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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2022

☐ 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: 001-37627

WAVE LIFE SCIENCES LTD.
(Exact name of registrant as specified in its charter)

Singapore **(State or other jurisdiction of incorporation or organization)**	**00-0000000** **(I.R.S. Employer Identification No.)**
7 Straits View #12-00, Marina One East Tower **Singapore** **(Address of principal executive offices)**	**018936** **(Zip Code)**

+65 6236 3388
(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol	Name of each exchange on which registered
$0 Par Value Ordinary Shares	WVE	The 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 ☒

The number of outstanding ordinary shares of the registrant as of November 1, 2022 was 86,900,688.

WAVE LIFE SCIENCES LTD.

QUARTERLY REPORT ON FORM 10-Q

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As used in this Quarterly Report on Form 10-Q, unless otherwise stated or the context otherwise indicates, references to "Wave," the "Company," "we," "our," "us" or similar terms refer to Wave Life Sciences Ltd. and our wholly-owned subsidiaries.

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that relate to future events or to our future operations or financial performance. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statement. In some cases, forward-looking statements are identified by the words "anticipate," "believe," "continue," "could," "estimate," "expect," "future," "goals," "intend," "likely," "may," "might," "ongoing," "objective," "plan," "potential," "predict," "project," "seek," "should," "strategy," "target," "will" and "would" or the negative of these terms, or other comparable terminology intended to identify statements about the future, although not all forward-looking statements contain these identifying words. Forward-looking statements include statements, other than statements of historical fact, about, among other things: our ability to fund our future operations; our financial position, revenues, costs, expenses, uses of cash and capital requirements; our need for additional financing or the period for which our existing cash resources will be sufficient to meet our operating requirements; the success, progress, number, scope, cost, duration, timing or results of our research and development activities, preclinical studies and clinical trials, including the timing for initiation or completion of or availability of results from any preclinical studies and clinical trials or for submission, review or approval of any regulatory filing; the timing of, and our ability to, obtain and maintain regulatory approvals for any of our product candidates; the potential benefits that may be derived from any of our product candidates; our strategies, prospects, plans, goals, expectations, forecasts or objectives; the success of our collaborations with third parties; any payment that our collaboration partners may make to us; our ability to identify and develop new product candidates; our intellectual property position; our commercialization, marketing and manufacturing capabilities and strategy; our ability to develop sales and marketing capabilities; our ability to identify, recruit and retain key personnel; our financial performance; developments and projections relating to our competitors in the industry; our liquidity and working capital requirements; the expected impact of new accounting standards; and our expectations regarding the impact of COVID-19 and variants thereof on our business, including on our research and development activities, preclinical studies and clinical trials, supply of drug product, and workforce.

Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on our estimates or projections of the future that are subject to known and unknown risks and uncertainties and other important factors that may cause our actual results, level of activity, performance or achievements expressed or implied by any forward-looking statement to differ. These risks, uncertainties and other factors include, among other things, our critical accounting policies; the ability of our preclinical studies to produce data sufficient to support the filing of global clinical trial applications and the timing thereof; our ability to continue to build and maintain the company infrastructure and personnel needed to achieve our goals; the clinical results and timing of our programs, which may not support further development of our product candidates; actions of regulatory agencies, which may affect the initiation, timing and progress of clinical trials; our effectiveness in managing current and future clinical trials and regulatory processes; the success of our platform in identifying viable candidates; the continued development and acceptance of nucleic acid therapeutics as a class of drugs; our ability to demonstrate the therapeutic benefits of our stereopure candidates in clinical trials, including our ability to develop candidates across multiple therapeutic modalities; our ability to obtain, maintain and protect intellectual property; our ability to enforce our patents against infringers and defend our patent portfolio against challenges from third parties; our ability to fund our operations and to raise additional capital as needed; competition from others developing therapies for similar uses; the severity and duration of the COVID-19 pandemic; the COVID-19 pandemic, and variants thereof, may negatively impact the conduct of, and the timing of enrollment, completion and reporting with respect to, our clinical trials; any other impacts on our business as a result of or related to the COVID-19 pandemic, the conflict involving Russia and Ukraine, global economic uncertainty, rising inflation, rising interest rates or market disruptions, as well as other risks and uncertainties under the caption "Risk Factors" contained in this Quarterly Report on Form 10-Q and in other filings we make with the Securities and Exchange Commission.

Each forward-looking statement contained in this report is based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. As a result of these factors, we cannot assure you that the forward-looking statements in this report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, these statements should not be regarded as representations or warranties by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all. We caution you not to place undue reliance on any forward-looking statement.

In addition, any forward-looking statement in this report represents our views only as of the date of this report and should not be relied upon as representing our views as of any subsequent date. We anticipate that subsequent events and developments may cause our views to change. Although we may elect to update these forward-looking statements publicly at some point in the future, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

The Wave Life Sciences Ltd. and Wave Life Sciences Pte. Ltd. names, the Wave Life Sciences mark, PRISM and the other registered and pending trademarks, trade names and service marks of Wave Life Sciences Ltd. appearing in this Form 10-Q are the property of Wave Life Sciences Ltd. This Form 10-Q also contains additional trade names, trademarks and service marks belonging to Wave Life Sciences Ltd. and to other companies. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties. Solely for convenience, the trademarks and trade names in this Form 10-Q are referred to without the ® and ™ symbols, but such reference should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED BALANCE SHEETS

(In thousands, except share amounts)

	September 30, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 96,954	$ 150,564
Short-term investments	25,044	—
Prepaid expenses	7,419	6,584
Other current assets	2,017	5,416
Total current assets	131,434	162,564
Long-term assets:		
Property and equipment, net	18,552	22,266
Operating lease right-of-use assets	27,827	18,378
Restricted cash	3,654	3,651
Other assets	44	148
Total long-term assets	50,077	44,443
Total assets	$ 181,511	$ 207,007
Liabilities, Series A preferred shares and shareholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 15,934	$ 7,281
Accrued expenses and other current liabilities	11,056	14,861
Current portion of deferred revenue	32,341	37,098
Current portion of operating lease liability	4,928	4,961
Total current liabilities	64,259	64,201
Long-term liabilities:		
Deferred revenue, net of current portion	80,230	77,479
Operating lease liability, net of current portion	33,667	24,955
Total long-term liabilities	113,897	102,434
Total liabilities	$ 178,156	$ 166,635
Series A preferred shares, no par value; 3,901,348 shares issued and outstanding at September 30, 2022 and December 31, 2021	$ 7,874	$ 7,874
Shareholders' equity (deficit):		
Ordinary shares, no par value; 86,841,523 and 59,841,116 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively	$ 802,697	$ 749,851
Additional paid-in capital	116,535	87,980
Accumulated other comprehensive income (loss)	(123)	181
Accumulated deficit	(923,628)	(805,514)
Total shareholders' equity (deficit)	$ (4,519)	$ 32,498
Total liabilities, Series A preferred shares and shareholders' equity (deficit)	$ 181,511	$ 207,007

The accompanying notes are an integral part of the unaudited consolidated financial statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except share and per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenue	$ 285	$ 36,423	$ 2,410	$ 39,199
Operating expenses:				
Research and development	27,575	31,086	84,778	96,114
General and administrative	11,609	12,944	36,789	33,991
Total operating expenses	39,184	44,030	121,567	130,105
Loss from operations	(38,899)	(7,607)	(119,157)	(90,906)
Other income (expense), net:				
Dividend income and interest income, net	596	6	746	25
Other income (expense), net	(701)	1,371	297	3,421
Total other income (expense), net	(105)	1,377	1,043	3,446
Loss before income taxes	(39,004)	(6,230)	(118,114)	(87,460)
Income tax provision	—	—	—	—
Net loss	$ (39,004)	$ (6,230)	$ (118,114)	$ (87,460)
Net loss per share attributable to ordinary shareholders—basic and diluted	$ (0.42)	$ (0.12)	$ (1.60)	$ (1.75)
Weighted-average ordinary shares used in computing net loss per share attributable to ordinary shareholders—basic and diluted	93,900,484	50,709,877	73,754,417	50,017,521
Other comprehensive loss:				
Net loss	$ (39,004)	$ (6,230)	$ (118,114)	$ (87,460)
Foreign currency translation	(76)	(11)	(304)	(131)
Comprehensive loss	$ (39,080)	$ (6,241)	$ (118,418)	$ (87,591)

The accompanying notes are an integral part of the unaudited consolidated financial statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF SERIES A PREFERRED SHARES AND SHAREHOLDERS' EQUITY (DEFICIT)

(In thousands, except share amounts)

	Series A Preferred Shares		Ordinary Shares		Additional Paid-In-Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2020	3,901,348	$ 7,874	48,778,678	$ 694,085	$ 71,573	$ 389	$ (683,269)	$ 82,778
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	844,796	8,028	—	—	—	8,028
Share-based compensation	—	—	—	—	4,063	—	—	4,063
Vesting of RSUs	—	—	155,184	—	—	—	—	—
Option exercises	—	—	31,957	200	—	—	—	200
Issuance of ordinary shares under the ESPP	—	—	44,036	336	—	—	—	336
Other comprehensive loss	—	—	—	—	—	(120)	—	(120)
Net loss	—	—	—	—	—	—	(42,464)	(42,464)
Balance at March 31, 2021	3,901,348	$ 7,874	49,854,651	$ 702,649	$ 75,636	$ 269	$ (725,733)	$ 52,821
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	718,179	5,065	—	—	—	5,065
Share-based compensation	—	—	—	—	2,722	—	—	2,722
Vesting of RSUs	—	—	3,636	—	—	—	—	—
Net loss	—	—	—	—	—	—	(38,766)	(38,766)
Balance at June 30, 2021	3,901,348	$ 7,874	50,576,466	$ 707,714	$ 78,358	$ 269	$ (764,499)	$ 21,842
Issuance of ordinary shares, net of offering costs	—	—	1,345,830	8,082	—	—	—	8,082
Share-based compensation	—	—	—	—	5,896	—	—	5,896
Vesting of RSUs	—	—	7,485	—	—	—	—	—
Option exercises	—	—	20,000	50	—	—	—	50
Issuance of ordinary shares under the ESPP	—	—	48,251	272	—	—	—	272
Other comprehensive loss	—	—	—	—	—	(11)	—	(11)
Net loss	—	—	—	—	—	—	(6,230)	(6,230)
Balance at September 30, 2021	3,901,348	$ 7,874	51,998,032	$ 716,118	$ 84,254	$ 258	$ (770,729)	$ 29,901

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF SERIES A PREFERRED SHARES AND SHAREHOLDERS' EQUITY (DEFICIT)
CONTINUED

(In thousands, except share amounts)

	Series A Preferred Shares		Ordinary Shares		Additional Paid-In-	Accumulated Other Comprehensive	Accumulated	Total Shareholders'
	Shares	Amount	Shares	Amount	Capital	Income (Loss)	Deficit	Equity (Deficit)
Balance at December 31, 2021	3,901,348	$ 7,874	59,841,116	$ 749,851	$ 87,980	$ 181	$ (805,514)	$ 32,498
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	458,092	1,167	—	—	—	1,167
Share-based compensation	—	—	—	—	3,971	—	—	3,971
Vesting of RSUs	—	—	468,226	—	—	—	—	—
Option exercises	—	—	15,000	37	—	—	—	37
Issuance of ordinary shares under the ESPP	—	—	77,534	174	—	—	—	174
Other comprehensive loss	—	—	—	—	—	(86)	—	(86)
Net loss	—	—	—	—	—	—	(37,814)	(37,814)
Balance at March 31, 2022	3,901,348	$ 7,874	60,859,968	$ 751,229	$ 91,951	$ 95	$ (843,328)	$ (53)
Issuance of ordinary shares, net of offering costs	—	—	25,464,483	51,220	—	—	—	51,220
Issuance of pre-funded warrants, net of offering costs	—	—	—	—	14,268	—	—	14,268
Share-based compensation	—	—	—	—	6,950	—	—	6,950
Vesting of RSUs	—	—	400,207	—	—	—	—	—
Other comprehensive loss	—	—	—	—	—	(142)	—	(142)
Net loss	—	—	—	—	—	—	(41,296)	(41,296)
Balance at June 30, 2022	3,901,348	$ 7,874	86,724,658	$ 802,449	$ 113,169	$ (47)	$ (884,624)	$ 30,947
Share-based compensation	—	—	—	—	3,366	—	—	3,366
Vesting of RSUs	—	—	8,338	—	—	—	—	—
Option exercises	—	—	20,000	50	—	—	—	50
Issuance of ordinary shares under the ESPP	—	—	88,527	198	—	—	—	198
Other comprehensive loss	—	—	—	—	—	(76)	—	(76)
Net loss	—	—	—	—	—	—	(39,004)	(39,004)
Balance at September 30, 2022	3,901,348	$ 7,874	86,841,523	$ 802,697	$ 116,535	$ (123)	$ (923,628)	$ (4,519)

