announced a research collaboration with Daiichi Sankyo for the development of treatments for two indications based on GeneRide. Also in April 2021, the Company announced a strategic collaboration with CANbridge Care Pharma Hong Kong Limited ("CANbridge") for an exclusive option to license LB-001 in Greater China (China, Taiwan, Hong Kong and Macau) and a worldwide license with respect to AAV sL65, the first capsid produced from the Company's proprietary sAAVy platform, to support development and commercialization of CANbridge's gene therapy programs for Fabry disease and Pompe disease, with options for two additional indications.

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 promote the safety of its personnel and to continue advancing its research and development activities. Since mid-March 2020, 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 months ended March 31, 2021. 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 since inception and incurred a loss of $10,282 during the three months ended March 31, 2021. Net cash used in operations for the three months ended March 31, 2021 was $8,073. The Company expects to continue to generate operating losses and use cash in operations for the foreseeable future. As of March 31, 2021, the Company had cash and cash equivalents of $63,942. The Company believes that its cash and cash equivalents at March 31, 2021 will be sufficient to fund its operating expenses and capital expenditure requirements for at least the next twelve months from the date these 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.

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, 2020, filed with the SEC on March 15, 2021.

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 March 31, 2021, consolidated results of operations for the three months ended March 31, 2021 and 2020 and cash flows for the three months ended March 31, 2021 and 2020. Such adjustments are of a normal and recurring nature. The results of operations for the three months ended March 31, 2021 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2021.

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, 2020, filed with the SEC on March 15, 2021. Since the date of those financial statements, there have been no material changes to its significant accounting policies.

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	March 31, 2021	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	$ 63,168	$ 63,168	$ —	$ —
Total financial assets	$ 63,168	$ 63,168	$ —	$ —

Description	December 31, 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	$ 69,277	$ 69,277	$ —	$ —
Total financial assets	$ 69,277	$ 69,277	$ —	$ —

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 levels of the fair value measurement hierarchy during the three months ended March 31, 2021.

4. INVESTMENTS

As of March 31, 2021 and December 31, 2020, the Company did not hold any short-term or long-term investments.

5. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities at March 31, 2021 and December 31, 2020 consisted of the following:

	March 31, 2021	December 31, 2020
Accrued compensation and benefits	$ 881	$ 1,200
Accrued professional services	1,625	1,058
Accrued lab supplies	293	71
Other	334	372
Total accrued expenses and other current liabilities	$ 3,133	$ 2,701

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”). Accrued lab supplies consists primarily of reagents and lab consumables.

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”). In September 2020 and March 2021, the Company entered into amendments to the Loan Agreement, each of which extended the availability of the $10,000 second loan tranche subject to certain conditions. Pursuant to the third amendment entered in March 2021, the second loan tranche is available to the Company commencing on the date by which certain development milestones shall have occurred and ending on the earliest of (i) the date that is thirty (30) days immediately following the date by which such development milestones shall have occurred, (ii) September 30, 2021 and (iii) the occurrence of an Event of Default (as defined in the Loan Agreement).

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 $271 and $272 for the three months ended March 31, 2021 and 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 March 31, 2021. The components of the long-term debt balance are as follows:

	March 31, 2021	December 31, 2020
Notes payable, gross	$ 10,000	$ 10,000
Less: Unamortized debt discount and issuance costs	(154)	(175)
Accretion of final payment fee	226	194
Carrying value of notes payable	10,072	10,019
Less: Current portion of long-term debt	(2,735)	(1,910)
Long-term debt, net of issuance costs and discount	$ 7,337	$ 8,109

As of March 31, 2021, the estimated future principal payments due were as follows:

	As of March 31, 2021
2021	$ 1,945
2022	3,333
2023	3,333
2024	1,389
Thereafter	—
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 awards granted under the 2014 Plan prior to the adoption of the 2018 Plan remained 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, 2021, the Company increased the number of shares available for future grant under the 2018 Plan by 1,272,547 shares. At March 31, 2021, there were 1,342,803 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 three months ended March 31, 2021 and 2020, the Company granted options to purchase 1,087,456 and 714,203 shares of common stock, respectively, with a weighted-average grant date fair value per share of $5.16 and $4.74, respectively. The Company recorded stock-based compensation expense for options granted of $839 and $761 during the three months ended March 31, 2021 and 2020, respectively. As of March 31, 2021, there were 4,060,357 outstanding options, of which 2,314,809 were unvested, and $10,771 of unrecognized stock-based compensation expense to be recognized over a weighted-average period of 3.2 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 three months ended March 31, 2021 or 2020. The Company recorded stock-based compensation expense for restricted common stock granted of $30 and $44 during the three months ended March 31, 2021 and 2020, respectively. As of March 31, 2021, there were 24,535 shares of unvested restricted common stock outstanding and $90 of unrecognized stock-based compensation expense related to unvested restricted common stock to be recognized over a weighted-average period of 0.8 years.

