UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

☒

For the quarterly period ended September 30, 2024

OR

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

☐

For the transition period from _____ to _____

Commission file number 001-40791

2seventy bio, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**86-3658454**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
60 Binney Street Cambridge, MA	**02142**
(Address of principal executive offices)	*(Zip Code)*

(617) 675-7270
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	**TSVT**	**The Nasdaq Stock Market LLC**

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 Act). Yes ☐ No ☒

The registrant had outstanding 51,588,420 shares of common stock as of November 6, 2024.

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CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q and other materials we have filed or will file with the SEC include, or will include, forward-looking statements. All statements in this Quarterly Report on Form 10-Q, in other materials we have filed or will file with the SEC and in related comments by our management, other than statements of historical facts, including statements about future events, future financial position, business strategy, budgets, projected costs, plans and objectives of management for future operations, are forward-looking statements that involve certain risks and uncertainties. Use of the words "may," "will," "would," "could," "should," "believes," "estimates," "projects," "potential," "expects," "plans," "seeks," "intends," "evaluates," "pursues," "anticipates," "continues," "designs," "impacts," "affects," "forecasts," "target," "outlook," "initiative," "objective," "designed," "priorities," "goal" or the negative of those words or other similar expressions may identify forward-looking statements that represent our current judgment about possible future events, but the absence of these words does not necessarily mean that a statement is not forward-looking.

Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, by their nature, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. As a result, our actual results may differ materially from those contemplated by the forward-looking statements. Important factors that could cause actual results to differ materially from those in the forward-looking statements include regional, national or global political, economic, business, competitive, market and regulatory conditions and the following:

- our and Bristol Myers Squibb's, or BMS, plans for the continued commercialization of *Abecma*;
- our ability to finance our operations and business initiatives and obtain funding for such activities;
- the perceived therapeutic benefits of *Abecma* and the potential indications and market opportunities therefor;
- our plans with respect to the development, manufacture or sale of *Abecma* and the associated timing thereof, including the design and results of clinical studies;
- sourcing supplies for the materials used to manufacture *Abecma*;
- the safety profile and related adverse events of *Abecma*;
- our ability to compete with other companies that are or may be developing or selling products that are competitive with *Abecma*;
- U.S. and foreign regulatory requirements for *Abecma*, including any post-approval development and regulatory requirements, and the ability of *Abecma* to meet such requirements;
- our ability to attract and retain key employees needed to execute our business plans and strategies and our expectations regarding our ability to manage the impact of any loss of key employees;
- our ability to obtain and maintain intellectual property protection for *Abecma* and the strength thereof;
- the anticipated benefits of the sale of our oncology and autoimmune research and development programs, clinical manufacturing capabilities, and related platform technologies to Regeneron Pharmaceuticals, Inc., or Regeneron, which we refer to as the "Asset Sale" or "Regeneron Transaction", and the sale of our megaTAL program to Novo Nordisk A/S, or "Novo Transaction";
- our future financial performance, including estimates of our future revenues, expenses, cash flows, profitability, tax obligations, capital requirements and our needs for additional financing, liquidity sources,

real estate needs and concentration of voting control, as well as the timing and drivers thereof, and internal control over financial reporting;

- the status of government regulation in the life sciences industry, particularly with respect to healthcare reform;
- potential indemnification liabilities we may owe to bluebird bio, Inc., or bluebird bio, after the separation;
- the impact of inflation rates on our business, financial condition and results of operation;
- the fluctuation of the market price of our shares; and
- trends and challenges in our current and potential markets.

See “Risk Factors” for a further description of these and other factors. Although we have attempted to identify important risk factors, there may be other risk factors not presently known to us or that we presently believe are not material that could cause actual results and developments to differ materially from those made in or suggested by the forward-looking statements contained in this Quarterly Report on Form 10-Q. If any of these risks materialize, or if any of the above assumptions underlying forward-looking statements prove incorrect, actual results and developments may differ materially from those made in or suggested by the forward-looking statements contained in this Quarterly Report on Form 10-Q. For the reasons described above, we caution you against relying on any forward-looking statements, which should also be read in conjunction with the other cautionary statements that are included elsewhere in this Quarterly Report on Form 10-Q. Any forward-looking statement made by us in this Quarterly Report on Form 10-Q speaks only as of the date thereof. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to publicly update or to revise any forward-looking statement, whether as a result of new information, future developments, or otherwise, except as may be required by law.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

2seventy bio, Inc.