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

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Nine Months Ended September 30,	
	2022	2021
Cash flows from operating activities		
Net loss	$ (118,114)	$ (87,460)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of right-of-use assets	2,557	1,593
Depreciation of property and equipment	5,062	5,704
Share-based compensation expense	14,287	12,681
Changes in operating assets and liabilities:		
Accounts receivable	—	7,500
Prepaid expenses	(835)	2,807
Other assets	3,503	1,047
Accounts payable	8,337	(6,335)
Accrued expenses and other current liabilities	(3,805)	(607)
Deferred revenue	(2,006)	(16,699)
Operating lease liabilities	(3,327)	(2,731)
Other non-current liabilities	—	540
Net cash used in operating activities	(94,341)	(81,960)
Cash flows from investing activities		
Purchases of property and equipment	(1,157)	(545)
Proceeds from the sale of property and equipment	106	—
Purchase of short-term investments	(75,044)	—
Proceeds from the maturity of short-term investments	50,000	—
Net cash used in investing activities	(26,095)	(545)
Cash flows from financing activities		
Proceeds from issuance of ordinary shares, net of offering costs	51,235	—
Proceeds from issuance pre-funded warrants, net of offering costs	14,272	—
Proceeds from issuance of ordinary shares pursuant to the at-the-market equity program, net of offering costs	1,167	21,177
Proceeds from the exercise of share options	87	250
Proceeds from the ESPP	372	608
Net cash provided by financing activities	67,133	22,035
Effect of foreign exchange rates on cash, cash equivalents and restricted cash	(304)	(131)
Net decrease in cash, cash equivalents and restricted cash	(53,607)	(60,601)
Cash, cash equivalents and restricted cash, beginning of period	154,215	188,148
Cash, cash equivalents and restricted cash, end of period	$ 100,608	$ 127,547
Supplemental disclosure of cash flow information:		
Increase in operating lease right-of-use assets and lease liabilities related to lease extension	$ 12,006	$ —

The accompanying notes are an integral part of the unaudited consolidated financial statements.

1. THE COMPANY

Organization

Wave Life Sciences Ltd. (together with its subsidiaries, "Wave" or the "Company") is a clinical-stage genetic medicines company committed to delivering life-changing treatments for people battling devastating diseases. PRISM, Wave's proprietary discovery and drug development platform, enables the precise design, optimization and production of novel stereopure oligonucleotides. Wave has built a genetic toolkit comprised of multiple therapeutic modalities, including RNase-H mediated silencing, RNAi, splicing, and ribonucleic acid ("RNA") base editing, all of which leverage learnings and optimizations from the PRISM platform and allow Wave to design built-for-purpose molecules to optimally address disease biology.

The Company was incorporated in Singapore on July 23, 2012 and has its principal U.S. office in Cambridge, Massachusetts. The Company was incorporated with the purpose of combining two commonly held companies, Wave Life Sciences USA, Inc. ("Wave USA"), a Delaware corporation (formerly Ontorii, Inc.), and Wave Life Sciences Japan, Inc. ("Wave Japan"), a company organized under the laws of Japan (formerly Chiralgen., Ltd.), which occurred on September 13, 2012. On May 31, 2016, Wave Life Sciences Ireland Limited ("Wave Ireland") was formed as a wholly-owned subsidiary of Wave Life Sciences Ltd. On April 3, 2017, Wave Life Sciences UK Limited ("Wave UK") was formed as a wholly-owned subsidiary of Wave Life Sciences Ltd.

The Company's primary activities since inception have been developing and evolving PRISM to design, develop and commercialize oligonucleotide therapeutics, advancing the Company's differentiated neurology portfolio, as well as exploring other therapeutic areas of interest, building the Company's research, development and manufacturing capabilities, advancing programs into the clinic, furthering clinical development of such clinical-stage programs, building the Company's intellectual property, and assuring adequate capital to support these activities.

Liquidity

Since its inception, the Company has not generated any product revenue and has incurred recurring net losses. To date, the Company has primarily funded its operations through private placements of debt and equity securities, public and other registered offerings of its equity securities and collaborations with third parties. Until the Company can generate significant revenue from product sales, if ever, the Company expects to continue to finance operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Adequate additional financing may not be available to the Company on acceptable terms, or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and ability to pursue its business strategy.

As of September 30, 2022, the Company had cash, cash equivalents and short-term investments of $122.0 million. The Company expects that its existing cash, cash equivalents and short-term investments will be sufficient to fund its operations for at least the next twelve months. The Company has based this expectation on assumptions that may prove to be incorrect, and the Company may use its available capital resources sooner than it currently expects. If the Company's anticipated operating results are not achieved in future periods, planned expenditures may need to be further reduced in order to extend the time period over which the then-available resources would be able to fund the Company's operations. In addition, the Company may elect to raise additional funds before it needs them if the conditions for raising capital are favorable due to market conditions or strategic considerations, even if the Company expects it has sufficient funds for its current or future operating plans.

Risks and Uncertainties

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, maintaining internal manufacturing capabilities, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. The Company's therapeutic programs will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization of any product candidates. These efforts require significant amounts of additional capital, adequate personnel infrastructure and extensive compliance-reporting capabilities. There can be no assurance that the Company's research and development efforts will be successful, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies.

Basis of Presentation

The Company has prepared the accompanying consolidated financial statements in conformity with generally accepted accounting principles in the United States ("U.S. GAAP") and in U.S. dollars.

2. SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies described in the Company's audited financial statements as of and for the year ended December 31, 2021, and the notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission ("SEC") on March 3, 2022, as amended (the "2021 Annual Report on Form 10-K"), have had no material changes during the nine months ended September 30, 2022, except as described below.

Fair Value of Financial Instruments

The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. The fair value hierarchy is a hierarchy of inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the financial instrument based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the financial instrument and are developed based on the information available in the circumstances. The fair value hierarchy applies only to the valuation inputs used in determining the reported fair value of the investments and is not a measure of the investment credit quality. The hierarchy defines three levels of valuation inputs:

Level 1—Unadjusted quoted prices in active markets that are accessible at the measurement date of identical, unrestricted assets.

Level 2—Quoted prices for similar assets, or inputs that are observable, either directly or indirectly, for substantially the full term through corroboration with observable market data. Level 2 includes investments valued at quoted prices adjusted for legal or contractual restrictions specific to the security.

Level 3—Pricing inputs are unobservable for the asset, that is, inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset. Level 3 includes private investments that are supported by little or no market activity.

Cash and Cash Equivalents

The Company considers all highly liquid securities with original final maturities of three months or less from the date of purchase to be cash equivalents. The Company's cash and cash equivalents are comprised of funds held in checking and money market accounts.

Short-Term Investments

The Company's short-term investments consist of term deposits.

Concentration of Credit Risk

Cash, cash equivalents, restricted cash and short-term investments are financial instruments that potentially subject the Company to concentration of credit risk. The Company uses several financial institutions to maintain its cash, cash equivalents, restricted cash and short-term investments, all of which are high quality, accredited financial institutions and, accordingly, such funds are subject to minimal credit risk. The Company has not experienced any losses in such accounts and management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. The Company has no financial instruments with off-balance sheet risk of loss.

Unaudited Interim Financial Data

The accompanying interim consolidated balance sheet as of September 30, 2022, the related interim consolidated statements of operations and comprehensive loss for the three and nine months ended September 30, 2022 and 2021, the consolidated statements of Series A preferred shares and shareholders' equity (deficit) for the three months ended March 31, June 30, and September 30, 2022 and 2021, the consolidated statements of cash flows for the nine months ended September 30, 2022 and 2021, and the related interim information contained within the notes to the unaudited consolidated financial statements have been prepared in accordance with the rules and regulations of the SEC for interim financial information. Accordingly, they do not include all of the information and the notes required by U.S. GAAP for complete financial statements. The financial data and other information disclosed in these notes related to the three and nine months ended September 30, 2022 and 2021 are unaudited. In the opinion of management, the unaudited interim consolidated financial statements reflect all adjustments, consisting of normal and recurring adjustments, necessary for the fair presentation of the Company's financial position and results of operations for the three and nine months ended September 30, 2022 and 2021. The results of operations for the interim periods are not necessarily indicative of the results to be expected for the year ending December 31, 2022 or any other interim period or future year or period.

3. FAIR VALUE MEASUREMENTS

The following table sets forth the Company's financial assets that are measured at fair value on a recurring basis:

	Total	Level 1	Level 2	Level 3
		(in thousands)		
September 30, 2022				
Cash and cash equivalents	$ 96,954	$ 96,954	—	$ —
Short-term investments	25,044	—	25,044	—
Restricted cash	3,654	3,654	—	—
Total	$ 125,652	$ 100,608	$ 25,044	$ —
December 31, 2021				
Cash and cash equivalents	$ 150,564	$ 150,564	$ —	$ —
Short-term investments	—	—	—	—
Restricted cash	3,651	3,651	—	—
Total	$ 154,215	$ 154,215	$ —	$ —

There have been no transfers between fair value levels during the three months ended September 30, 2022.

Cash, cash equivalents and restricted cash are Level 1 assets which are comprised of funds held in checking and money market accounts. Short-term investments are Level 2 assets which are comprised of term deposits. The Company determined that the fair value of its short-term investments is $25.0 million as of September 30, 2022, which approximates the carrying value of the term deposits. There were no short-term investments as of December 31, 2021, as the term deposits that constitute the Company's short-term investments were purchased during the nine months ended September 30, 2022. The carrying amounts of accounts payable and accrued expenses approximate their fair values due to their short-term maturities.

4. SHARE-BASED COMPENSATION

The Wave Life Sciences Ltd. 2021 Equity Incentive Plan, as amended (the "2021 Plan"), went into effect on August 10, 2021 and was amended effective as of August 9, 2022. The 2021 Plan serves as the successor to the Wave Life Sciences Ltd. 2014 Equity Incentive Plan, as amended (the "2014 Plan"), such that outstanding awards granted under the 2014 Plan continue to be governed by the terms of the 2014 Plan, but no awards may be made under the 2014 Plan after August 10, 2021. The aggregate number of ordinary shares authorized for issuance of awards under the 2021 Plan was originally 5,450,000 ordinary shares, and was subsequently increased to 11,450,000 in August 2022, plus the number of ordinary shares underlying any awards under the 2014 Plan that are forfeited, cancelled or otherwise terminated (other than by exercise or withheld by the Company to satisfy any tax withholding obligation) on or after August 10, 2021.

The 2021 Plan authorizes (and the 2014 Plan previously authorized) the Company's board of directors or a committee of the board of directors to, among other things, grant non-qualified share options, restricted awards, which include restricted shares and restricted share units ("RSUs"), and performance awards to eligible employees and directors of the Company.

Options generally vest over periods of one to four years, and any options that are forfeited or cancelled are available to be granted again. The contractual life of options is generally five or ten years from the grant date. RSUs can be time-based or performance-based. Time-based RSUs generally vest over a period of one to four years. The vesting of performance-based RSUs is contingent on the achievement of certain performance milestones. Any RSUs that are forfeited are available to be granted again.

In March 2021, the compensation committee of the Company's board of directors approved an amendment and restatement of the Company's outstanding 2019 performance-based RSUs to add an additional milestone to the existing milestones. In 2021, the Company also granted performance-based RSUs with the same terms to certain employees who did not receive the 2019 performance-based RSUs. This modification did not result in any incremental expense.

In April 2022, the Company determined that a performance-based RSU milestone was achieved and consequently 50% of the outstanding performance-based RSUs vested, which resulted in the issuance of 384,646 ordinary shares. During the nine months ended September 30, 2022, the Company recorded share-based compensation expense of approximately $3.8 million, which represents all of the expense related to the achievement of this performance-based RSU milestone. The Company did not recognize any expense related to the other performance-based RSU milestones, as the remaining milestones were not considered probable of achievement as of September 30, 2022.

During the nine months ended September 30, 2022, the Company granted 3,479,825 options and 93,225 time-based RSUs to employees.

As of September 30, 2022, 6,306,514 ordinary shares remained available for future grant under the 2021 Plan.