Restricted Stock Units

The Company has granted 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 three months ended March 31, 2021, the Company granted 5,939 RSUs. During the three months ended March 31, 2020, the Company did not grant any RSUs. The Company recorded stock-based compensation for RSUs granted of $120 and $0 during the three months ended March 31, 2021 and 2020, respectively. As of March 31, 2021, there were 88,430 unvested RSUs outstanding and $69 of unrecognized stock-based compensation expense related to unvested RSUs to be recognized over a weighted-average period of 0.5 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 three months ended March 31, 2021 and 2020 is as follows:

	Three Months Ended March 31,	
	2021	2020
Research and development	$ 304	$ 295
General and administrative	685	510
Total stock-based compensation expense	$ 989	$ 805

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 three months ended March 31, 2021, the Company issued 251,086 Open Market Shares at a weighted-average price of $8.59 per share, resulting in net proceeds to the Company of $2,091. During the three months ended March 31, 2020, the Company did not issue any Open Market Shares. At March 31, 2021, the Company had $44,352 in aggregate gross offering amount available under the Open Market Sale Agreement.

9. REVENUE

In January 2020, the Company entered into a research agreement with Takeda for the development of product candidate LB-301 to treat CN. 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 Accounting Standards Codification (“ASC”) Topic 606, *Revenue from Contracts with Customers* (“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 $461 and $1,021 as service revenue under the Takeda Agreement during the three months ended March 31, 2021 and 2020, respectively. As of March 31, 2021, there was a balance of $89 in accounts receivable for work billed but not yet paid under the agreement.

10. INCOME TAXES

For the three months ended March 31, 2021 and the year ended December 31, 2020, 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 taxable position in the near future.

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 March 31,	
	2021	2020
Numerator:		
Net loss	$ (10,282)	$ (9,455)
Denominator:		
Weighted-average common stock outstanding	31,933,794	23,175,802
Net loss per share — basic and diluted	$ (0.32)	$ (0.41)

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 months ended March 31, 2021 and 2020.

	March 31, 2021	March 31, 2020
Unvested restricted common stock	24,535	83,047
Unvested restricted stock units	88,430	—
Options to purchase common stock	4,060,357	2,930,587
Term A Loan warrants	15,686	15,686

12. LEASES

The Company has historically entered into lease arrangements for its facilities and certain equipment. As of March 31, 2021, the Company had one operating lease with required future minimum payments related to its headquarters in Lexington, MA.

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 in 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 due 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 Topic 842, *Leases* ("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%. As of March 31, 2021, the Company was not reasonably certain that the renewal option would be exercised.

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 months ended March 31, 2021 and 2020:

	Three Months Ended March 31,	
	2021	2020
Operating leases		
Lease cost		
Operating lease cost	$ 378	$ 325
Variable lease cost	215	98
Total lease cost	$ 593	$ 423
Other year-to-date lease information		
Operating cash flows used for operating leases	$ 373	$ 321
Operating lease liabilities arising from obtaining right-of-use assets	$ —	$ —

The following table contains a summary of the lease liabilities recognized on the Company's condensed consolidated balance sheets as of March 31, 2021 and December 31, 2020:

	As of March 31, 2021	As of December 31, 2020
Other operating lease information		
Operating lease liabilities — short-term	$ 1,126	$ 1,094
Operating lease liabilities — long-term	$ 4,659	$ 4,952
Weighted-average remaining lease term	4.3 years	4.5 years
Weighted-average discount rate	7.60%	7.60%

The variable lease costs for the three months ended March 31, 2021 and 2020 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 lease as of March 31, 2021 and December 31, 2020, were as follows:

	As of March 31, 2021	As of December 31, 2020
Maturity of lease liabilities		
2021	$ 1,143	$ 1,516
2022	1,562	1,562
2023	1,609	1,609
2024	1,656	1,656
2025	841	841
Thereafter	—	—
Total lease payments	6,811	7,184
Less: imputed interest	(1,026)	(1,138)
Total operating lease liabilities	$ 5,785	$ 6,046

13. RELATED PARTIES

The Company is party to a consulting service agreement with one of its co-founders. Under the terms of this agreement, the Company pays an annual fee of $68 for research and development consulting services. For each of the three-month periods ended March 31, 2021 and 2020, the Company recorded research and development expense of $17 related to consulting services received from Mark Kay, who is a co-founder and a member of the Board.

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 the Company's Investigational New Drug submission for LB-001 in the Company's 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. On February 18, 2021, the court entered an order allowing the parties' joint stipulation regarding deadlines associated with a motion to dismiss an amended complaint which is to be filed, subject to the case being trial ready, by March 1, 2022. On April 5, 2021, plaintiff filed a notice of voluntary dismissal against all defendants as to all claims without prejudice, and the Court has marked the case as closed.

15. SUBSEQUENT EVENTS

CANbridge Care Pharma Hong Kong Limited

In April 2021, the Company entered into an exclusive research collaboration, license and option agreement with CANbridge Care Pharma Hong Kong Limited ("CANbridge") pursuant to which the Company granted CANbridge (a) an exclusive worldwide license under certain of the Company's intellectual property rights to develop and commercialize gene therapy candidates for the treatment of Fabry and Pompe disease, (b) an option to obtain an exclusive worldwide license under such intellectual property rights to develop and commercialize gene therapy candidates for the treatment of two additional indications and (c) an exclusive option to obtain an exclusive license under certain of LogicBio's intellectual property rights to develop and commercialize the Company's LB-001 program in Greater China (China, Taiwan, Hong Kong and Macau).