Condensed Consolidated Balance Sheets
(unaudited)
(in thousands, except par value amounts)

	As of September 30, 2024	As of December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 59,984	$ 74,958
Marketable securities	132,415	142,031
Prepaid expenses	3,805	7,365
Receivables and other current assets	22,275	13,411
Total current assets	218,479	237,765
Property, plant and equipment, net	35,237	58,150
Marketable securities	—	4,816
Intangible assets, net	6,063	6,594
Operating lease right-of-use assets	205,724	219,958
Restricted investments and other non-current assets	38,343	38,143
Total assets	$ 503,846	$ 565,426
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,076	$ 6,028
Accrued expenses and other current liabilities	23,222	25,688
Operating lease liability, current portion	15,797	12,660
Deferred revenue, current portion	—	15,403
Total current liabilities	44,095	59,779
Deferred revenue, net of current portion	—	3,918
Operating lease liability, net of current portion	231,649	244,013
Other non-current liabilities	—	2,416
Total liabilities	275,744	310,126
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000 shares authorized, 0 shares issued and outstanding at September 30, 2024 and December 31, 2023	—	—
Common stock, $0.0001 par value; 200,000 shares authorized, 51,512 and 50,632 shares issued and outstanding at September 30, 2024 and December 31, 2023, respectively	5	5
Additional paid-in capital	776,736	766,716
Accumulated other comprehensive income (loss)	305	(204)
Accumulated deficit	(548,944)	(511,217)
Total stockholders' equity	228,102	255,300
Total liabilities and stockholders' equity	$ 503,846	$ 565,426

See accompanying notes to unaudited condensed consolidated financial statements.

2seventy bio, Inc.

Condensed Consolidated Statements of Operations and Comprehensive Loss
(unaudited)
(in thousands, except per share data)

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
Revenue:				
Service revenue	$ 2,850	$ 4,948	$ 15,192	$ 20,796
Collaborative arrangement revenue	10,684	5,859	19,744	64,265
Royalty and other revenue	—	1,227	—	4,642
Total revenues	13,534	12,034	34,936	89,703
Operating expenses:			—	
Research and development	8,320	51,315	68,264	179,541
Cost of manufacturing for commercial collaboration	5,768	4,408	12,490	11,672
Selling, general and administrative	12,884	13,004	35,400	53,213
Share of collaboration loss	—	—	1,230	—
Restructuring expenses	503	8,614	12,131	8,614
Cost of royalty and other revenue	—	551	—	2,099
Change in fair value of contingent consideration	—	54	(2,415)	180
Goodwill impairment charge	—	12,056	—	12,056
Total operating expenses	27,475	90,002	127,100	267,375
Loss from operations	(13,941)	(77,968)	(92,164)	(177,672)
Interest income, net	2,855	3,626	8,243	8,765
Other income, net	1,153	2,704	3,233	8,159
Gain on sale to Novo Nordisk	—	—	47,987	—
Loss on assets held for sale to Regeneron	—	—	(5,026)	—
Loss before income taxes	(9,933)	(71,638)	(37,727)	(160,748)
Income tax (expense) benefit	—	—	—	—
Net loss	$ (9,933)	$ (71,638)	$ (37,727)	$ (160,748)
Net loss per share - basic and diluted	$ (0.19)	$ (1.40)	$ (0.72)	$ (3.31)
Weighted-average number of common shares used in computing net loss per share - basic and diluted	52,263	51,179	52,176	48,566
Other comprehensive income (loss):				
Other comprehensive income (loss), net of tax benefit (expense) of $0.0 million and $0.0 million for the three and nine months ended September 30, 2024 and 2023, respectively.	$ 541	$ 514	$ 509	$ 1,961
Total other comprehensive income (loss)	$ 541	$ 514	$ 509	$ 1,961
Comprehensive loss	$ (9,392)	$ (71,124)	$ (37,218)	$ (158,787)

See accompanying notes to unaudited condensed consolidated financial statements.

2seventy bio, Inc.

Condensed Consolidated Statements of Stockholders' Equity
(unaudited)
(in thousands)

	Common stock		Additional paid-in capital	Accumulated other comprehensive (loss) income	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balances at December 31, 2023	50,632	$ 5	$ 766,716	$ (204)	$ (511,217)	$ 255,300
Vesting of restricted stock units	695	—	—	—	—	—
Stock-based compensation	—	—	4,684	—	—	4,684
Purchases of shares under ESPP	77	—	260	—	—	260
Other comprehensive loss	—	—	—	(132)	—	(132)
Net loss	—	—	—	—	(52,673)	(52,673)
Balances at March 31, 2024	51,404	$ 5	$ 771,660	$ (336)	$ (563,890)	$ 207,439
Vesting of restricted stock units	89	—	—	—	—	—
Exercise of stock options	—	—	1	—	—	1
Stock-based compensation	—	—	2,385	—	—	2,385
Other comprehensive income	—	—	—	100	—	100
Net income	—	—	—	—	24,879	24,879
Balances at June 30, 2024	51,493	$ 5	$ 774,046	$ (236)	$ (539,011)	$ 234,804
Vesting of restricted stock units	7	—	—	—	—	—
Exercise of stock options	5	—	19	—	—	19
Stock-based compensation	—	—	2,643	—	—	2,643
Other comprehensive income	—	—	—	541	—	541
Purchases of shares under ESPP	7	—	28	—	—	28
Net loss	—	—	—	—	(9,933)	(9,933)
Balances at September 30, 2024	51,512	$ 5	$ 776,736	$ 305	$ (548,944)	$ 228,102

See accompanying notes to unaudited condensed consolidated financial statements.