The Wave Life Sciences Ltd. 2019 Employee Share Purchase Plan ("ESPP") allows all full-time and certain part-time employees to purchase the Company's ordinary shares at a discount to fair market value. Eligible employees may enroll in a six-month offering period beginning on or about January 15th and July 15th every year. Shares are purchased at a price equal to 85% of the lower of the fair market value of the Company's ordinary shares on the first business day or the last business day of an offering period. During the nine months ended September 30, 2022, 166,061 ordinary shares were issued under the ESPP. As of September 30, 2022, there were 716,413 ordinary shares available for issuance under the ESPP.

5. COLLABORATION AGREEMENTS

Takeda Collaboration and Equity Agreements

In February 2018, Wave USA and Wave UK entered into a global strategic collaboration (the "Takeda Collaboration") with Takeda Pharmaceutical Company Limited ("Takeda"), pursuant to which Wave USA, Wave UK and Takeda agreed to collaborate on the research, development and commercialization of oligonucleotide therapeutics for disorders of the Central Nervous System ("CNS"). The Takeda Collaboration provides the Company with at least $230.0 million in committed cash and Takeda with the option to co-develop and co-commercialize the Company's CNS development programs in (1) Huntington's disease ("HD"); (2) amyotrophic lateral sclerosis ("ALS") and frontotemporal dementia ("FTD"); and (3) the Company's discovery-stage program targeting *ATXN3* for the treatment of spinocerebellar ataxia 3 ("SCA3") (collectively, "Category 1 Programs"). In addition, the Takeda Collaboration provided Takeda the right to exclusively license multiple preclinical programs for CNS disorders, including Alzheimer's disease and Parkinson's disease (collectively, "Category 2 Programs"). In April 2018, the Takeda Collaboration became effective and Takeda paid the Company $110.0 million as an upfront payment. Takeda also agreed to fund the Company's research and preclinical activities in the amount of $60.0 million during the four-year research term and to reimburse the Company for any collaboration-budgeted research and preclinical expenses incurred by the Company that exceed that amount.

Simultaneously with Wave USA and Wave UK's entry into the collaboration and license agreement with Takeda (the "Takeda Collaboration Agreement"), the Company entered into a share purchase agreement with Takeda (the "Takeda Equity Agreement," and together with the Takeda Collaboration Agreement, the "Takeda Agreements") pursuant to which it agreed to sell to Takeda 1,096,892 of its ordinary shares at a purchase price of $54.70 per share. In April 2018, the Company closed the Takeda Equity Agreement and received aggregate cash proceeds of $60.0 million. The Company did not incur any material costs in connection with the issuance of shares.

With respect to Category 1 Programs, the Company will be responsible for researching and developing products and companion diagnostics for Category 1 Programs through completion of the first proof of mechanism study for such products. Takeda will have an exclusive option for each target and all associated products and companion diagnostics for such target, which it may exercise at any time through completion of the proof of mechanism study. If Takeda exercises this option, the Company will receive an opt-in payment and will lead manufacturing and joint clinical co-development activities and Takeda will lead joint co-commercial activities in the United States and all commercial activities outside of the United States. Global costs and potential profits will be shared 50:50 and the Company will be eligible to receive development and commercial milestone payments. In addition to its 50% profit share, the Company is eligible to receive option exercise fees and development and commercial milestone payments for each of the Category 1 Programs.

With respect to Category 2 Programs, the Company granted Takeda the right to exclusively license multiple preclinical programs during a four-year research term (subject to limited extension for programs that were initiated prior to the expiration of the research term, in accordance with the Takeda Collaboration Agreement) ("Category 2 Research Term"). During that term, the Takeda Collaboration provided that the parties may collaborate on preclinical programs for up to six targets at any one time. The Company was responsible for researching and preclinically developing products and companion diagnostics directed to the agreed upon targets through completion of Investigational New Drug application ("IND")-enabling studies in the first major market country. Thereafter, Takeda would have an exclusive worldwide license to develop and commercialize products and companion diagnostics directed to such targets, subject to the Company's retained rights to lead manufacturing activities for products directed to such targets. Takeda agreed to fund the Company's research and preclinical activities in the amount of $60.0 million during the research term and reimburse the Company for any collaboration-budgeted research and preclinical expenses incurred by the Company that exceeded that amount. The Company was also eligible to receive tiered high single-digit to mid-teen royalties on Takeda's global commercial sales of products from each Category 2 Program.

Under the Takeda Collaboration Agreement, each party granted to the other party specific intellectual property licenses to enable the other party to perform its obligations and exercise its rights under the Takeda Collaboration Agreement, including license grants to enable each party to conduct research, development and commercialization activities pursuant to the terms of the Takeda Collaboration Agreement.

The term of the Takeda Collaboration Agreement commenced on April 2, 2018 and, unless terminated earlier, will continue until the date on which: (i) with respect to each Category 1 Program target for which Takeda does not exercise its option, the expiration or termination of the development program with respect to such target; (ii) with respect to each Category 1 Program target for which Takeda exercises its option, the date on which neither party is researching, developing or manufacturing any products or companion diagnostics directed to such target; or (iii) with respect to each Category 2 Program target, the date on which royalties are no longer payable with respect to products directed to such target.

Takeda may terminate the Takeda Collaboration Agreement for convenience on 180 days' notice, in its entirety or on a target-by-target basis. Subject to certain exceptions, each party has the right to terminate the Takeda Collaboration Agreement on a target-by-target basis if the other party, or a third party related to such party, challenges the patentability, enforceability or validity of any patents within the licensed technology that cover any product or companion diagnostic that is subject to the Takeda Collaboration Agreement. In the event of any material breach of the Takeda Collaboration Agreement by a party, subject to cure rights, the other party may terminate the Takeda Collaboration Agreement in its entirety if the breach relates to all targets or on a target-by-target basis if the breach relates to a specific target. In the event that Takeda and its affiliates cease development, manufacturing and commercialization activities with respect to compounds or products subject to the Takeda Collaboration Agreement and directed to a particular target, the Company may terminate the Takeda Collaboration Agreement with respect to such target. Either party may terminate the Takeda Collaboration Agreement for the other party's insolvency. In certain termination circumstances, the Company would receive a license from Takeda to continue researching, developing and manufacturing certain products, and companion diagnostics.

The Takeda Collaboration is managed by a joint steering committee ("JSC") in which both parties are represented equally. The JSC is tasked with overseeing the scientific progression of each Category 1 Program and, prior to the Amendment (discussed below), the Category 2 Programs.

The Company assessed this arrangement in accordance with ASC Topic 606, Revenue from Contracts with Customers ("ASC 606") and concluded that the contract counterparty, Takeda, is a customer for Category 1 Programs prior to Takeda exercising its option, and for Category 2 Programs during the Category 2 Research Term. The Company identified the following material promises under the arrangement: (1) the non-exclusive, royalty-free research and development license for each Category 1 Program; (2) the research and development services for each Category 1 Program through completion of the first proof of mechanism study; (3) the exclusive option to license, co-develop and co-commercialize each Category 1 Program; (4) the right to exclusively license the Category 2 Programs; and (5) the research and preclinical development services of the Category 2 Programs through completion of IND-enabling studies. The research and development services for each Category 1 Program were determined to not be distinct from the research and development license and should therefore be combined into a single performance obligation for each Category 1 Program. The research and preclinical development services for the Category 2 Programs were determined to not be distinct from the exclusive licenses for the Category 2 Programs and should therefore be combined into a single performance obligation.

Additionally, the Company determined that the exclusive option for each Category 1 Program was priced at a discount, and, as such, provide material rights to Takeda, representing three separate performance obligations. Based on these assessments, the Company identified seven performance obligations in the Takeda Collaboration Agreement: (1) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for HD; (2) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for ALS and FTD; (3) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for SCA3; (4) the material right provided for the exclusive option to license, co-develop and co-commercialize HD; (5) the material right provided for the exclusive option to license, co-develop and co-commercialize ALS and FTD; (6) the material right provided for the exclusive option to license, co-develop and co-commercialize SCA3; and (7) the research and preclinical development services and right to exclusively license the Category 2 Programs.

At the outset of the arrangement, the transaction price included the $110.0 million upfront consideration received and the $60.0 million of committed research and preclinical funding for the Category 2 Programs. The Company determined that the Takeda Collaboration Agreement did not contain a significant financing component. The option exercise fees to license, co-develop and co-commercialize each Category 1 Program that may be received are excluded from the transaction price until each customer option is exercised. The potential milestone payments were excluded from the transaction price, as all milestone amounts were fully constrained at the inception of the Takeda Collaboration Agreement. The Company will reevaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, if necessary, will adjust its estimate of the transaction price.

The Company allocated the transaction price to the performance obligations on a relative standalone selling price basis. For the performance obligations associated with the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for HD; the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for ALS and FTD; the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for SCA3; and the research and preclinical development services and right to exclusively license the Category 2 Programs, the Company determined the standalone selling price using estimates of the costs to perform the research and development services, including expected internal and external costs for services and supplies, adjusted to reflect a profit margin. The total estimated cost of the research and development services reflected the nature of the services to be performed and the Company's best estimate of the length of time required to perform the services. For the performance obligations associated with the material right provided for the exclusive option to license, co-develop and co-commercialize HD; the material right provided for the exclusive option to license, co-develop and co-commercialize ALS and FTD; and the material right provided for the exclusive option to license, co-develop and co-commercialize SCA3, the Company estimated the standalone fair value of the option to license each Category 1 Program utilizing an adjusted market assessment approach, and determined that any standalone fair value in excess of the amounts to be paid by Takeda associated with each option represented a material right.

Revenue associated with the research and development services for each Category 1 Program performance obligation is being recognized as the research and development services are provided using an input method, according to the costs incurred on each Category 1 Program and the total costs expected to be incurred to satisfy each Category 1 Program performance obligation. Revenue associated with the research and preclinical development services for the Category 2 Programs performance obligation is being recognized as the research and preclinical development services are provided using an input method, according to the costs incurred on Category 2 Programs and the total costs expected to be incurred to satisfy the performance obligation. The transfer of control for these performance obligations occurs over time and, in management's judgment, this input method is the best measure of progress towards satisfying the performance obligations. The amount allocated to the material right for each Category 1 Program option will be recognized on the date that Takeda exercises each respective option, or immediately as each option expires unexercised. The amounts received that have not yet been recognized as revenue are recorded in deferred revenue on the Company's consolidated balance sheet.

On October 15, 2021, Wave USA, Wave UK and Takeda entered into the Second Amendment to the Takeda Collaboration Agreement (the "Amendment"), which discontinued the Category 2 component of the Takeda Collaboration. Pursuant to the Amendment, Takeda agreed to pay the Company an additional $22.5 million as full payment for reimbursable Category 2 Program collaboration-budgeted research and preclinical expenses. The Category 1 Programs under the Takeda Collaboration Agreement remain in effect and are unchanged by the Amendment.

Through September 30, 2022, the Company had recognized revenue of $79.9 million as collaboration revenue under the Takeda Collaboration Agreement. During the three and nine months ended September 30, 2022, the Company recognized revenue of approximately $0.2 million and $2.0 million, respectively, under the Takeda Collaboration Agreement. During the three and nine months ended September 30, 2021, the Company recognized revenue of $36.4 million and $39.2 million, respectively, under the Takeda Collaboration Agreement.

The aggregate amount of the transaction price allocated to the Company's unsatisfied and partially unsatisfied performance obligations and recorded in deferred revenue as of December 31, 2021 was $114.6 million, of which $37.1 million was included in current liabilities. The aggregate amount of the transaction price allocated to the Company's unsatisfied and partially unsatisfied performance obligations and recorded in deferred revenue at September 30, 2022 is $112.6 million, of which $32.3 million is included in current liabilities. The Company expects to recognize revenue for the portion of the deferred revenue that relates to the research and development services for each Category 1 Program as costs are incurred, over the remaining research term. The Company expects to recognize revenue for the portion of the deferred revenue that relates to the material right for each Category 1 Program option upon Takeda's exercise of such option, or immediately as each option expires unexercised.

6. SHAREHOLDERS' EQUITY

June 2022 Offering

On June 16, 2022, the Company closed an underwritten offering (the "June 2022 Offering") in which the Company issued and sold 25,464,483 of the Company's ordinary shares at a price of $2.15 per share and pre-funded warrants (the "Pre-Funded Warrants") to purchase up to 7,093,656 of the Company's ordinary shares at an offering price of $2.1499 per Pre-Funded Warrant, which represents the per share offering price for the ordinary shares less the $0.0001 per share exercise price for each Pre-Funded Warrant. These Pre-Funded Warrants were recorded as a component of shareholders' equity within additional paid-in capital. The gross proceeds to the Company were $70.0 million before deducting underwriting discounts and commissions and other offering expenses. The net proceeds of the June 2022 Offering were approximately $65.5 million.