As consideration for entering into the agreement, LogicBio will receive an upfront payment of $10,000. LogicBio is also entitled to receive reimbursement for research expenses under the agreement in accordance with a mutually agreed research budget. In addition, LogicBio is eligible to receive option exercise payments, and clinical, regulatory and commercial milestone payments of up to $591,000 as well as tiered royalties at percentage rates ranging from mid-single digits to low double digits.

Daiichi Sankyo

In April 2021, the Company entered into a research collaboration and exclusive option agreement with Daiichi Sankyo to collaborate on the development of treatments for two undisclosed indications based on GeneRide. Daiichi will provide funding for the development programs in these two indications and will have an exclusive option to negotiate an exclusive license for each indication.

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, 2020, which was filed with the Securities and Exchange Commission, or SEC, on March 15, 2021.

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. 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 genome editing company focused on developing medicines to durably treat rare diseases in patients with significant unmet medical need using GeneRide, our proprietary technology platform. Our GeneRide technology 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 Pharmaceutical Company Limited, or 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 sAAVy, a next generation capsid platform for use in gene editing and gene therapy. At the American Society of Gene & Cell Therapy, or ASGCT, conference in May 2020, data was presented showing that the capsids delivered highly efficient functional transduction of human hepatocytes in a humanized mouse model. The data also showed the capsids exhibited improved manufacturability with low levels of pre-existing neutralizing antibodies in human samples. Based on these data, we believe the top-tier capsid candidates from this effort demonstrated the potential to achieve significant improvements over benchmark adeno-associated viruses, or AAVs, that are currently in clinical development. We are developing these highly potent vectors for use in our internal development candidates and potentially for business development collaborations. We plan to announce data generated from translational animal models using these capsids in the first half of 2021. In January 2021, we announced the extension of our collaboration with Children's Medical Research Institute, or CMRI, to continue to develop next-generation capsids for gene therapy and gene editing applications in the liver as well as two additional tissues.

Based on our GeneRide technology, we are developing LB-001 to treat MMA. In January 2020, we announced the submission of an investigational new drug application, or IND, to support the initiation of a Phase 1/2 clinical trial in pediatric patients with MMA, which was cleared by the U.S. Food and Drug Administration, or the FDA, in August 2020. 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. We expect six leading centers in the United States and one in Saudi Arabia to participate in the SUNRISE trial.

The SUNRISE Phase 1/2 clinical 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 trial will evaluate two dose cohorts of LB-001 (cohort 1 = 5 x 10^{13} vg/kg and cohort 2 = 1 x 10^{14} vg/kg). After initially starting with the lower dose in the 3 to 12 year old patient group (cohort 1, older age group, n=2), age de-escalation (cohort 1, younger age group, n=2) and dose escalation (cohort 2, older age group, n=2) are planned to occur in parallel. The decision to escalate the dose will be determined based solely on safety, whereas the decision to age de-escalate will be based on both safety and the detection of the pharmacodynamic biomarker, albumin-2A. Afterwards, based on a review of safety and/or the detection of albumin-2A, as applicable, from these two patient groups, the trial would progress to dosing additional patients in the younger age group at the higher dose (cohort 2, younger age group, n=2). The SUNRISE trial includes a six-week staggering interval between the dosing of each patient. 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. We expect to enroll the first patient by mid-year 2021. Based on current

projections for enrollment, we plan to provide an operational update regarding the dose escalation and age de-escalation in late 2021 and assuming parallel age de-escalation and dose escalation plan, we expect to announce interim data from both age groups and both dose cohorts in the SUNRISE trial by the end of 2021.

In addition to the Phase 1/2 SUNRISE trial, we have completed a retrospective natural history study designed to evaluate disease progression in pediatric patients with MMA. We expect this study will provide us with insights into, among other matters, the course of disease progression, the impact of a liver transplant on the outcomes of MMA patients and potential endpoints such as the relevance of methylmalonic acid levels on clinical outcomes, with the goal of informing our future clinical development in MMA and our discussions with regulatory agencies as we look toward advancing our MMA program. We presented preliminary findings from our retrospective natural history study at the American College of Medical Genetics in April 2021.

In November 2020, the U.S. Food and Drug Administration, or FDA, granted Fast Track designation for LB-001 for the treatment of MMA. In addition, we have received rare pediatric disease designation and orphan drug designation from the FDA for LB-001.