2seventy bio, Inc.

Condensed Consolidated Statements of Stockholders' Equity - (continued)
(unaudited)
(in thousands)

	Common stock		Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balances at December 31, 2022	37,928	$ 4	$ 606,986	$ (2,877)	$ (293,647)	$ 310,466
Vesting of restricted stock units	237	—	—	—	—	—
Exercise of stock options	1	—	7	—	—	7
Issuance of common stock in public offering, net of issuance costs	10,870	1	116,968	—	—	116,969
Issuance of common stock to Regeneron	1,115	—	9,859	—	—	9,859
Stock-based compensation	—	—	9,666	—	—	9,666
Purchases of shares under ESPP	39	—	451	—	—	451
Other comprehensive income	—	—	—	927	—	927
Net loss	—	—	—	—	(47,021)	(47,021)
Balances at March 31, 2023	50,190	$ 5	$ 743,937	$ (1,950)	$ (340,668)	$ 401,324
Vesting of restricted stock units	48	—	—	—	—	—
Stock-based compensation	—	—	7,740	—	—	7,740
Other comprehensive income	—	—	—	520	—	520
Net loss	—	—	—	—	(42,089)	(42,089)
Balances at June 30, 2023	50,238	$ 5	$ 751,677	$ (1,430)	$ (382,757)	$ 367,495
Vesting of restricted stock units	303	—	—	—	—	—
Stock-based compensation	—	—	9,800	—	—	9,800
Purchases of shares under ESPP	75	—	251	—	—	251
Other comprehensive income	—	—	—	514	—	514
Net loss	—	—	—	—	(71,638)	(71,638)
Balances at September 30, 2023	50,616	$ 5	$ 761,728	$ (916)	$ (454,395)	$ 306,422

See accompanying notes to unaudited condensed consolidated financial statements.

2seventy bio, Inc.

Condensed Consolidated Statements of Cash Flows
(unaudited)
(in thousands)

	For the nine months ended September 30,	
	2024	**2023**
Cash flows from operating activities:		
Net loss	$ (37,727)	$ (160,748)
Adjustments to reconcile net loss to net cash used in operating activities:		
Change in fair value of contingent consideration	(2,415)	180
Depreciation and amortization	5,441	7,255
Stock-based compensation expense	9,712	27,206
Goodwill impairment charge	—	12,056
Gain on asset sale to Novo Nordisk	(47,987)	—
Loss on assets held for sale to Regeneron	5,026	—
Other non-cash items	(3,448)	(4,881)
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	(4,917)	9,611
Operating lease right-of-use assets	14,234	16,332
Accounts payable	(376)	(1,015)
Accrued expenses and other liabilities	(3,304)	(16,603)
Operating lease liabilities	(9,228)	(10,016)
Deferred revenue	(535)	21,104
Collaboration research advancement	—	(3,744)
Net cash used in operating activities	(75,524)	(103,263)
Cash flows from investing activities:		
Purchases of property, plant and equipment	(707)	(12,794)
Proceeds from Regeneron Transaction	5,000	—
Proceeds from Novo Transaction	38,000	—
Proceeds from sale of equipment	176	—
Purchases of marketable securities	(104,452)	(237,151)
Proceeds from maturities of marketable securities	122,505	245,899
Purchases of restricted investments	(16,808)	(6,983)
Proceeds from maturities of restricted investments	15,060	7,000
Net cash provided by (used in) investing activities	58,774	(4,029)
Cash flows from financing activities:		
Proceeds from issuance of common stock in public offering, net of issuance costs	—	117,004
Proceeds from issuance of common stock to Regeneron, net of issuance costs	—	9,859
Proceeds from exercise of stock options and ESPP contributions	414	274
Net cash provided by financing activities	414	127,137
(Decrease) increase in cash, cash equivalents and restricted cash and cash equivalents	(16,336)	19,845
Cash, cash equivalents and restricted cash and cash equivalents at beginning of period	76,683	72,290
Cash, cash equivalents and restricted cash and cash equivalents at end of period	$ 60,347	$ 92,135
Reconciliation of cash, cash equivalents, and restricted cash and cash equivalents		
Cash and cash equivalents	$ 59,984	$ 90,226
Restricted cash and cash equivalents included in restricted investments and other non-current assets	363	1,909
Total cash, cash equivalents, and restricted cash and cash equivalents	$ 60,347	$ 92,135
Supplemental cash flow disclosures:		
Purchases of property, plant and equipment included in accounts payable and accrued expenses	$ —	$ 1,605
Financing issuance costs included in accounts payable or accrued expenses	$ —	$ 35

See accompanying notes to unaudited condensed consolidated financial statements.