The Pre-Funded Warrants are exercisable at any time after their original issuance and on or prior to the five-year anniversary of the original issuance date. A holder of Pre-Funded Warrants may not exercise the warrant if the holder, together with its affiliates, would beneficially own more than 19.99% of the number of ordinary shares outstanding or more than 19.99% of the combined voting power of the Company's securities outstanding immediately after giving effect to such exercise, unless and until shareholder approval is obtained.

7. NET LOSS PER ORDINARY SHARE

The Company applies the two-class method to calculate its basic and diluted net loss per share attributable to ordinary shareholders, as its Series A preferred shares are participating securities. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to ordinary shareholders.

As of September 30, 2022, there are 7,093,656 vested and exercisable Pre-Funded Warrants outstanding to purchase ordinary shares for the exercise price of $0.0001 per share. The Pre-Funded Warrants are included in the weighted-average shares outstanding used in the calculation of basic net loss per share as the exercise price is negligible and the warrants are fully vested and exercisable.

Basic loss per share is computed by dividing net loss attributable to ordinary shareholders and Pre-Funded Warrant holders by the weighted-average number of ordinary shares and Pre-Funded Warrants outstanding.

The Company's potentially dilutive shares, which include outstanding share options to purchase ordinary shares, RSUs, and Series A preferred shares, are considered to be ordinary share equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive.

The following ordinary share equivalents, presented based on amounts outstanding at each period end, were excluded from the calculation of diluted net loss per share attributable to ordinary shareholders for the periods indicated because including them would have had an anti-dilutive effect:

	As of September 30,	
	2022	2021
Options to purchase ordinary shares	9,732,711	4,765,701
RSUs	999,771	1,974,767
Series A preferred shares	3,901,348	3,901,348

Additionally, for the periods presented, the two-class method does not impact the net loss per ordinary share as the Company was in a net loss position for each of the periods presented and holders of Series A preferred shares do not participate in losses.

8. INCOME TAXES

During the three and nine months ended September 30, 2022 and 2021, the Company recorded no income tax provision. The Company maintained a full valuation allowance for the three and nine months ended September 30, 2022 and 2021 in all jurisdictions due to uncertainty regarding future taxable income.

The Company's utilization of its net operating loss carryforwards and general business credit carryforwards in the United States may be subject to a substantial annual limitation under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income. As of September 30, 2022, the Company is evaluating whether an ownership change occurred during 2022. Should an ownership change have occurred or occur in the future, the Company's ability to utilize its net operating losses and general business credit carryforwards may be limited.

9. GEOGRAPHIC DATA

Substantially all of the Company's long-lived assets were located in the United States as of September 30, 2022 and December 31, 2021.

10. RELATED PARTIES

The Company had the following related party transaction for the periods presented in the accompanying consolidated financial statements:

- In 2012, the Company entered into a consulting agreement for scientific advisory services with Dr. Gregory L. Verdine, one of the Company's founders and a member of the Company's board of directors. The consulting agreement does not have a specific term and may be terminated by either party upon 14 days' prior written notice. Pursuant to the consulting agreement, the Company pays Dr. Verdine approximately $13 thousand per month, plus reimbursement for certain expenses. In October 2022, the compensation committee of the Company's board of directors granted Dr. Verdine a non-qualified share option for 163,467 ordinary shares as form of payment under this consulting agreement for the service period of October 1, 2022 through December 31, 2024, the vesting of which is subject to Dr. Verdine's continued service under the consulting agreement.

11. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities consist of the following:

	September 30, 2022	December 31, 2021
	(in thousands)	
Accrued compensation	$ 8,002	$ 10,181
Accrued expenses related to CROs and CMOs	1,907	3,571
Accrued expenses and other current liabilities	1,147	1,109
Total accrued expenses and other current liabilities	$ 11,056	$ 14,861

12. LEASES

Lease Arrangements

The Company enters into lease arrangements for its facilities. A summary of the arrangements is as follows:

Operating Leases

Lexington

On September 26, 2016, and as amended on December 31, 2016, the Company entered into a 10 year and 9-month lease , which includes two successive five-year renewal options, for its facility in Lexington, Massachusetts (the "Lexington Lease"), which the Company uses primarily for its current good manufacturing practices ("cGMP") manufacturing, as well as for additional laboratory and office space. Throughout the term of the Lexington Lease, the Company is responsible for paying certain costs and expenses, in addition to the rent, as specified in the lease, including a proportionate share of applicable taxes, operating expenses and utilities. As required under the terms of the Lexington Lease, the Company had restricted cash of approximately $2.7 million in a separate bank account as of September 30, 2022 and December 31, 2021.

Cambridge

In April 2015, the Company entered into a lease agreement for an office and laboratory facility in Cambridge, Massachusetts (the "Cambridge Lease"), which commenced in October 2015 with an original term of 7.5 years with a five-year renewal option to extend the lease. Throughout the term of the Cambridge Lease, the Company is responsible for paying certain costs and expenses, in addition to the rent, as specified in the lease, including a proportionate share of applicable taxes, operating expenses and utilities. As required under the terms of the Cambridge Lease, the Company had restricted cash of $1.0 million in a separate bank account as of September 30, 2022 and December 31, 2021.

In December 2020, the Company exercised its option under the Cambridge Lease to lease additional office and laboratory space at the adjoining facility. The combined space constitutes the entire building located at 733 Concord Avenue. The lease for the additional space commenced on October 1, 2021, with a term of five years and, for accounting purposes, is considered a separate lease from the Cambridge Lease (the "Additional Cambridge Lease"). On the commencement date of the Additional Cambridge Lease, the Company recorded a right-of-use asset and corresponding operating lease liability of $4.5 million and began recognizing straight-line rent expense under ASC 842. Throughout the term of the Additional Cambridge Lease, the Company is responsible for paying certain costs and expenses, in addition to the rent, as specified in the lease, including a proportionate share of applicable taxes, operating expenses and utilities.

In June 2022, the Company notified the landlord of its intention to exercise the five-year renewal option under the Cambridge Lease to extend the lease term through March 2028 (the "Cambridge Lease Extension"). In June 2022, the Company calculated an incremental borrowing rate of 10.53% and remeasured the right-of-use asset and the lease liabilities related to the Cambridge Lease Extension. During the second quarter of 2022, the Company recorded an additional $12.0 million of operating right-of-use asset and corresponding operating lease liabilities relating to the Cambridge Lease Extension. In August 2022, the Company executed the second amendment to the Cambridge Lease with respect to the Cambridge Lease Extension.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and in our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission ("SEC") on March 3, 2022, as amended (the "2021 Annual Report on Form 10-K"). Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Quarterly Report on Form 10-Q or the "Risk Factor" section of our 2021 Annual Report on Form 10-K, our actual results could differ materially from the results described in, or implied by, these forward-looking statements.

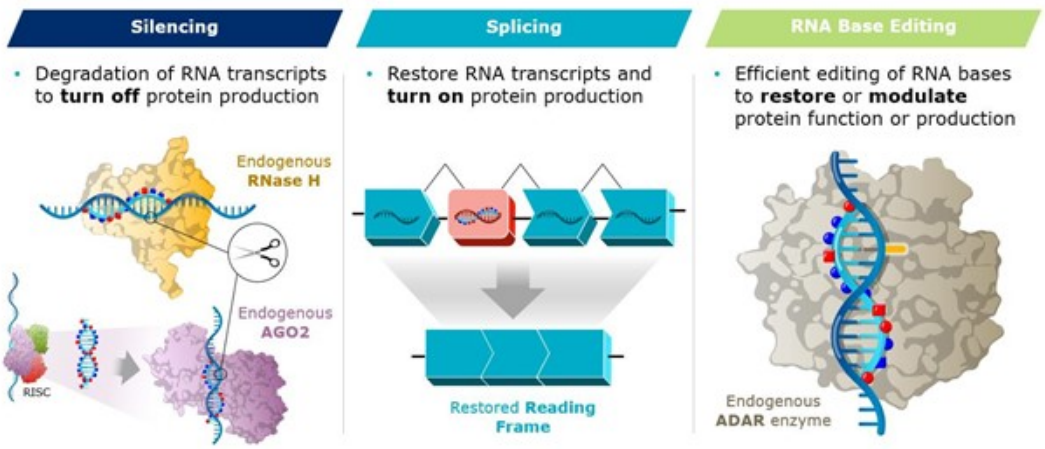
Overview

We are a clinical-stage genetic medicines company committed to delivering life-changing treatments for people battling devastating diseases. Using PRISM™, our proprietary discovery and drug development platform that enables the precise design, optimization and production of novel stereopure oligonucleotides, we aspire to develop best-in-class medicines that target the transcriptome to treat genetically defined diseases with a high degree of unmet need.

We are developing oligonucleotides that target ribonucleic acid ("RNA") and harness existing cellular machinery to either reduce the expression of disease-promoting RNA or proteins, restore the production of functional proteins, or modulate protein expression. By intervening at the RNA level, we have the potential to address diseases that have historically been difficult to treat with small molecules or biologics, while retaining the ability to titrate dose, modulate duration of effect, and avoid risk of permanent off-target genetic changes and other challenges associated with DNA editing or gene therapy approaches. Oligonucleotides have additional advantages as a therapeutic class, including the ability to access multiple tissue types and the ability to modulate the frequency of dosing to ensure broad distribution within tissues over time. Oligonucleotides also have well-established manufacturing processes and validated test methods based on decades of improvements, as well as established regulatory, access and reimbursement pathways.

Our approach is based on the scientific insight that the biological machinery necessary to address genetic diseases already exists in human cells and can be controlled with the right tools. We have built a genetic toolkit comprised of multiple therapeutic modalities, including RNase-H mediated silencing, RNAi, splicing, and RNA base editing, all of which leverage learnings and optimizations from our PRISM platform and allow us to design built-for-purpose molecules to optimally address disease biology.

Our A-to-I(G) RNA base editing oligonucleotides ("AIMers") represent our newest therapeutic modality. AIMers are designed to edit single base mutations on RNA transcripts, thereby avoiding permanent changes to the genome that occur with DNA-targeting approaches. Rather than using an exogenous editing enzyme, AIMers recruit proteins that exist in the body, called "ADAR" (adenosine deaminases acting on RNA) enzymes, which naturally possess the ability to change an adenine (A) to an inosine (I), which cells read as guanine (G). This approach enables simplified delivery and avoids the risk of irreversible off-target effects with DNA-targeting approaches. AIMers are short in length, fully chemically modified, and use novel chemistry, including proprietary PN backbone modifications and control of stereochemistry, which make them distinct from other ADAR-mediated editing approaches.



Our PRISM platform is built on the recognition that a significant opportunity exists to tune the pharmacological properties of oligonucleotide therapeutics by leveraging three key features of these molecules: sequence, chemistry, and stereochemistry. Our unique ability to control stereochemistry, which is a reality of chemically modified oligonucleotides, provides the resolution necessary to optimize pharmacological profiles. PRISM enables us to design stereopure oligonucleotides, which are comprised of molecules with atoms precisely and purposefully arranged in three-dimensional orientations at each linkage. These differ from the mixture-based oligonucleotides currently on the market or in development by others. Additionally, to mitigate pharmacological risks and potential manufacturing challenges, our approach focuses on designing short, chemically modified oligonucleotides without the need for complex delivery vehicles or engineered exogenous enzymes.

Our work in developing stereopure oligonucleotides has enabled the continued evolution of PRISM and our drug discovery process of selecting genetically defined targets, identifying a sequence and applying the therapeutic modality we determine is best suited for the disease biology. We use our PRISM platform engine to screen candidates and optimize the pharmacologic profile based on predefined design principles, which reflect a deep understanding of how the interplay among oligonucleotide sequence, chemistry and backbone stereochemistry impacts key pharmacological properties. Through continued exploration of these interactions using iterative analysis of *in vitro* and *in vivo* outcomes and machine learning-driven predictive modeling, we also continue to refine our design principles that we deploy across subsequent programs. We continue to invest in PRISM to further evolve and apply the expanding capabilities and promise of our unique platform.