We expect that the initial product candidates we develop, including LB-001, will address diseases by targeting the liver, including a category of diseases known as inborn errors of metabolism, a group of genetic disorders that disrupt normal metabolic processes. 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 January 2020, we announced a research collaboration with Takeda Pharmaceutical Company Limited to further develop LB-301 in CN, the second indication to be pursued using the GeneRide platform. In April 2021, we entered into a research collaboration with Daiichi Sankyo for the development of treatments for two indications based on GeneRide. Also in April 2021, we entered into a strategic collaboration with CANbridge Care Pharma Hong Kong Limited for an exclusive option to license LB-001 in Greater China (China, Taiwan, Hong Kong and Macau) and a worldwide license with respect to AAV sL65, the first capsid produced from our sAAVy platform, to support development and commercialization of CANbridge's gene therapy programs for Fabry disease and Pompe disease, with options for two additional indications. 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 genetic diseases or others addressed by targeting the liver initially, and later by targeting other tissues such as the central nervous system, or CNS, muscle, or other tissues. We plan to select at least one new indication from our preclinical portfolio in 2021 and commence IND-enabling studies utilizing our modular approach and leveraging learnings from our lead programs.

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. Through March 31, 2021, we have raised approximately $45.2 million in net proceeds through a follow-on offering in October 2020, 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 $5.5 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 $10.3 million for the three months ended March 31, 2021. As of March 31, 2021, we had an accumulated deficit of $110.3 million. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future in connection with our ongoing activities. 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.

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 2020, 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.

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 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 and related 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.

Research and development activities are central to our business model. We expect that our research and development expenses will increase in the future as we initiate clinical trials for our product candidate LB-001 and as we increase our research and development headcount to continue to discover and develop additional product candidates. If any of our product candidates enter into later stages of clinical development, they will generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials.

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.

We expect that our general and administrative expenses will increase in the future as we increase our general and administrative headcount to support our continued research and development and potential commercialization of our product candidates.

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 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 each of the three-month periods ended March 31, 2021 and 2020, we recorded $0.3 million in interest expense, of which $0.2 million related to cash interest paid and the remainder to the accretion of the debt discount and amortization of issuance costs.

Results of Operations

Comparison of the Three Months Ended March 31, 2021 and 2020

The following table summarizes our results of operations for the three months ended March 31, 2021 and 2020:

	Three Months Ended March 31,	
	2021	2020
	(in thousands)	
REVENUE		
Service revenue	$ 461	$ 1,021
Total revenue	461	1,021
OPERATING EXPENSES		
Research and development	6,419	7,173
General and administrative	4,059	3,192
Total operating expenses	10,478	10,365
LOSS FROM OPERATIONS	(10,017)	(9,344)
OTHER (EXPENSE) INCOME:		
Other expense, net	(265)	(111)
Loss before income taxes	(10,282)	(9,455)
Income tax provision	—	—
Net loss	$ (10,282)	$ (9,455)

Revenue

Our revenue for the three months ended March 31, 2021 and 2020 consisted solely of $0.5 million and $1.0 million, respectively, 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 March 31, 2021 and 2020:

	Three Months Ended March 31,		(Decrease) / Increase
	2021	2020	
	(in thousands)		
LB-001 external development and manufacturing costs	$ 1,863	$ 3,494	$ (1,631)
Personnel-related costs	2,146	1,766	380
Lab supplies	916	781	135
Other research and development costs	1,494	1,132	362
Total research and development expenses	$ 6,419	$ 7,173	$ (754)

Research and development expenses for the three months ended March 31, 2021 were $6.4 million, compared to $7.2 million for the three months ended March 31, 2020. The decrease of approximately $0.8 million was primarily due to decreases of approximately $1.6 million in external development and manufacturing expenses for our lead product candidate, LB-001. This decrease was partially offset by an increase of $0.4 million in personnel-related costs as we increase our headcount as well as a $0.4 million increase in other research and development expenses as we increased our overall research and development activities related to our GeneRide and sAAVy platforms. While there may be fluctuations on a quarterly basis, we expect that our research and development expenses will increase during 2021, as compared to 2020, as we continue to advance our pipeline both internally and with collaborators as well as start the LB-001 clinical trial.

General and Administrative Expenses

General and administrative expenses were $4.1 million for the three months ended March 31, 2021, compared to $3.2 million for the three months ended March 31, 2020. The increase of approximately $0.9 million was primarily driven by an increase of $0.5 million increase in legal fees and professional services due to an increase in corporate development and general corporate activities and $0.3 million in personnel expenses, including $0.2 million in stock-based compensation expense. While there may be fluctuations on a quarterly basis, we expect that our general and administrative expenses will continue to increase in 2021, as compared to 2020, as we incur expenses both internally and externally to support our collaborations, clinical trial and pipeline-related work.

Other Expense, Net

Other expense, net was $0.3 million for the three months ended March 31, 2021, compared to other expense, net of $0.1 million for the three months ended March 31, 2020. The increase in other expense, net was primarily related to a decrease in interest income due to lower interest rates.

Liquidity and Capital Resources

Overview

Since our inception and through March 31, 2021, we have not generated any sales revenue and have incurred significant losses and negative cash flows from our operations.

As of March 31, 2021, we had cash and cash equivalents of $63.9 million, which we believe will be sufficient to fund our operating expenses and capital expenditures for at least the next twelve months from the date of issuance of the financial statements included in this Quarterly Report on Form 10-Q. 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.