2seventy bio, Inc.

Notes to Condensed Consolidated Financial Statements
(unaudited)

1. Description of the business

2seventy bio, Inc. (the "Company" or "2seventy bio") was incorporated in Delaware on April 26, 2021 and is a cell and gene therapy company focused on the research, development, and commercialization of transformative treatments for cancer. The Company's approach combines its expertise in T cell engineering technology and lentiviral vector gene delivery approaches, experience in research, development, and manufacturing of cell therapies and a suite of technologies that can be selectively deployed to develop highly innovative, targeted cellular therapies for patients with cancer. The Company, together with BMS, is delivering the first U.S. Food and Drug Administration ("FDA") approved CAR T therapy in multiple myeloma, *Abecma*, to patients in the United States. Please refer to Note 11, *Collaborative arrangements and strategic partnerships*, for further discussion of the collaboration with BMS.

2seventy bio Securities Corporation is a wholly-owned subsidiary of the Company and was granted securities corporation status in Massachusetts for the 2021 tax year. 2seventy bio Securities Corporation has no employees.

On January 29, 2024, the Company began undertaking a strategic realignment to focus on the development and commercialization of *Abecma.* In connection with the strategic realignment, the Company entered into an asset purchase agreement with Regeneron Pharmaceuticals, Inc. ("Regeneron"), to sell to Regeneron substantially all of the assets related to its oncology and autoimmune cell therapy programs (the "Regeneron Transaction"). The Regeneron Transaction closed on April 1, 2024 and Regeneron assumed all of the ongoing programs, infrastructure and personnel costs related to these programs. In June 2024, the Company announced the completion of an asset purchase agreement with Novo Nordisk ("Novo") as part of its strategic realignment. Under the terms of the Novo Transaction, Novo acquired the Company's program for the research, development, manufacture, regulatory approval, and commercialization of gene therapy products exploiting the megaTAL Platform that is directed to the treatment, diagnosis and prevention of hemophilia (the "megaTAL Sale").

Going concern

In accordance with Accounting Standards Codification 205-40, *Going Concern*, the Company evaluated whether there are conditions and events, considered in the aggregate, that raise substantial doubt about its ability to continue as a going concern within one year after the date that the condensed consolidated financial statements are issued. The Company has incurred normal operating losses and has experienced negative operating cash flows for all historical periods presented. During the nine months ended September 30, 2024, the Company incurred a net loss of $37.7 million and used $75.5 million of cash in operations. The Company expects to continue to generate operating losses and negative operating cash flows for the near future.

As of September 30, 2024, the Company had cash, cash equivalents, and marketable securities of $192.4 million. Based on the Company's current operating plans, including with respect to the ongoing commercialization of *Abecma,* the Company expects that its cash, cash equivalents, and marketable securities will be sufficient to fund current planned operations for at least the next twelve months from the date of issuance of these condensed consolidated financial statements. The Company's current operating plan is based on various assumptions. If the Company uses its capital resources sooner than expected, it would evaluate further reductions in its expense or obtaining additional financing. This may include pursuing a combination of public or private equity offerings, debt financings, collaborations, strategic alliances or licensing arrangements with third parties. This may also include the potential sale of shares of the Company's common stock of up to $150.0 million in gross proceeds under the at-the-market ("ATM") facility established in November 2022 with Cowen and Company, LLC. No sales of common stock have occurred under this ATM as of the date of this Quarterly Report on Form 10-Q and the Company does not currently have any plans to sell shares under the ATM.

2. Summary of significant accounting policies and basis of presentation

Significant accounting policies

The significant accounting policies used in preparation of these condensed consolidated financial statements are consistent with those discussed in Note 2 to the consolidated financial statements for the year ended December 31, 2023 included in the Company's 2023 annual report on Form 10-K, except as disclosed below:

Contingent consideration receivable

Under ASC 810, *Consolidations,* the Company has elected to use the loss recovery approach to account for contingent consideration receivable. Under this approach, if it is probable that contingent consideration will be received, an asset would be recognized and measured initially at the lesser of (i) the amount of probable future proceeds or (ii) the difference between the fair value of the consideration received, excluding the contingent consideration, and the carrying amount of the deconsolidated net assets.