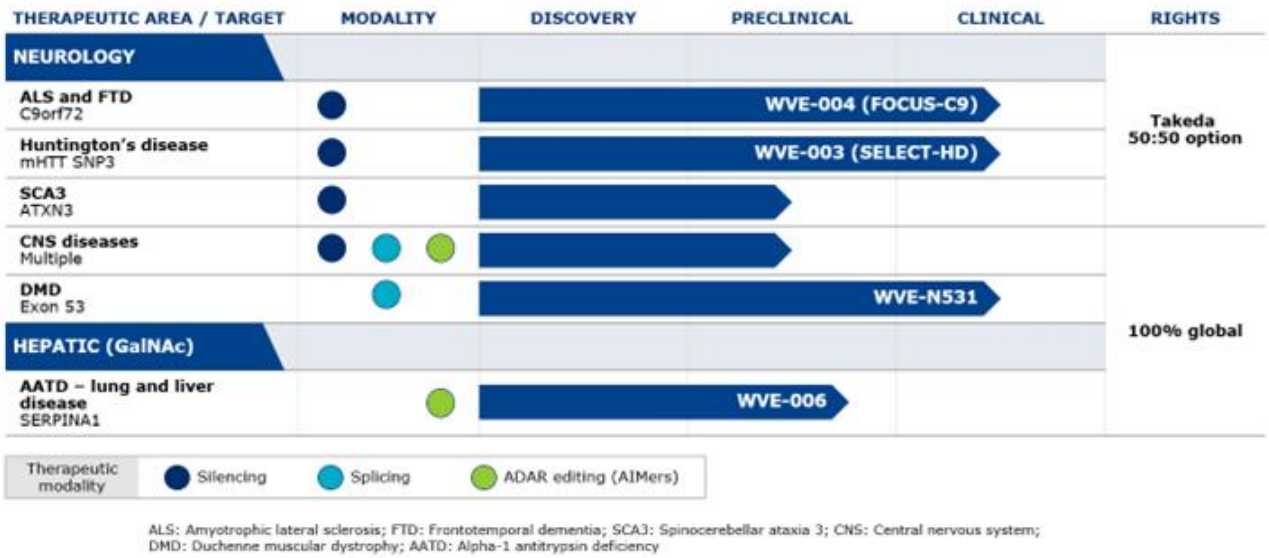
In August 2020, we publicly introduced our novel PN backbone chemistry modifications, which have been shown preclinically to increase potency, distribution, and durability of effect across various modalities. PN chemistry has been incorporated into all our current clinical, preclinical, and discovery-stage programs.

We have a robust and diverse pipeline of PN-modified, stereopure oligonucleotides, including our clinical silencing and splicing programs, as well as our AIMers. With RNA base editing, our initial focus is on using N-acetyl galactosamine ("GalNAc")-conjugated AIMers to treat hepatic diseases. Our lead programs are designed to treat genetic diseases within the central nervous system ("CNS"), including amyotrophic lateral sclerosis ("ALS"), frontotemporal dementia ("FTD"), Huntington's disease ("HD"), Duchenne muscular dystrophy ("DMD"), and alpha-1 antitrypsin deficiency ("AATD"). These programs include:

- WVE-004 (silencing), our C9orf72-targeted variant selective antisense oligonucleotide for the treatment of C9orf72-associated ALS and FTD,
- WVE-003 (silencing), our SNP3-targeted antisense oligonucleotide for the treatment of HD, which is designed to selectively lower mutant HTT protein levels, while leaving wild-type HTT protein levels relatively intact,
- WVE-N531 (splicing), our exon 53 exon-skipping oligonucleotide for the treatment of DMD, and
- WVE-006 (RNA editing), our GalNAc-conjugated SERPINA1 AIMer for the treatment of AATD.

When we built Wave, we recognized the growing momentum in RNA therapeutics and anticipated the value in having an internal current good manufacturing practices ("cGMP") manufacturing facility. This capability provides us with increased control and visibility of our drug substance supply chain, thereby accelerating transitions from discovery through clinical development, and the continued ability to innovate in oligonucleotide manufacturing. Our team includes experts in oligonucleotide manufacturing that have successfully delivered clinical supply for six global studies at Wave to date. With our existing manufacturing facility, we are evaluating using our additional capacity to support the clinical supply of innovative oligonucleotides for new partners.

Our Current Programs



ALS: Amyotrophic lateral sclerosis; FTD: Frontotemporal dementia; SCA3: Spinocerebellar ataxia 3; CNS: Central nervous system; DMD: Duchenne muscular dystrophy; AATD: Alpha-1 antitrypsin deficiency

Additional details regarding our lead therapeutic programs are set forth below.

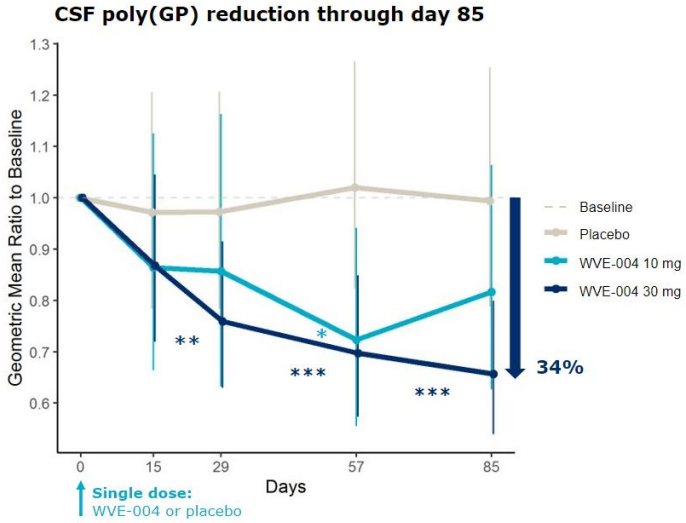
Neurology

WVE-004: In ALS and FTD, we are advancing WVE-004, which uses our novel PN chemistry and preferentially targets the transcripts containing the hexanucleotide G4C2 expansion in the *C9orf72* gene. In C9 BAC transgenic mice, WVE-004 led to substantial reductions in repeat-containing C9orf72 transcripts and dipeptide repeat ("DPR") proteins that are sustained for at least six months, without disrupting total C9orf72 protein expression.

In 2021, we initiated our FOCUS-C9 trial, which is a global, multicenter, randomized, double-blind, placebo-controlled Phase 1b/2a clinical trial to assess the safety and tolerability of intrathecal doses of WVE-004 for patients with C9-ALS and/or C9-FTD. Additional objectives include measurement of polyGP proteins in the cerebrospinal fluid ("CSF"), plasma and CSF pharmacokinetics and exploratory biomarker and clinical endpoints. The FOCUS-C9 trial is designed to be adaptive with dose level and dosing frequency being guided by an independent committee. Preclinical models that have established pharmacologic activity have informed the starting dose for this trial.

In April 2022, we announced a positive update to the ongoing FOCUS-C9 trial that was driven by the observation of potent, durable reductions of poly(GP) dipeptide repeat proteins in CSF with low, single doses of WVE-004. Poly(GP) is a key C9-ALS/C9-FTD disease biomarker that, when reduced in CSF, indicates WVE-004's engagement of target in the brain and spinal cord. Poly(GP) is also a DPR protein translated from both sense and antisense transcripts of the C9orf72 repeat expansions responsible for the pathophysiology of disease.

- Reductions in poly(GP) were observed across all active treatment groups (10 mg, n=2 patients; 30 mg, n=4 patients; 60 mg, n=3 patients), reaching statistical significance versus placebo (n=3 patients) after single 30 mg doses, with a 34% reduction in poly(GP) at day 85 (p=0.011). At the time of analysis, none of the patients dosed with 60 mg had reached day 85.



Mixed model for repeated measures used to estimate geometric mean ratio to baseline via least squares mean and to calculate p-values. P-values represented by asterisks are for within-dose group geometric mean ratios. *p≤0.05, **p≤0.01, ***p≤0.001.

- As the poly(GP) reduction in the 30 mg single dose cohort does not appear to have plateaued, we are extending the observation period from approximately three months (85 days) to approximately six months to identify the maximum reduction of poly(GP) and duration of effect of low single doses. Based on the durability and potency observed in the 30 mg cohort, FOCUS-C9 has been adapted to include additional patients receiving 20 mg and 30 mg single doses of WVE-004.
- Additional exploratory assessments included monitoring of CSF neurofilament light chain ("NfL") and clinical outcome measures. CSF NfL elevations were observed in some patients in the 30 mg and 60 mg single dose cohorts with no meaningful changes in clinical outcome measures, although the dataset and duration were not sufficient to assess clinical effects. Exploratory assessments will continue throughout the single and multidose phases of the FOCUS-C9 trial.
- Adverse events were balanced across treatment groups, including placebo, and were mostly mild to moderate in intensity. Four patients (including one on placebo) experienced severe and/or serious adverse events; three were reported by the investigators to be related to ALS or administration, and one was reported by the investigator to be related to study drug. There were no treatment-associated elevations in CSF white blood cell counts or protein and no other notable laboratory abnormalities were observed.

Based on potency and durability of pharmacodynamic effects, the multidose portion of the FOCUS-C9 was expanded in the third quarter of 2022 to evaluate quarterly dosing. We expect to share data from all cohorts in the FOCUS-C9 clinical trial in the first half of 2023. In addition, we initiated an open-label extension clinical trial for participants in the FOCUS-C9 trial in the fourth quarter of 2022.

WVE-003: In HD, we are currently advancing WVE-003, a stereopure antisense oligonucleotide designed to selectively target an undisclosed single nucleotide polymorphism ("SNP"), "mHTT SNP3", associated with the disease-causing mutant huntingtin ("mHTT") mRNA transcript within the *HTT* gene. WVE-003 incorporates our novel PN chemistry, as well as learnings from our first-generation HD programs. Targeting mRNA with SNP3 allows us to lower expression of transcript from the mutant allele, while leaving the healthy transcript relatively intact, thereby preserving wild-type (healthy) huntingtin ("wtHTT") protein, which is important for neuronal function. Our allele-selective approach may also enable us to address the pre-manifest, or asymptomatic, HD patient population in the future. In preclinical studies, WVE-003 showed dose-dependent and selective reduction of mHTT mRNA *in vitro* and potent and durable knockdown of mHTT mRNA and protein *in vivo*. A pharmacokinetic-pharmacodynamic ("PK-PD") model for WVE-003 based on preclinical data predicts that WVE-003 may attain sufficient concentrations to engage mHTT transcript in both the cortex and striatum and decrease expression of the mHTT protein.

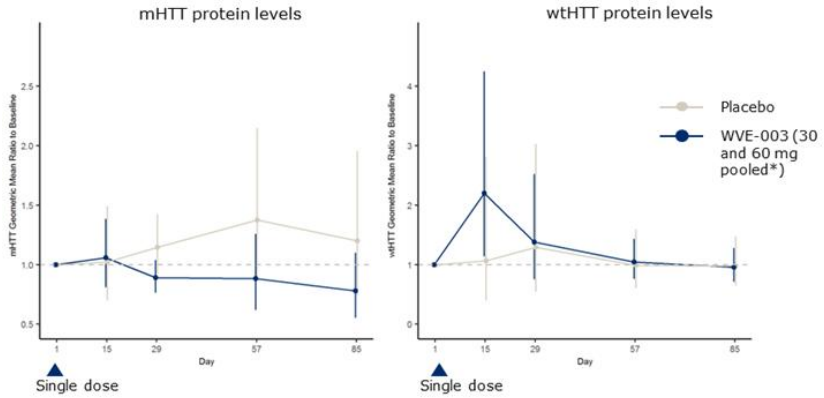
The SELECT-HD trial is a multicenter, randomized, double-blind, placebo-controlled Phase 1b/2a clinical trial to assess the safety and tolerability of intrathecally administered WVE-003 for patients with early manifest HD. Additional objectives include measurement of mHTT and wtHTT protein and exploratory pharmacokinetic, pharmacodynamic, clinical and magnetic resonance imaging ("MRI") endpoints. The SELECT-HD trial is designed to be adaptive, with dose level and dosing frequency being guided by an independent committee. Preclinical models that have established pharmacologic activity have informed the starting dose for this trial. In September 2021, we announced the initiation of dosing in the SELECT-HD trial.

In September 2022, we announced a positive update to the ongoing SELECT-HD trial that was driven by the observation of reductions in mHTT protein in CSF after study participants received either a single 30 or 60 mg dose of WVE-003. Additionally, wtHTT protein was preserved, which appears consistent with allele-selectivity.

At the time of announcement, 18 participants had been dosed in the SELECT-HD trial (30 mg, n=4; 60 mg, n=4; 90 mg, n=4; placebo, n=6). Participants enrolled at 30 mg, 60 mg and placebo had follow-up biomarkers out to day 85. At the time of analysis, none of the participants dosed with 90 mg had reached day 85 so this cohort was not included in the biomarker analysis.