Cash Flows

The following table summarizes our cash flows for the three months ended March 31, 2021 and 2020:

	Three Months Ended March 31,	
	2021	2020
	(in thousands)	
Net cash used in operating activities	$ (8,073)	$ (7,538)
Net cash (used in) provided by investing activities	(151)	17,500
Net cash provided by financing activities	2,091	84
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (6,133)	$ 10,046

Operating Activities

During the three months ended March 31, 2021, net cash used in operating activities was $8.1 million, primarily related to our net loss adjusted for non-cash charges and changes in the components of working capital. The $0.5 million increase in net cash used in operating activities during the three months ended March 31, 2021, as compared to the three months ended March 31, 2020, was primarily driven by the increase in net loss as well as larger non-cash stock-based compensation expense.

Investing Activities

During the three months ended March 31, 2021, net cash used in investing activities was $0.2 million related to the purchases of property and equipment. During the three months ended March 31, 2020, net cash provided by investing activities was $17.5 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.

Financing Activities

During the three months ended March 31, 2021, net cash provided by financing activities was $2.1 million related to net proceeds from sales of our common stock under the open market sales agreement with Jefferies LLC. During the three months ended March 31, 2020, net cash provided by financing activities was $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 and conduct 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 completes 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 sAAVy 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 $50.0 million through Jefferies LLC. We pay a 3% cash commission to Jefferies LLC on the proceeds from sales under the program. During the three months ended March 31, 2021, we issued 251,086 shares of our common stock at a weighted-average price of $8.59 per share, resulting in net proceeds to us of $2.1 million. There were no share issuances under the sale agreement for the three months ended March 31, 2020. At March 31, 2021, we had $44.4 million in aggregate gross offering amount available under this sale agreement.

Third Amendment to Loan Agreement – Extension of Second Tranche Availability

In March 2021 we entered into an amendment to the Loan Agreement which extended the availability of the $10.0 million second loan tranche subject to certain conditions. Pursuant to this amendment, the second loan tranche is available to us commencing on the date by which certain development milestones shall have occurred and ending on the earliest of (i) the date that is thirty (30) days immediately following the date by which such development milestones shall have occurred, (ii) September 30, 2021 and (iii) the occurrence of an Event of Default (as defined in the Loan Agreement). 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.

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, 2020, filed with the SEC on March 15, 2021.

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 March 31, 2021. 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 March 31, 2021, 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 March 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

The information required by this Item is incorporated herein by reference to Note 14. *Commitments and Contingences*, within the notes to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

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, 2020, which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K may not be the only risks facing the Company. 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, 2020, filed with the SEC on March 15, 2021.

Item 5. Other Information

On May 5, 2021, Kyle Chiang, Ph.D., Chief Operating Officer, submitted his resignation. Dr. Chiang's resignation will be effective on May 28, 2021. Dr. Chiang will consult with the Company over the next several months to ensure a smooth transition.

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. 6 to Amended and Restated (Equity) Agreement, dated as of March 29, 2021, between The Board of Trustees of the Leland Stanford University and LogicBio Therapeutics, Inc.
EXHIBIT 10.2*	—	Third Amendment to Loan and Security Agreement, dated March 31, 2021, by and between the Company, LogicBio Australia Pty Limited, Oxford Finance LLC and Horizon Credit II LLC
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

** Furnished 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: May 10, 2021

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

Dated: May 10, 2021

By: /s/ Cecilia Jones
Cecilia Jones
Chief Financial Officer

Exhibit 10.1

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND IS THE TYPE THAT LOGICBIO THERAPEUTICS, INC. TERATS AS PRIVATE OR CONFIDENTIAL

AMENDMENT NO. 6
TO
AMENDED AND RESTATED EXCLUSIVE (EQUITY) AGREEMENT

THIS AMENDMENT NO. 6 TO THE AMENDED AND RESTATED EXCLUSIVE (EQUITY) AGREEMENT (the "**Amendment No. 6**") is made as of March 29th, 2021 ("**Amendment No. 6 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, amended again by that certain Amendment No. 2 dated June 3, 2019, amended again by that certain Amendment No. 3 dated January 29, 2020, amended again by that certain Amendment No. 4 dated April 29, 2020, and amended again by that certain Amendment No. 5 dated October 30, 2020, to Amended and Restated Exclusive (Equity) Agreement (the "**Original Agreement**," and as amended by this Amendment No. 6, the "**Agreement**").

RECITALS

WHEREAS, the Parties desire to amend the Therapeutic Field of Use and certain milestone payments set forth in the Original Agreement;

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 2.31 of the Original Agreement is hereby amended and restated in its entirety as follows:

"Therapeutics Field of Use" means human therapeutics to treat (a) methylmalonic acidemia (MMA), (b) propionic acidemia, (c) HIV, (d) influenza, (e) malaria, (f) Crigler Najjar Syndrome, (g) Tyrosinemia Type I, (h) Wilson's disease, (i) hemophilia B, (j) Glycogen Storage Disease 1, (k) Glycogen Storage Disease 3, (l) progressive familial intrahepatic cholestasis type 2 (PFIC-2) with the ABCB11 gene, and (m) lysosomal acid lipase deficiency (LAL-D), including Wolman Disease, with the LIPA gene.

b. Section 7.7(C) of the Original Agreement is hereby amended and restated in its entirety as follows:

Due one time for each subsequent Licensed Product in the Therapeutic Field of Use, Tissue Field of Use or [***] Field of Use or for Licensed Capsid Products that achieve the following milestones set forth in this section 7.7(C):

(1) $[***] for filing an IND with the FDA (or equivalent with another regulatory body);

(2) $[***] for dosing the first patient in a Phase II trial with the FDA (or equivalent with another regulatory body);

(3) $[***] for dosing the first patient in a Phase III trial with the FDA (or equivalent with another regulatory body);

(4) $[***] upon approval in the United States; and

(5) $[***] upon commercial launch of the Licensed Product.