Gain or Loss on Transaction

The Company accounts for the disposition or sale of a business in accordance with Topic 810, *Consolidations*. This includes derecognizing assets related to the disposal group and then recognizing a gain or loss for the difference between the fair value of the consideration received and the book value of the disposal group under Topic 810.

Basis of presentation

The accompanying condensed consolidated financial statements reflect the historical results of the operations, financial position and cash flows of the Company and have been prepared by the Company in accordance with accounting principles generally accepted in the United States ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as included in the Accounting Standards Codification ("ASC") and Accounting Standards Updates of the Financial Accounting Standards Board.

In the opinion of management, the unaudited interim condensed consolidated financial statements reflect all normal recurring adjustments considered necessary for a fair presentation of the Company's financial position and the results of its operations for the interim periods presented.

Use of estimates

The preparation of these condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts in the condensed consolidated financial statements and accompanying notes. Actual results could materially differ from those estimates. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these condensed consolidated financial statements. Management must apply significant judgment in this process. In addition, other factors may affect estimates, including: expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. This process may result in actual results differing materially from those estimated amounts used in the preparation of the condensed consolidated financial statements.

Estimates and judgments are used in the following areas, among others: future undiscounted cash flows and subsequent fair value estimates used to assess potential and measure any impairment of long-lived assets, including intangible assets, the measurement of right-of-use assets and lease liabilities, contingent consideration, stock-based compensation expense, accrued expenses, income taxes, and the assessment of the Company's ability to fund its operations for at least the next twelve months from the date of issuance of these condensed consolidated financial

statements. In addition, estimates and judgments are used in the Company's accounting for its revenue-generating arrangements, in particular as it relates to determining the stand-alone selling price of performance obligations, evaluating whether an option to acquire additional goods and services represents a material right, estimating the total transaction price, including estimating variable consideration and the probability of achieving future potential development and regulatory milestones, assessing the period of performance over which revenue may be recognized, and accounting for modifications to revenue-generating arrangements.

3. Asset purchase agreements

Regeneron Asset Purchase Agreement

In January 2024, the Company and Regeneron entered into an asset purchase agreement for the Regeneron Transaction. The assets consisted of property, plant and equipment and prepaid expenses. As consideration for the Asset Sale, Regeneron agreed to pay the Company an upfront payment of $5.0 million and contingent consideration based on regulatory approval and sales-based royalties. Regeneron assumed certain programs, infrastructure and personnel costs related to the programs purchased. In accordance with Topic 360, *Property, Plant, and Equipment*, the Company determined that as of the signing of the asset purchase agreement in January 2024, the criterion to classify the assets to be sold to Regeneron as assets held for sale was met. The $17.8 million of property, plant and equipment and prepaid expenses to be sold to Regeneron were classified as assets held for sale on the Company's condensed consolidated balance sheets as of March 31, 2024.

As noted above, the Company received an upfront payment of $5.0 million upon closing of the Regeneron Transaction, which occurred on April 1, 2024. Moreover, the termination of the Company's existing Collaboration Agreement with Regeneron (as described in Note 11) was negotiated concurrently with the asset purchase agreement and as such, the Company derecognized $7.8 million of deferred revenue associated with the Regeneron Collaboration Agreement as part of the Asset Sale. The cash received by the Company combined with the derecognition of the remaining deferred revenue totals $12.8 million and represents the approximate combined fair value of the assets sold to Regeneron under the asset purchase agreement. As such, in the first quarter of 2024, the Company recorded an impairment loss of $5.0 million, disclosed as the "loss on assets held for sale to Regeneron" on the condensed consolidated statements of operations and comprehensive loss. This represents the excess of the carrying value of the assets to be transferred to Regeneron at the time the held for sale criteria was met. This is presented as loss on assets held for sale on the condensed consolidated statements of operations and comprehensive loss. Upon the closing of the Regeneron Transaction on April 1, 2024 and the receipt of the $5.0 million upfront payment, the Company derecognized the assets held for sale and the deferred revenue discussed above from its condensed consolidated balance sheets.

In connection with the Asset Sale, the Company entered into transition services agreements with Regeneron, under which the Company provides certain services to Regeneron to help facilitate an orderly transition of the business following the Asset Sale. In return for these services, Regeneron is required to pay certain agreed upon fees to reimburse the Company for costs incurred, without markup. As of September 30, 2024, $5.0 million of receivables associated with these transition services agreements are included within receivables and other current assets on the Company's condensed consolidated balance sheets. Income for services provided by the Company to Regeneron is included within other income, net within the condensed consolidated statements of operations and

comprehensive loss. Reimbursement for costs incurred, without markup, are netted against operating expenses on the condensed consolidated statements of operations and comprehensive loss.