- Single doses of WVE-003 up to 90 mg appeared generally safe and well-tolerated:
  - Adverse events (AEs) were balanced across treatment groups, including placebo, and all were mild to moderate in intensity;
  - No serious adverse events (SAEs) were observed; and
  - No participants discontinued from the study.
- Among participants in the 30 and 60 mg WVE-003 cohorts, the mean reduction in CSF mHTT from baseline was 22% (median reduction 30%) at 85 days following a single dose:
  - The difference in the mean reduction in CSF mHTT compared to placebo was 35% at 85 days post-single dose; and
  - For these analyses, the 30 and 60 mg single dose cohorts were pooled as there was no apparent dose response between these two cohorts. We will continue to evaluate dose response in the expanded single dose cohorts.
- In the 30 and 60 mg cohorts, wtHTT protein was preserved, which appears consistent with allele-selectivity.

Reductions in mean CSF mHTT and preservation of wtHTT observed in pooled analysis of single dose cohorts in SELECT-HD clinical study



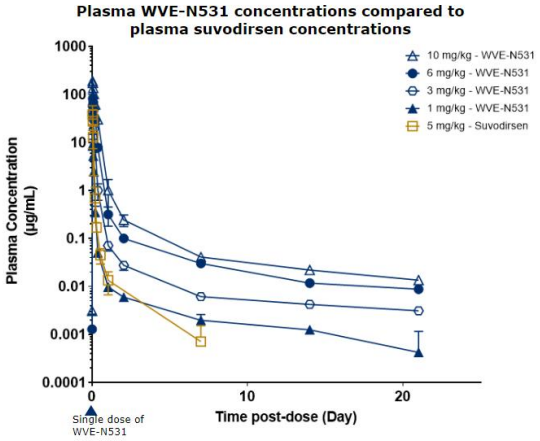
mHTT: mutant huntingtin protein wtHTT: wild-type huntingtin protein
*Pooled considering no apparent dose response between 2 cohorts

- Increases in NfL from baseline were observed in some participants. We will continue to monitor trends in NfL as SELECT-HD advances.
- There were no clinically meaningful elevations in CSF white blood cell counts or protein that would indicate inflammation in the CNS.
- There were no meaningful changes in clinical outcome measures, although the dataset and duration were not sufficient to assess clinical effects.

Based on these data, we are adapting the SELECT-HD clinical trial to expand the single dose cohorts and will also continue advancing the 90 mg cohort for biomarker analysis at day 85. We expect to share additional single-dose biomarker and safety data in the first half of 2023.

WVE-N531: In DMD, we are advancing WVE-N531, which is designed to target exon 53 within the dystrophin gene. WVE-N531 is designed to cause the cellular splicing machinery to skip over this exon during pre-mRNA processing, which restores the dystrophin mRNA reading frame and enables production of truncated, but functional dystrophin protein. Exon-skipping produces dystrophin from the endogenous dystrophin gene (not micro or mini dystrophin expressed from a vector), under the control of native gene-regulatory elements, resulting in normal temporospatial expression. WVE-N531 is both our first splicing candidate and our first systemically administered candidate incorporating PN chemistry to be assessed in the clinic.

WVE-N531 is being evaluated in an open-label clinical trial as a treatment for boys with DMD who are amenable to exon 53 skipping. Plasma concentrations and half-life of WVE-N531 observed in the patients enrolled in this ongoing clinical trial were significantly greater than plasma concentrations achieved following the highest doses of suvodirsen, our first-generation PS/PO exon-skipping compound administered in Phase 2/3 studies (as depicted below). We expect to share clinical data from this ongoing trial, including muscle biopsies, in the fourth quarter of 2022 to provide further insight into the clinical effects of PN chemistry and enable decision making for WVE-N531.



Hepatic

We are initially focused on developing AIMers (A-to-I(G) RNA base editing oligonucleotides), which use our novel PN chemistry, to address genetic hepatic diseases. Our AIMers are relatively short and stable (fully chemically modified), which enables us to leverage clinically-proven GalNAc-mediated delivery to hepatocytes with subcutaneous dosing.

WVE-006: In AATD, we are currently advancing WVE-006, our first AIMer (RNA editing) candidate that uses GalNAc-conjugation and endogenous ADAR enzymes to correct the SERPINA1 Z mutation, which is the most common cause of AATD. ADAR editing may provide an ideal approach for increasing circulating levels of wild-type AAT protein and reducing aggregation in the liver, thus simultaneously addressing both the lung and liver manifestations of the disease. We selected WVE-006 as our AATD AIMer development candidate, our IND-enabling activities are underway, and we expect to submit clinical trial applications in 2023.

Continuing Impacts of COVID-19

We continue to closely monitor developments related to COVID-19. In response to this global pandemic, we have concentrated our efforts on the health and safety of our employees and patients, while maintaining business continuity and honoring our commitment to deliver life-changing treatments for people battling devastating diseases.

Our on-site activities continue with protocols for safely accessing and working within our facilities, including a mandatory COVID-19 vaccination policy that we implemented in October 2021. While we continue to conduct research and development activities, including our ongoing clinical trials, the COVID-19 pandemic has impacted, and may continue to impact, certain of our early-stage discovery efforts and clinical trials. We are working with our clinical investigators, research and development vendors, and supply chain vendors to continually assess and take steps to mitigate the potential impact of COVID-19 on our manufacturing operations and research and development activities.

We will continue to closely monitor the COVID-19 situation as we evolve our business continuity plans. Given the global risks and uncertainties associated with COVID-19, our business, results of operations, and prospects could be materially adversely affected. For additional information, see "Item 1A. Risk Factors" in the 2021 Annual Report on Form 10-K.

Financial Operations Overview

We have never been profitable, and since our inception, we have incurred significant operating losses. Our net loss was $39.0 million and $6.2 million for the three months ended September 30, 2022 and 2021, respectively. Our net loss was $118.1 million and $87.5 million for the nine months ended September 30, 2022 and 2021, respectively. As of September 30, 2022 and December 31, 2021, we had an accumulated deficit of $923.6 million and $805.5 million, respectively. We expect to incur significant expenses and operating losses for the foreseeable future.

Revenue

We have not generated any product revenue since our inception and do not expect to generate any revenue from the sale of products for the foreseeable future. Under the revenue recognition standard, we recognize collaboration revenue under the Takeda Collaboration Agreement (as defined in Note 5 in the notes to the unaudited consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q, "Note 5"), which became effective in April 2018.

Operating Expenses

Our operating expenses since inception have consisted primarily of research and development expenses and general and administrative 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, which include:

- compensation-related expenses, including employee salaries, bonuses, share-based compensation expense and other related benefits expenses for personnel in our research and development organization;
- expenses incurred under agreements with third parties, including contract research organizations ("CROs") that conduct research, preclinical and clinical activities on our behalf, as well as contract manufacturing organizations ("CMOs") that manufacture drug product for use in our preclinical studies and clinical trials;
- expenses incurred related to our internal manufacturing of drug substance for use in our preclinical studies and clinical trials;
- expenses related to compliance with regulatory requirements;
- expenses related to third-party consultants;
- research and development supplies and services expenses; and
- facility-related expenses, including rent, maintenance and other general operating expenses.

We recognize research and development costs as incurred. We recognize external development costs based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors. 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 expenses.

Our primary research and development focus since inception has been the development of our proprietary discovery and drug development platform, PRISM. We are using PRISM, which includes our novel PN backbone chemistry modifications, to design, develop and commercialize a broad pipeline of nucleic acid therapeutic candidates that target RNA using silencing, splicing, and ADAR editing.

Our research and development expenses consist primarily of expenses related to our CROs, CMOs, consultants, other external vendors and fees paid to global regulatory agencies to conduct our clinical trials, in addition to compensation-related expenses, internal manufacturing expenses, facility-related expenses and other general operating expenses. These expenses are incurred in connection with research and development efforts and our preclinical studies and clinical trials. We track certain external expenses on a program-by-program basis. However, we do not allocate compensation-related expenses, internal manufacturing expenses, equipment repairs and maintenance expense, facility-related expenses or other operating expenses to specific programs. These expenses, which are not allocated on a program-by-program basis, are included in the "PRISM and other research and development expenses" category along with other external expenses related to our discovery and development programs, as well as platform development and identification of potential drug discovery candidates.

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect to continue to incur significant research and development expenses in the foreseeable future as we continue to manage our existing clinical trials, initiate additional clinical trials for certain product candidates, pursue later stages of clinical development for certain product candidates, maintain our manufacturing capabilities and continue to discover and develop additional product candidates in multiple therapeutic areas.

General and Administrative Expenses

General and administrative expenses consist primarily of compensation-related expenses, including salaries, bonuses, share-based compensation and other related benefits costs for personnel in our executive, finance, corporate, legal and administrative functions, as well as compensation-related expenses for our board of directors. General and administrative expenses also include legal fees; expenses associated with being a public company; professional fees for accounting, auditing, tax and consulting services; insurance costs; travel expenses; other operating costs; and facility-related expenses.

Other Income, Net

Other income, net consists primarily of refundable tax credits from tax authorities. We recognize refundable tax credits when there is reasonable assurance that we will comply with the requirements of the refundable tax credit and that the refundable tax credit will be received.

Income Taxes

We are a Singapore multi-national company subject to taxation in the United States and various other jurisdictions.

Critical Accounting Policies and Significant Judgments and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. The preparation of our financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amount of assets, liabilities, revenue, costs and expenses and related disclosures.

Our significant accounting policies, judgments and estimates are described in Note 2 in the notes to the audited consolidated financial statements included in the 2021 Annual Report on Form 10-K, as well as in Note 2 in the notes to the unaudited consolidated financial statements included in this Quarterly Report on Form 10-Q. We believe that our revenue recognition policy, particularly (a) assessing the number of performance obligations; (b) determining the transaction price; (c) allocating the transaction price to the performance obligations in the contract; and (d) determining the pattern over which performance obligations are satisfied, including estimates to complete performance obligations, and the assumptions and estimates used in our analysis of contracts with CROs and CMOs to estimate the contract expense, involve a greater degree of judgment, and therefore we consider them to be our critical accounting policies. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions.

Results of Operations

Comparison of the three months ended September 30, 2022 and 2021

	Three Months Ended September 30,		
	2022	2021	Change
	(in thousands)		
Revenue	$ 285	$ 36,423	$ (36,138)
Operating expenses:			
Research and development	27,575	31,086	(3,511)
General and administrative	11,609	12,944	(1,335)
Total operating expenses	39,184	44,030	(4,846)
Loss from operations	(38,899)	(7,607)	(31,292)
Total other income (expense), net	(105)	1,377	(1,482)
Loss before income taxes	(39,004)	(6,230)	(32,774)
Income tax provision	—	—	—
Net loss	$ (39,004)	$ (6,230)	$ (32,774)

Revenue

Revenue for the three months ended September 30, 2022 and 2021 was $0.3 million and $36.4 million, respectively, and was primarily earned under the Takeda Collaboration Agreement. The decrease in revenue was primarily due to the amendment to our Takeda Collaboration Agreement in the third quarter of 2021, which discontinued the Category 2 component and resulted in the recognition of the previously constrained revenue and the additional $22.5 million for research and development services related to the Category 2 component. Additionally, in 2022 there was an increase in the expected future research and development services under the Takeda Collaboration Agreement based on the revenue recognition standard.

Research and Development Expenses

	Three Months Ended September 30,		
	2022	2021	Change
	(in thousands)		
ALS and FTD program	$ 3,153	$ 1,525	$ 1,628
HD programs	1,732	4,421	(2,689)
DMD programs	796	536	260
AATD program	281	163	118
PRISM and other research and development expenses (1)	21,613	24,441	(2,828)
Total research and development expenses	$ 27,575	$ 31,086	$ (3,511)

(1) Includes expenses related to discovery and development programs, identification of potential drug discovery candidates, compensation, internal manufacturing, equipment repairs and maintenance, facilities and other operating expenses, which are not allocated to specific programs.

Research and development expenses were $27.6 million for the three months ended September 30, 2022, compared to approximately $31.1 million for the three months ended September 30, 2021. The decrease of $3.5 million was due to the following:

- an increase of $1.6 million in external expenses related to our ALS and FTD program, WVE-004 (PN-modified silencing oligonucleotide);
- a decrease of $2.7 million in external expenses related to our HD programs, including our WVE-003 (PN-modified silencing oligonucleotide) program and our discontinued WVE-120101 and WVE-120102 programs;
- an increase of $0.3 million in external expenses related to our DMD programs, including WVE-N531 (PN-modified splicing oligonucleotide);
- an increase of $0.1 million in external expenses related to our AATD program, WVE-006 (PN-modified RNA editing oligonucleotide); and
- a decrease of $2.8 million in internal and external research and development expenses that are not allocated on a program-by-program basis and are related to other discovery and development programs, including PRISM and the identification of potential drug discovery candidates, primarily due to decreases in compensation-related expenses, as well as decreases in other external research and development expenses.