[For clarity, the last paragraph of Section 7.7 that begins "It is further agreed…" is not affected by this amendment.]

c. Appendix C – Milestones of the Agreement, as amended by Amendment No. 5, is hereby amended by adding the two additional milestones below.

Additional Therapeutic Products

1. [***]

2. [***]

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. 6 shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Amendment No. 6, 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. 6, except as expressly provided in this Amendment No. 6.

5. Governing Law. This Amendment No. 6 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. 6 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 Page 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/ Sunita Rajdev

Name: Sunita Rajdev

Title: Senior Associate Director

LOGICBIO THERAPEUTICS, INC.

Signature: /s/ Kyle Chiang

Name: Kyle Chiang

Title: COO

Exhibit 10.2

THIRD AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS THIRD AMENDMENT to Loan and Security Agreement (this "**Amendment**") is entered into as of March 31, 2021 (the "**Amendment Date**"), by and among OXFORD FINANCE LLC, a Delaware limited liability company with an office located at 115 South Union Street, Suite 300, Alexandria, Virginia 22314 ("**Oxford**"), as collateral agent (in such capacity, "**Collateral Agent**"), the Lenders listed on Schedule 1.1 to the Loan Agreement (as defined below) or otherwise a party thereto from time to time including Oxford in its capacity as a Lender and HORIZON CREDIT II LLC, a Delaware limited liability company with an office located at 312 Farmington Avenue, Farmington, Connecticut 06032, as assignee of HORIZON TECHNOLOGY FINANCE CORPORATION, a Delaware corporation ("**Horizon**") (each a "**Lender**" and collectively, the "**Lenders**"), and LOGICBIO THERAPEUTICS, INC., a Delaware corporation with offices located at 65 Hayden Ave 2nd Floor, Lexington MA 02421 ("**Parent**") and LOGICBIO AUSTRALIA PTY LIMITED (ACN 625 479 610), an Australian proprietary limited company with an address at 65 Hayden Ave 2nd Floor, Lexington MA 02421 and a wholly owned Subsidiary of Parent ("**Australian Sub**") (Parent and Australian Sub, individually and collectively, jointly and severally, "**Borrower**").

WHEREAS, Collateral Agent, Borrower and Lenders have entered into that certain Loan and Security Agreement, dated as of July 2, 2019 (as amended, supplemented or otherwise modified from time to time, the "**Loan Agreement**") pursuant to which Lenders have provided to Borrower certain loans in accordance with the terms and conditions thereof; and

WHEREAS, Borrower, Lenders and Collateral Agent desire to amend certain provisions of the Loan Agreement as provided herein and subject to the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the promises, covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Collateral Agent hereby agree as follows:

1. Capitalized terms used herein but not otherwise defined shall have the respective meanings given to them in the Loan Agreement.

2. Section 2.2(b) of the Loan Agreement is hereby deleted in its entirety and is replaced by the following:

(b) Repayment. Borrower shall make monthly payments of interest only commencing on the first (1st) Payment Date following the Funding Date of each Term Loan, and continuing on the Payment Date of each successive month thereafter through and including the Payment Date immediately preceding the Amortization Date. Borrower agrees to pay, on the Funding Date of each Term Loan, any initial partial monthly interest payment otherwise due for the period between the Funding Date of such Term Loan and the first Payment Date thereof. Commencing on the Amortization Date for each Term Loan, and continuing on the Payment Date of each month thereafter, Borrower shall make consecutive equal monthly payments of principal for such Term Loan, together with applicable interest, in arrears, to each Lender, as calculated by Collateral Agent (which calculations shall be deemed correct absent manifest error) based upon: (1) the amount of such Lender's portion of such Term Loan, (2) the effective rate of interest, as determined in Section 2.3(a), and (3) a repayment schedule equal to the number of Payment Dates between such Term Loan's Amortization Date and Maturity Date, both included. All unpaid principal and accrued and unpaid interest with respect to each Term Loan is due and payable in full on the Maturity Date. Each Term Loan may only be prepaid in accordance with Sections 2.2(c) and 2.2(d).

3. Section 2.5 of the Loan Agreement is hereby amended by deleting the word "and" immediately following Section 2.5(d), replacing "." at the end of Section 2.5(e) with "; and" and adding Section 2.5(f) thereto as follows:

(f) Third Amendment Fee. A fully earned and non-refundable third amendment fee in the amount of Fifty Thousand Dollars ($50,000.00) to be shared between the Lenders pursuant to their respective Commitment Percentages which shall become due and payable upon the earlier of: (i) the Maturity Date, (ii) the acceleration of any Term Loan, or (iii) the prepayment of a Term Loan pursuant to Section 2.2(c) or (d).