Novo Asset Purchase Agreement

In June 2024, the Company announced the completion of the Novo Transaction. As consideration, Novo paid the Company upfront consideration of $38.0 million, plus up to an additional $2.0 million that will be held back by Novo for 12 months and may be used to settle certain indemnification claims.

No assets on the Company's condensed consolidated balance sheet were identified to be transferred to Novo as part of the transaction. The termination of the Company's existing Collaboration and License Agreement with Novo (as described in Note 11) was negotiated concurrently with the asset purchase agreement and as such, the Company derecognized $11.0 million of deferred revenue associated with the Company's Novo Collaboration Agreement as part of the megaTAL Sale.

In connection with the megaTAL Sale, the Company entered into a transition service agreement with Novo under which the Company will provide certain services to Novo to help facilitate an orderly transition of the business following the sale. Consideration for these services was included in the initial purchase price and as such, $1.0 million, which represents the fair market value of the services to be performed, is deferred from the gain on the sale and will be recognized over the six month term of the transition services agreement. The balance of deferred transition service income is included within accrued expenses and other current liabilities on the condensed consolidated balance sheets.

The $38.0 million cash consideration received by the Company (less the $1.0 million received for transition services to be provided by the Company) combined with the derecognition of the deferred revenue totals $48.0 million and represents the gain on the sale of asset to Novo. This is disclosed as the "gain on sale to Novo Nordisk", on the condensed consolidated statements of operations and comprehensive loss. As the Company has elected to use the loss recovery approach to account for contingent consideration receivable, the $2.0 million cash consideration held back by Novo will not be recognized until it is probable to be received.

4. Marketable securities

The following table summarizes the marketable securities held at September 30, 2024 and December 31, 2023 (in thousands):

	Cost or amortized cost	Unrealized gains	Unrealized losses	Fair Value
September 30, 2024				
U.S. government agency securities and treasuries	$ 81,085	$ 182	$ (3)	$ 81,264
Corporate bonds	2,016	—	(1)	2,015
Commercial paper	49,084	74	(22)	49,136
Total	$ 132,185	$ 256	$ (26)	$ 132,415
December 31, 2023				
U.S. government agency securities and treasuries	$ 101,566	$ 144	$ (85)	$ 101,625
Commercial paper	45,188	34	—	45,222
Total	$ 146,754	$ 178	$ (85)	$ 146,847

No available-for-sale debt securities held as of September 30, 2024 or December 31, 2023 had remaining maturities greater than five years.

The following table summarizes available-for-sale debt securities in a continuous unrealized loss position for less than twelve months and twelve months or greater, and for which an allowance for credit losses has not been recorded at September 30, 2024 and December 31, 2023 (in thousands):

	Less than 12 months		12 months or greater		Total	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
September 30, 2024						
U.S. government agency securities and treasuries	$ 1,930	$ (2)	$ 4,992	$ (1)	$ 6,922	$ (3)
Corporate bonds	2,015	(1)	—	—	2,015	(1)
Commercial paper	10,795	(22)	—	—	10,795	(22)
Total	$ 14,740	$ (25)	$ 4,992	$ (1)	$ 19,732	$ (26)
December 31, 2023						
U.S. government agency securities and treasuries	$ 45,850	$ (60)	$ 1,475	$ (25)	$ 47,325	$ (85)
Total	$ 45,850	$ (60)	$ 1,475	$ (25)	$ 47,325	$ (85)

As discussed further in Note 8, *Leases*, to the consolidated financial statements included in the Company's 2023 Annual Report on Form 10-K, the Company maintains letters of credit related to its leases in Cambridge and Seattle. A portion of this collateral is classified as restricted investments and included within restricted investments and other non-current assets on the condensed consolidated balance sheets.

The following table summarizes restricted investments held at September 30, 2024 and December 31, 2023 (in thousands):

	Cost or amortized cost	Unrealized gains	Unrealized losses	Fair Value
September 30, 2024				
U.S. government agency securities and treasuries	$ 34,784	$ 109	$ (34)	$ 34,859
Total	$ 34,784	$ 109	$ (34)	$ 34,859
December 31, 2023				
U.S. government agency securities and treasuries	$ 33,072	$ 67	$ (365)	$ 32,774
Total	$ 33,072	$ 67	$ (365)	$ 32,774

The following table summarizes restricted investments in a continuous unrealized loss position for less than twelve months and twelve months or greater, and for which an allowance for credit losses has not been recorded at September 30, 2024 and December 31, 2023 (in thousands):

	Less than 12 months		12 months or greater		Total	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
September 30, 2024						
U.S. government agency securities and treasuries	$ 1,973	$ (2)	$ 5,963	$ (32)	$ 7,936	$ (34)
Total	$ 1,973	$ (2)	$ 5,963	$ (32)	$ 7,936	$ (34)
December 31, 2023						
U.S. government agency securities and treasuries	$ 3,496	$ (4)	$ 13,266	$ (361)	$ 16,762	$ (365)
Total	$ 3,496	$ (4)	$ 13,266	$ (361)	$ 16,762	$ (365)

Accrued interest receivables on the Company's available-for-sale debt securities and restricted investments, included within receivables and other current assets in the Company’s condensed consolidated balance sheet, totaled $1.0 million as of September 30, 2024 and $0.8 million as of December 31, 2023. No accrued interest receivable was written off during the three and nine months ended September 30, 2024 or 2023.