General and Administrative Expenses

General and administrative expenses were $11.6 million for the three months ended September 30, 2022, as compared to $12.9 million for the three months ended September 30, 2021. The decrease of $1.3 million is primarily driven by decreases in compensation-related expenses, as well as decreases in other external general and administrative expenses.

Other Income (Expense), Net

Other expense, net for the three months ended September 30, 2022 was $0.1 million and consisted of foreign exchange losses and other expenses, partially offset by dividend income and estimated refundable tax credits. Other income, net for the three months ended September 30, 2021 was $1.4 million and primarily related to estimated refundable tax credits. The decrease in other income year-over-year was driven by the decrease in estimated refundable tax credits and the increase in foreign exchange losses, partially offset by the increase in dividend income.

Income Tax Provision

During the three months ended September 30, 2022 and 2021, we recorded no income tax provision. We maintained a full valuation allowance for the three months ended September 30, 2022 and 2021 in all jurisdictions due to uncertainty regarding future taxable income.

Comparison of the nine months ended September 30, 2022 and 2021

	Nine Months Ended September 30,		
	2022	2021	Change
	(in thousands)		
Revenue	$ 2,410	$ 39,199	$ (36,789)
Operating expenses:			
Research and development	84,778	96,114	(11,336)
General and administrative	36,789	33,991	2,798
Total operating expenses	121,567	130,105	(8,538)
Loss from operations	(119,157)	(90,906)	(28,251)
Total other income (expense), net	1,043	3,446	(2,403)
Loss before income taxes	(118,114)	(87,460)	(30,654)
Income tax provision	—	—	—
Net loss	$ (118,114)	$ (87,460)	$ (30,654)

Revenue

Revenue for the nine months ended September 30, 2022 and 2021 was $2.4 million and $39.2 million, respectively, and was primarily earned under the Takeda Collaboration Agreement. The decrease in revenue was primarily due to the amendment to our Takeda Collaboration Agreement in the third quarter of 2021, which discontinued the Category 2 component and resulted in the recognition of the previously constrained revenue and the additional $22.5 million for research and development services related to the Category 2 component. Additionally, in 2022 there was an increase in the expected future research and development services under the Takeda Collaboration Agreement based on the revenue recognition standard.

Research and Development Expenses

	Nine Months Ended September 30,		
	2022	2021	Change
		(in thousands)	
ALS and FTD program	$ 8,240	$ 8,346	$ (106)
HD programs	5,178	19,782	(14,604)
DMD programs	1,613	692	921
AATD program	2,133	166	1,967
PRISM and other research and development expenses (1)	67,614	67,128	486
Total research and development expenses	$ 84,778	$ 96,114	$ (11,336)

(1) Includes expenses related to discovery and development programs, identification of potential drug discovery candidates, compensation, internal manufacturing, equipment repairs and maintenance, facilities and other operating expenses, which are not allocated to specific programs.

Research and development expenses were $84.8 million for the nine months ended September 30, 2022, compared to $96.1 million for the nine months ended September 30, 2021. The decrease of $11.3 million was due to the following:

- a decrease of $0.1 million in external expenses related to our ALS and FTD program, WVE-004 (PN-modified silencing oligonucleotide);
- a decrease of $14.6 million in external expenses related to our HD programs, driven by decreased external expenses related to our discontinued WVE-120101 and WVE-120102 programs, partially offset by continuing external expenses for our WVE-003 (PN-modified silencing oligonucleotide) program;
- an increase of $0.9 million in external expenses related to our DMD programs, including WVE-N531 (PN-modified splicing oligonucleotide);
- an increase of $2.0 million in external expenses related to our AATD program, WVE-006 (PN-modified RNA editing oligonucleotide); and
- an increase of $0.5 million in internal and external research and development expenses that are not allocated on a program-by-program basis and are related to other discovery and development programs, including PRISM and the identification of potential drug discovery candidates, primarily due to increases in compensation-related expenses, including the share-based compensation expense related to the achievement of a performance-based RSU milestone, partially offset by decreased external research and development expenses.

General and Administrative Expenses

General and administrative expenses were $36.8 million for the nine months ended September 30, 2022, as compared to approximately $34.0 million for the nine months ended September 30, 2021. The increase of $2.8 million was primarily due to increases in compensation-related expenses, including the share-based compensation expense related to the achievement of a performance-based RSU milestone.

Other Income (Expense), Net

Other income, net for the nine months ended September 30, 2022 was $1.0 million and consisted primarily of dividend income, as well as estimated refundable tax credits. Other income, net for the nine months ended September 30, 2021 was $3.4 million and primarily related to estimated refundable tax credits. The decrease year-over-year was driven by the decrease in estimated refundable tax credits, partially offset by the increase in dividend income.

Income Tax Provision

During the nine months ended September 30, 2022 and 2021, we recorded no income tax provision. We maintained a full valuation allowance for the nine months ended September 30, 2022 and 2021 in all jurisdictions due to uncertainty regarding future taxable income.

Liquidity and Capital Resources

Since our inception, we have not generated any product revenue and have incurred recurring net losses. To date, we have primarily funded our operations through public and other registered offerings of our ordinary shares, collaborations with third parties and private placements of debt and equity securities. Through September 30, 2022, we have received an aggregate of approximately $1,021.2 million in net proceeds from these transactions, consisting of $630.9 million in net proceeds from public and other registered offerings of our ordinary shares, $301.0 million from our collaborations and $89.3 million in net proceeds from private placements of our debt and equity securities.

As of September 30, 2022, we had cash, cash equivalents and short-term investments totaling $122.0 million, restricted cash of $3.7 million for our leased premises in Cambridge, Massachusetts and Lexington, Massachusetts, and an accumulated deficit of $923.6 million. Our operating lease commitments as of September 30, 2022 total approximately $48.8 million, of which $1.8 million is related to payments in 2022 and $47.0 million is related to payments beyond 2022.

We expect that our existing cash, cash equivalents and short-term investments will be sufficient to fund our operations for at least the next twelve months. We have based this expectation on assumptions that may prove to be incorrect, and we may use our available capital resources sooner than we currently expect. In addition, we may elect to raise additional funds before we need them if the conditions for raising capital are favorable due to market conditions or strategic considerations, even if we expect we have sufficient funds for our current or future operating plans.

Until we can generate significant revenue from product sales, if ever, we expect to continue to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. In May 2019, we filed a shelf registration statement on Form S-3ASR with the SEC pursuant to which we registered for sale an indeterminate amount of any combination of our ordinary shares, debt securities, warrants, rights and/or units from time to time and at prices and on terms that we may determine. Our shelf registration statement on Form S-3ASR also included a prospectus covering up to an aggregate of $250.0 million in ordinary shares that we may issue and sell from time to time, through Jefferies LLC (“Jefferies”) acting as our sales agent, pursuant to the open market sales agreement that we entered into with Jefferies in May 2019, as amended in March 2020 and March 2022 (the “Sales Agreement”), for our “at-the-market” equity program. Since we no longer qualified as a “well-known seasoned issuer” at the time of the filing of our Annual Report on Form 10-K for the year ended December 31, 2019, we previously amended the shelf registration statement to register for sale up to $500.0 million of any combination of our ordinary shares, debt securities, warrants, rights and/or units from time to time and at prices and on terms that we may determine, including the $250.0 million in ordinary shares that we may issue and sell from time to time pursuant to our “at-the-market” equity program. This registration statement, which we refer to as the “2019 Form S-3,” remained effective until our 2022 Form S-3 (as defined below) was declared effective on May 4, 2022, after which time we may no longer offer or sell any securities under the 2019 Form S-3. During the nine months ended September 30, 2022, the Company sold 458,092 ordinary shares under its at-the-market equity program for aggregate net proceeds of $1.2 million.

On March 3, 2022, we filed a new universal shelf registration on Form S-3 with the SEC, which was declared effective by the SEC on May 4, 2022, pursuant to which we registered for sale up to $500.0 million of any combination of our ordinary shares, debt securities, warrants, rights and/or units from time to time and at prices and on terms that we may determine, which we refer to as the “2022 Form S-3.” The 2022 Form S-3 includes a prospectus covering up to approximately $132.0 million in ordinary shares that had not yet been issued or sold under our Sales Agreement with Jefferies. As of November 9, 2022, we have $430.0 million in securities available for issuance under the 2022 Form S-3, including approximately $132.0 million in ordinary shares available for issuance under our at-the-market equity program.

Adequate additional financing may not be available to us on acceptable terms, or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

Cash Flows

The following table summarizes our cash flow activity:

	Nine Months Ended September 30,	
	2022	2021
	(in thousands)	
Net cash used in operating activities	$ (94,341)	$ (81,960)
Net cash used in investing activities	(26,095)	(545)
Net cash provided by financing activities	67,133	22,035
Effect of foreign exchange rates on cash, cash equivalents and restricted cash	(304)	(131)
Net decrease in cash, cash equivalents and restricted cash	$ (53,607)	$ (60,601)

Operating Activities

During the nine months ended September 30, 2022, operating activities used $94.3 million of cash, primarily due to our net loss of $118.1 million, partially offset by non-cash charges of $21.9 million which mainly consisted of share-based compensation expense and depreciation expense.

During the nine months ended September 30, 2021, operating activities used $82.0 million of cash, primarily due to our net loss of $87.5 million.

Investing Activities

During the nine months ended September 30, 2022, investing activities used $26.1 million of cash, $75.0 million related to purchases of short-term investments, $50.0 million of which subsequently matured, and $1.1 million related to purchases and sales of property and equipment.

During the nine months ended September 30, 2021, investing activities used $0.5 million of cash, related to purchases of property and equipment.

Financing Activities

During the nine months ended September 30, 2022, net cash provided by financing activities was $67.1 million, which was primarily due to the net proceeds from the underwritten offering we completed in June 2022 (the "June 2022 Offering"), which was comprised of sales of ordinary shares and Pre-Funded Warrants.

During the nine months ended September 30, 2021, net cash provided by financing activities was $22.0 million, which was primarily due to the net proceeds from sales of ordinary shares under our at-the-market equity program.

Funding Requirements

We expect to continue to incur significant expenses in connection with our ongoing research and development activities and our internal cGMP manufacturing activities. Furthermore, we anticipate that our expenses will continue to vary if and as we:

- continue to conduct our clinical trials evaluating our product candidates in patients;
- conduct research and preclinical development of discovery targets and advance additional programs into clinical development;
- file clinical trial applications with global regulatory agencies and conduct clinical trials for our programs;
- evaluate next steps for our programs in rare, inherited eye diseases;
- make strategic investments in continuing to innovate our research and development platform, PRISM, and in optimizing our manufacturing processes and formulations;
- maintain our manufacturing capabilities through our internal facility and our CMOs;
- maintain our intellectual property portfolio and consider the acquisition of complementary intellectual property;
- seek and obtain regulatory approvals for our product candidates;
- respond to the impacts of the COVID-19 global pandemic, the conflict involving Russia and Ukraine, global economic uncertainty, rising inflation, rising interest rates or market disruptions on our business; and
- establish and build capabilities to market, distribute and sell our product candidates.

We may experience delays or encounter issues with any of the above, including but not limited to failed studies, complex results, safety issues or other regulatory challenges.

Because of the numerous risks and uncertainties associated with the development of drug candidates and because the extent to which we may enter into collaborations with third parties for development of product candidates is unknown, we are unable to estimate the amounts of future capital outlays and operating expenses associated with completing the research and development for our therapeutic programs. Our future capital requirements for our therapeutic programs will depend on many factors, including:

- the progress, results and costs of conducting research and continued preclinical and clinical development for our therapeutic programs and future potential pipeline candidates;
- the number and characteristics of product candidates and programs that we pursue;
- the cost of manufacturing clinical supplies of our product candidates;
- whether and to what extent milestone events are achieved under our collaboration with Takeda or any potential future licensee or collaborator;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to obtain marketing approval for our product candidates;
- the impacts of the COVID-19 global pandemic, the conflict involving Russia and Ukraine, global economic uncertainty, rising inflation, rising interest rates or market disruptions on our business;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- market acceptance of our product candidates, to the extent any are approved for commercial sale, and the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our product revenue, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if ever. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives.