4. The address for Collateral Agent and Oxford in Section 10 is hereby updated as follows:

If to Collateral Agent or Oxford: OXFORD FINANCE LLC
115 South Union Street
Suite 300
Alexandria, Virginia 22314
Attention: Legal Department
Fax: (703) 519-5225
Email: LegalDepartment@oxfordfinance.com

5. The address for Borrower in Section 10 is hereby updated as follows:

If to Borrower: LOGIOBIO THERAPEUTICS, INC.
65 Hayden Ave, 2nd Floor
Lexington, Massachusetts 02421
Attn: Cecilia Jones, Chief Financial Officer
Fax: N/A.
Email: cjones@logicbio.com

with a copy (which shall not constitute notice) to: Ropes & Gray, LLP
Prudential Tower, 800 Boylston Street
Boston, MA 02199-3600
Attn: Marc A. Rubenstein
Email: marc.rubenstein@ropesgray.com

6. Section 13.1 of the Loan Agreement is hereby amended by amending and restating the following definitions therein as follows:

"**Amortization Date**" is July 1, 2021; provided, however, if the Funding Date of Term B Loan is after July 1, 2021, then the Amortization Date for Term B Loan shall be the first Payment Date on or after the Funding Date of Term B Loan.

"**Basic Rate**" is with respect to any Term Loan, the per annum rate of interest (based on a year of three hundred sixty (360) days) equal to the greater of (a) Eight and Seventy Five Hundredths percent (8.75%) and (b) the sum of (i) thirty (30) day U.S. LIBOR rate reported in The Wall Street Journal on the last Business Day of the month that immediately precedes the month in which the interest will accrue, plus (ii) Six and twenty five Hundredths percent (6.25%). Notwithstanding the foregoing, the Basic Rate for the Term Loan for the period from the Effective Date through and including July 31, 2019 shall be Eight and seventy-five hundredths percent (8.75%). Notwithstanding anything to the contrary herein or in any other Loan Document, upon the occurrence of a LIBOR Transition Event, Collateral Agent may, in its good faith business judgement, amend this Agreement to replace the Basic Rate with a LIBOR Replacement Rate. Any such amendment with respect to a LIBOR Transition Event will become effective at 5:00 p.m. (Eastern Standard Time) on the third Business Day after Collateral Agent has notified Borrower of such amendment. Any determination, decision or election that may be made by Collateral Agent pursuant hereto will be conclusive and binding absent manifest error and may be made in Collateral Agent's sole, but reasonable discretion and without consent from any other party.

"**Second Draw Period**" is the period commencing on the date of the occurrence of the Second Draw Period Commencement Date and ending on the earliest of (i) the date that is thirty (30) days immediately following the Second Draw Period Commencement Date, (ii) September 30, 2021 and (iii) the occurrence of an Event of Default; provided, however, that the Second Draw Period shall not commence if on the Second Draw Period Commencement Date an Event of Default has occurred and is continuing.

"**Milestone Event**" is the enrollment of the first patient in the Phase I/II clinical trial for Borrower's drug candidate LB-001, on or before September 30, 2021 and the receipt of written notice from Borrower signed by (i) the Parent's then head of clinical development, in his or her capacity as the head of Parent's clinical development and (ii) the Parent's then CEO and Director in his or her capacity as both the CEO and Director of the Parent, in form and substance reasonably acceptable to Lenders, notifying the Lenders of the Milestone Event on or before the aforementioned date.

7. Section 13.1 of the Loan Agreement is hereby further amended by adding the following definitions thereto in alphabetical order:

"**Federal Reserve Bank of New York's Webs**ite" means the website of the Federal Reserve Bank of New York at http://www.newyorkfed.org, or any successor source.

"LIBOR Replacement Rate" means the sum of: (a) the alternate benchmark rate (which may include SOFR) that has been selected by Collateral Agent giving due consideration to (i) any selection or recommendation of a replacement rate or the mechanism for determining such a rate by the Relevant Governmental Body or (ii) any evolving or then-prevailing market convention for determining a rate of interest as a replacement to the LIBOR rate for U.S. dollar-denominated syndicated credit facilities and (b) the LIBOR Replacement Spread**;** provided that, if the LIBOR Replacement Rate as so determined would be less than zero, the LIBOR Replacement Rate will be deemed to be zero for the purposes of this Agreement.

"LIBOR Replacement Spread" means, with respect to any replacement of the Basic Rate, the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected by Collateral Agent giving due consideration to (i) any selection or recommendation of a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the LIBOR rate by the Relevant Governmental Body or (ii) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the LIBOR rate for U.S. dollar-denominated syndicated credit facilities at such time.