The amortized cost of available-for-sale debt securities and restricted investments is adjusted for amortization of premiums and accretion of discounts to the earliest call date for premiums or to maturity for discounts. At September 30, 2024 and December 31, 2023, the balance in the Company’s accumulated other comprehensive income was composed primarily of activity related to the Company’s available-for-sale debt securities and restricted investments. There were no material realized gains or losses recognized on the sale or maturity of available-for-sale securities or restricted investments during the three and nine months ended September 30, 2024 and 2023.

The Company determined that there was no material change in the credit risk of the above investments during the three and nine months ended September 30, 2024. As such, an allowance for credit losses was not recognized. As of September 30, 2024, the Company does not intend to sell such securities and it is not more likely than not that the Company will be required to sell the securities before recovery of their amortized cost bases.

5. Fair value measurements

The following table sets forth the Company's assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2024 and December 31, 2023 (in thousands):

	Total	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
September 30, 2024				
Assets:				
Cash and cash equivalents	$ 59,984	$ 59,984	$ —	$ —
Marketable securities:				
U.S. government agency securities and treasuries	81,264	—	81,264	—
Corporate bonds	2,015	—	2,015	—
Commercial paper	49,136	—	49,136	—
Restricted cash and cash equivalents	363	363	—	—
Restricted investments	34,859	—	34,859	—
Total assets	$ 227,621	$ 60,347	$ 167,274	$ —
December 31, 2023				
Assets:				
Cash and cash equivalents	$ 74,958	$ 74,958	$ —	$ —
Marketable securities:				
U.S. government agency securities and treasuries	101,625	—	101,625	—
Commercial paper	45,222	—	45,222	—
Restricted cash and cash equivalents	1,725	1,725	—	
Restricted investments	32,774	—	32,774	—
Total assets	$ 256,304	$ 76,683	$ 179,621	$ —
Liabilities:				
Contingent consideration	$ 2,415	$ —	$ —	$ 2,415
Total liabilities	$ 2,415	$ —	$ —	$ 2,415

Contingent consideration

In connection with bluebird bio's prior acquisition of Precision Genome Engineering, Inc. ("Pregenen") in 2014, the Company may be required to pay future consideration that is contingent upon the achievement of certain commercial milestone events. Contingent consideration is measured at fair value and is based on significant unobservable inputs, which represents a Level 3 measurement within the fair value hierarchy. The valuation of contingent consideration uses assumptions the Company believes would be made by a market participant. The Company assesses these estimates on an on-going basis as additional data impacting the assumptions is obtained. Future changes in the fair value of contingent consideration related to updated assumptions and estimates are recognized within the condensed consolidated statements of operations and comprehensive loss. In the absence of new information related to the probability of milestone achievement, changes in fair value will reflect changing discount rates and the passage of time. As of September 30, 2024, the Company determined the probability of milestone achievement to be zero and as a result reduced the fair value of contingent consideration included in other non-current liabilities on the condensed consolidated balance sheets to zero.

The table below provides a roll-forward of fair value of the Company's contingent consideration obligations that include Level 3 inputs (in thousands):

	For the nine months ended September 30, 2024
Beginning balance	$ 2,415
Additions	—
Changes in fair value	(2,415)
Payments	—
Ending balance	$ —

Please refer to Note 9, *Commitments and contingencies*, for further information.

6. Property, plant and equipment, net

Property, plant and equipment, net, consists of the following (in thousands):

	As of September 30, 2024	As of December 31, 2023
Computer equipment and software	$ 4,965	$ 6,156
Office equipment	6,330	6,726
Laboratory equipment	4,162	43,209
Leasehold improvements	48,340	58,832
Construction-in-progress	—	138
Total property, plant and equipment	63,797	115,061
Less accumulated depreciation and amortization	(28,560)	(56,911)
Property, plant and equipment, net	$ 35,237	$ 58,150

As part of the Regeneron Transaction, the Company transferred fixed assets with a net book value, prior to impairment, of $17.7 million to Regeneron. This consisted of laboratory equipment, leasehold improvements, and software and office equipment with net book values, prior to impairment, of $12.1 million, $5.5 million, and $0.1 million, respectively. For further detail regarding the Asset Sale to Regeneron, please refer to Note 3, *Asset Purchase Agreements*.