Adequate additional funds may not be available to us on acceptable terms when we need them, or at all. We do not currently have any committed external source of funds, except for possible future payments from Takeda under the Takeda Collaboration Agreement. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing shareholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our shareholders. Additional debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute our shareholders' ownership interests.

If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development programs or any future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign exchange rates, as well as, to a lesser extent, inflation and capital market risk.

Interest Rate Risk

We are exposed to interest rate risk in the ordinary course of our business. Our cash and cash equivalents are comprised of funds held in checking accounts and money market accounts. Our short-term investments are comprised of term deposits which have fixed interest rates.

Foreign Currency Exchange Rate Risk

Due to our operations outside of the United States, we are exposed to market risk related to changes in foreign currency exchange rates. Historically, we have not hedged our foreign currency exposure. For the three and nine months ended September 30, 2022 and 2021, changes in foreign currency exchange rates did not have a material impact on our business, financial condition, results of operations or cash flows.

Inflation Risk

We do not believe that inflation had a material effect on our business, financial condition, results of operations or cash flows for the three and nine months ended September 30, 2022 and 2021. If the global inflationary trends continue, we expect appreciable increases in clinical trial, labor, and other operating costs.

Capital Market Risk

We currently have no product revenues and depend on funds raised through other sources. One possible source of funding is through further equity offerings. Our ability to raise funds in this manner depends upon capital market forces affecting our share price, including impacts of the COVID-19 pandemic and global economic uncertainty on the capital markets.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2022. 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 its 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 September 30, 2022, our principal executive officer and principal 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 identified in connection with the evaluation of such internal control required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently a party to any material legal proceedings.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed under the caption "Risk Factors" that appear in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission ("SEC") on March 3, 2022, as amended (the "2021 Annual Report on Form 10-K") and in Item 1A of our Quarterly Report on Form 10-Q for the period ended June 30, 2022, which was filed with the SEC on August 11, 2022 (the "June 30 Quarterly Report on Form 10-Q"). There have been no material changes from the risk factors previously disclosed in the 2021 Annual Report on Form 10-K and in the June 30 Quarterly Report on Form 10-Q.

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

Recent Sales of Unregistered Equity Securities

None.

Issuer Purchases of Equity Securities

We did not repurchase any of our equity securities during the three months ended September 30, 2022.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

The information set forth in this Item 5 is included herein for the purpose of providing the disclosure required under "Item 5.02 - Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers" of Form 8-K.

On November 8, 2022, the Company entered into an employment agreement (the "Employment Agreement") with Chris Francis, Ph.D., pursuant to which he serves as our Senior Vice President, Corporate Development, Head of Emerging Areas. Under the terms of the Employment Agreement, Dr. Francis's annual base salary is $407,800, and the Compensation Committee established his annual target bonus percentage at 45% of his annual base salary, with the actual amount to be paid determined based on the achievement of annual performance milestones defined by our Board in its sole discretion. Pursuant to the Employment Agreement, if we terminate Dr. Francis's employment without cause or if he terminates his employment for good reason, Dr. Francis will be entitled to receive continued payment of his then-current annual base salary for 12 months following termination; continued payment of health insurance premiums at the Company's then normal rate of contribution until the earlier of 12 months following termination or until he commences new employment; and the payment of a separation bonus equal to his then annual target bonus opportunity prorated through the termination date. In addition, if a change of control occurs and within one year following the change of control Dr. Francis is terminated without cause or if Dr. Francis terminates his employment for good reason, he will be entitled to receive a lump sum cash payment equal to 12 months of his then-current annual base salary; continued payment of health insurance premiums at the Company's then normal rate of contribution until the earlier of 12 months following termination or until he commences new employment; and the payment of a separation bonus equal to his then annual target bonus opportunity. Pursuant to applicable equity agreements with Dr. Francis, all unvested shares underlying outstanding options and RSUs will become fully vested upon his termination without cause or for good reason within 12 months following a change of control. Receipt of the severance and change of control benefits described above are subject to execution of a release of claims against the Company and compliance with certain restrictive covenants following the termination of his employment.

A copy of the Employment Agreement will be filed as an exhibit to our Annual Report on Form 10-K for the year ending December 31, 2022. The foregoing description of the terms of the Employment Agreement is qualified in its entirety by reference to the full text of such exhibit.

Item 6. Exhibits

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File/Reg. Number
10.1+	Non-Employee Director Compensation Policy, effective as of August 15, 2022	X			
10.2+	Wave Life Sciences Ltd. 2021 Equity Incentive Plan, as amended		Form 8-K (Exhibit 10.1)	08/15/2022	001-37627
10.3	Second Amendment (to Lease) by and between Wave Life Sciences USA, Inc. and CPI/King 733 Concord Owner, LLC, dated as of August 8, 2022		Form 10-Q (Exhibit 10.1)	08/11/2022	001-37627
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer	X			
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer	X			
32*	Section 1350 Certifications of Principal Executive Officer and Principal Financial Officer	X			
101.INS	Inline XBRL Instance Document – The instance document does not appear in the interactive data file because its Inline XBRL tags are embedded within the Inline XBRL document.	X			
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X			
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	X			
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	X			
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	X			
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	X			
104	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101)	X			

(+) Indicates management contract or compensatory plan or arrangement.

(*) The certifications attached as Exhibit 32 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Wave Life Sciences Ltd. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of such Form 10-Q), irrespective of any general incorporation language contained in such filing.

SIGNATURES

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

WAVE LIFE SCIENCES LTD.

Date: November 10, 2022

By: /s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 10, 2022

By: /s/ Kyle Moran
Kyle Moran
Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

Effective: Upon the date of receipt of final voting results (August 15, 2022) evidencing requisite shareholder approval of non-employee director compensation proposal at 2022 Annual General Meeting through 2023 Annual General Meeting

WAVE LIFE SCIENCES LTD.
2022 NON-EMPLOYEE DIRECTOR COMPENSATION POLICY

A. Introduction

The Board of Directors (the "Board") of Wave Life Sciences Ltd. (the "Company") has approved the following 2022 Non-Employee Director Compensation Policy (this "Policy"), which establishes compensation to be paid to non-employee directors of the Company to provide an inducement to obtain and retain the services of qualified persons to serve as members of the Board. Except as otherwise indicated herein, this Policy shall be effective as of the date of receipt of the final voting results evidencing requisite shareholder approval of the non-employee director compensation proposal at the 2022 annual general meeting (the "Effective Date") through the date of the Company's 2023 annual general meeting, at which time the shareholders of the Company will be asked to approve the key parameters of a new or extended non-employee director compensation policy for the following year. Subject to receipt of shareholder approval, such new or extended policy shall take effect and that cycle will continue from annual general meeting to annual general meeting.

B. Applicable Persons

This Policy shall apply to each director of the Company who is not an employee of the Company or any Affiliate (each, an "Outside Director"). "Affiliate" shall mean a corporation which is a direct or indirect parent or subsidiary of the Company, as determined pursuant to Section 424 of the Internal Revenue Code of 1986, as amended.

C. Equity Compensation - Share Option Grants

All share amounts set forth herein shall be subject to automatic adjustment in the event of any share split or other recapitalization affecting the Company's ordinary shares (the "Ordinary Shares") following the Effective Date.

(1) Initial Share Option Grants for Newly Appointed or Elected Directors

Each new Outside Director appointed or elected on or after the Effective Date shall be granted a non-qualified share option to purchase 42,000 Ordinary Shares under the Company's then-effective equity incentive plan (the "Equity Incentive Plan"), on the date of their initial appointment or election to the Board (an "Initial Share Option Grant"). Initial Share Option Grants shall (i) vest as to 12.5% of the shares on a quarterly basis during the two-year period following the grant date, subject to the Outside Director's continued service on the Board; provided that such options shall become exercisable in full immediately prior to and contingent upon the closing of a Change of Control of the Company (as defined in the applicable award agreement); (ii) have an exercise price equal to the fair market value of the Ordinary Shares on the grant date; (iii) expire and no longer be exercisable after the five-year anniversary of the grant date; and (iv) contain such other terms and conditions as the Board or the Compensation Committee shall determine.

(2) Refresh Share Option Grants for Long-Term Service

Section 77 of the Companies Act (Cap. 50 of Singapore) ("Companies Act") imposes a five-year maximum term for share options granted to non-employee directors of public companies (as defined in the Companies Act). Due to this limitation, on the Effective Date, subject to receiving shareholder approval at the 2022 annual general

meeting, each Outside Director who holds an initial share option that was granted in connection with their initial appointment or election to the Board and which has an expiration date within twelve months following the 2022 annual general meeting shall be granted a non-qualified share option to purchase 42,000 Ordinary Shares under the Equity Incentive Plan (a "Refresh Share Option Grant"). Refresh Share Option Grants shall (i) vest as to 12.5% of the shares on a quarterly basis during the two-year period following the grant date, subject to the Outside Director's continued service on the Board; provided that such options shall become exercisable in full immediately prior to and contingent upon the closing of a Change of Control of the Company (as defined in the applicable award agreement); (ii) have an exercise price equal to the fair market value of the Ordinary Shares on the grant date; (iii) expire and no longer be exercisable after the five-year anniversary of the grant date; and (iv) contain such other terms and conditions as the Board or the Compensation Committee shall determine.

(3) Annual Share Option Grants

On the Effective Date, subject to receiving shareholder approval at the 2022 annual general meeting, each Outside Director (other than an Outside Director receiving an Initial Share Option Grant or a Refresh Share Option Grant) shall be granted a non-qualified share option to purchase 21,000 Ordinary Shares under the Equity Incentive Plan (an "Annual Share Option Grant"). Annual Share Option Grants shall (i) vest as to 100% of the shares on the earlier of the 2023 annual general meeting or the first anniversary of the grant date, subject to the Outside Director's continued service on the Board during that period; provided that such options shall become exercisable in full immediately prior to and contingent upon the closing of a Change of Control of the Company (as defined in the applicable award agreement); (ii) have an exercise price equal to the fair market value of the Ordinary Shares on the grant date; (iii) expire and no longer be exercisable after the five-year anniversary of the grant date; and (iv) contain such other terms and conditions as the Board or the Compensation Committee shall determine.

For the avoidance of doubt, an Outside Director shall be eligible to receive only one type of option grant on the Effective Date, which shall be an Initial Share Option Grant, a Refresh Share Option Grant or an Annual Share Option Grant.

D. Cash Compensation

(1) Annual Cash Fees

The following annual cash fees shall be paid to the Outside Directors serving on the Board and the Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee, and Research and Development Committee, as applicable.

Board or Committee of Board	Annual Amount for Chair	Annual Amount for Member
Board	$75,000	$40,000
Audit Committee	$18,000	$9,000
Compensation Committee	$15,000	$7,500
Nominating and Corporate Governance Committee	$15,000	$7,500
Research and Development Committee	$15,000	$7,500

(2) Payment Terms for All Cash Fees

Except as otherwise indicated herein, cash fees payable to Outside Directors shall be paid quarterly in arrears as of the last day of each fiscal quarter commencing on the later of the Effective Date or an Outside Director's first election or appointment to the Board, prorated from the Effective Date or such Outside Director's election or appointment date, as applicable. If an Outside Director dies, resigns or is removed during any quarter, he or she shall be entitled to a cash fee on a prorated basis through their last day of Board service.

E. Expenses

Upon presentation of documented expenses, reasonably satisfactory to the Company, each Outside Director shall be reimbursed for their reasonable, documented out-of-pocket business expenses incurred in connection with attending meetings of the Board and Committees thereof, or general meetings of shareholders, or in connection with other business related to their Board service.

F. Amendments

The Compensation Committee or the Board, as appropriate, shall review this Policy from time to time to assess whether any changes in the type or amount of compensation provided herein should be adjusted in order to fulfill the objectives of this Policy, provided, however, that changes to this Policy which require shareholder approval under applicable law shall require such shareholder approval to be obtained before taking effect.

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Paul B. Bolno, M.D., MBA, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Wave Life Sciences Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 10, 2022

By: /s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, Kyle Moran, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Wave Life Sciences Ltd.;

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

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

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

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

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

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

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

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

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

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

Dated: November 10, 2022

By: /s/ Kyle Moran
Kyle Moran
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32

CERTIFICATIONS UNDER SECTION 906

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Wave Life Sciences Ltd. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Quarterly Report for the quarter ended September 30, 2022 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 10, 2022

/s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Dated: November 10, 2022

/s/ Kyle Moran
Kyle Moran
Chief Financial Officer
(Principal Financial Officer)