"LIBOR Transition Event" means the occurrence of one or more of the following events with respect to the LIBOR rate:

(1) a public statement or publication of information by or on behalf of the administrator of the LIBOR rate announcing that such administrator has ceased or will cease to provide the LIBOR rate, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the LIBOR rate;

(2) a public statement or publication of information by the regulatory supervisor for the administrator of the LIBOR rate, the U.S. Federal Reserve System, an insolvency official with jurisdiction over the administrator for the LIBOR rate, a resolution authority with jurisdiction over the administrator for the LIBOR rate or a court or an entity with similar insolvency or resolution authority over the administrator for the LIBOR rate, which states that the administrator of the LIBOR rate has ceased or will cease to provide the LIBOR rate permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the LIBOR rate; or

(3) a public statement or publication of information by the regulatory supervisor for the administrator of the LIBOR rate announcing that the LIBOR rate is no longer representative.

"**Relevant Governmental Body**" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"**SOFR**" with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark, (or a successor administrator) on the Federal Reserve Bank of New York's Website.

8. Limitation of Amendment.

    a. The amendments set forth above are effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term or condition of any Loan Document, or (b) otherwise prejudice any right, remedy or obligation which Lenders or Borrower may now have or may have in the future under or in connection with any Loan Document, as amended hereby.

    b. This Amendment shall be construed in connection with and as part of the Loan Documents and all terms, conditions, representations, warranties, covenants and agreements set forth in the Loan Documents, are hereby ratified and confirmed and shall remain in full force and effect.

9. To induce Collateral Agent and Lenders to enter into this Amendment, Borrower hereby represents and warrants to Collateral Agent and Lenders as follows:

    a. Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

    b. Borrower has the power and due authority to execute and deliver this Amendment and to perform its obligations under the Loan Agreement, as amended by this Amendment;

    c. The organizational documents of Borrower delivered to Collateral Agent on the Effective Date, and updated pursuant to subsequent deliveries by or on behalf of the Borrower to the Collateral Agent, remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

    d. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not contravene (i) any material law or regulation binding on or affecting Borrower, (ii) any material contractual restriction with a Person binding on Borrower, (iii) any material order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (iv) the organizational documents of Borrower;

    e. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

    f. This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

10. Except as expressly set forth herein, the Loan Agreement shall continue in full force and effect without alteration or amendment.

11. The Borrower hereby remises, releases, acquits, satisfies and forever discharges the Lenders and Collateral Agent, their agents, employees, officers, directors, predecessors, attorneys and all others acting or purporting to act on behalf of or at the direction of the Lenders and Collateral Agent **("Releasees**"), of and from any and all manner of actions, causes of action, suit, debts, accounts, covenants, contracts, controversies, agreements, variances, damages, judgments, claims and demands whatsoever, in law or in equity, which any of such parties ever had, now has or, to the extent arising from or in connection with any act, omission or state of facts taken or existing on or prior to the date hereof, may have after the date hereof against the Releasees, for, upon or by reason of any matter, cause or thing whatsoever relating to or arising out of the Loan Agreement or the other Loan Documents on or prior to the date hereof and through the date hereof. Without limiting the generality of the foregoing, the Borrower waives and affirmatively agrees not to allege or otherwise pursue any defenses, affirmative defenses, counterclaims, claims, causes of action, setoffs or other rights they do, shall or may have as of the date hereof, including the rights to contest: (a) the right of Collateral Agent and each Lender to exercise its rights and remedies described in the Loan Documents; (b) any provision of this Amendment or the Loan Documents; or (c) any conduct of the Lenders or other Releasees relating to or arising out of the Loan Agreement or the other Loan Documents on or prior to the date hereof.

12. This Amendment shall be deemed effective as of the Amendment Date upon (a) the due execution and delivery to Collateral Agent of this Amendment by each party hereto, and (b) Borrower's payment of all Lenders' Expenses incurred through the date hereof, which may be debited (or ACH'd) from the Designated Deposit Account in accordance with Section 2.3(d) of the Loan Agreement.

13. This Amendment may be executed in any number of counterparts, each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

14. This Amendment and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of New York.

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IN WITNESS WHEREOF, the parties hereto have caused this Third Amendment to the Loan Agreement to be executed as of the date first set forth above.

BORROWER:

LOGICBIO THERAPEUTICS, INC.

By /s/ Frederic Chereau
Name: Frederic Chereau
Title: Chief Executive Officer

LOGICBIO AUSTRALIA PTY LIMITED

By /s/ Cecilia Jones
Name: Cecilia Jones
Title: Director

By /s/ Frederic Chereau
Name: Frederic Chereau
Title: Director

COLLATERAL AGENT AND LENDER:

OXFORD FINANCE LLC

By /s/ Colette H. Featherly
Name: Colette H. Featherly
Title: Senior Vice President

LENDER:

HORIZON CREDIT II LLC

By /s/ Robert D. Pomeroy, Jr.
Name: Robert D. Pomeroy, Jr
Title: Chief Executive Officer

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: May 10, 2021

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, Cecilia Jones, 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: May 10, 2021

By: /s/ Cecilia Jones
Cecilia Jones
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 March 31, 2021 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: May 10, 2021

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

Dated: May 10, 2021

/s/ Cecilia Jones
Cecilia Jones
Chief Financial Officer