7. Accrued expenses and other current liabilities

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

	As of September 30, 2024	As of December 31, 2023
Collaboration research costs	$ 7,053	$ 5,681
Employee compensation, including severance for restructuring	6,591	4,639
Royalties	4,022	9,702
Clinical and contract research organization costs	904	990
Deferred transition services income [(1)]	457	—
Manufacturing costs	—	1,764
Property, plant, and equipment	—	279
Other	4,195	2,633
Total accrued expenses and other current liabilities	$ 23,222	$ 25,688

(1) Refer to Note 3, *Asset Purchase Agreements*, for further information regarding deferred transition services income relating to the Novo Transaction.

The increase in accrued collaboration research costs is attributable to an increase in the Company's accrual of amounts due under its collaboration with BMS. The increase in accrued employee compensation was primarily driven by 2024 retention bonuses for remaining 2seventy employees and the timing of the 2023 annual bonus payout, which occurred in December 2023.

8. Leases

The Company leases certain office and laboratory space, primarily located in Cambridge, Massachusetts and Seattle, Washington, which was assigned to it in connection with its separation from bluebird bio. The lease at 60 Binney Street, Cambridge, Massachusetts for 253,108 square feet (the "Prime Lease") was previously entered into by bluebird bio with ARE-MA Region No. 40, LLC on September 21, 2015. The lease at 188 East Blaine Street in Seattle, Washington for 36,126 square feet was previously entered into by bluebird bio on July 18, 2018.

In connection with the Regeneron Transaction, Regeneron agreed to fully sublease the Company's facilities in Seattle, Washington and sublease a portion of the Company's facilities in Cambridge, Massachusetts. As part of the sublease agreement with Regeneron (the "Subtenant"), the Company agreed to sublease to Regeneron approximately 159,106 square feet of space in Cambridge and approximately 36,126 square feet of space in Seattle. The Company remains the primary obligor of the leases. In each case, the monthly base rent for the sublease is equal to the rate per square foot paid by the Company, which is subject to annual rent increases.

For the Prime Lease, in addition to base rent, the Subtenant is responsible for its allocated share of costs incurred and expenditures made by the Company in the operation and management of the subleased space. The Subtenant has agreed to pay its proportionate share (63%) of all operating expenses, taxes, insurance, utilities storage, parking fees and all other additional rent payable by the Company under the Prime Lease.

Sublease income from Regeneron will cover a majority of the Company's future minimum lease commitments through 2027. Total sublease income for the three and nine months ended September 30, 2024 related to the sublease of the Prime Lease was approximately $4.9 million and $9.8 million, respectively. Total sublease income for the three and nine months ended September 30, 2024 related to the sublease of the Seattle lease was approximately $0.6 million and $1.2 million, respectively, which covers all of the Company's costs for the Seattle facility. This

income is netted against the Company's rent expense, which is included within operating expenses, in the condensed consolidated statements of operations and comprehensive loss.

9. Commitments and contingencies

Contingent consideration related to business combination

On June 30, 2014, bluebird bio acquired Pregenen. All assets, liabilities and future obligations related to the Pregenen acquisition, including the resulting goodwill and contingent consideration, were assumed by the Company in connection with the separation from bluebird bio. The Company may be required to make up to $99.9 million in contingent cash payments to the former equity holders of Pregenen upon the achievement of certain commercial milestones related to the Pregenen technology. In accordance with accounting guidance for business combinations, contingent consideration liabilities are required to be recognized on the condensed consolidated balance sheets at fair value. Estimating the fair value of contingent consideration requires the use of significant assumptions primarily relating to probabilities of successful achievement of certain clinical and commercial milestones, the expected timing in which these milestones will be achieved and discount rates. The use of different assumptions could result in materially different estimates of fair value. As of September 30, 2024, the Company determined the probability of milestone achievement to be zero and as a result reduced the fair value of contingent consideration included in other non-current liabilities on the condensed consolidated balance sheets to zero. Please refer to Note 5, *Fair value measurements,* for further information.

Other funding commitments

Certain agreements that were assigned by bluebird bio to the Company in connection with the separation relate principally to licensed technology and may require future payments relating to milestones that may be met in subsequent periods or royalties on future sales of specified products. Additionally, to the extent an agreement relating to licensed technology was not assigned to the Company, bluebird bio entered into a sublicense with the Company, which may require the Company to make future milestone and/or royalty payments. Please refer to Note 11, *Collaborative arrangements and strategic partnerships*, for further information on the BMS, Regeneron, and Novo Nordisk A/S agreements and to Note 12, *Royalty and other revenue*, for further information on license agreements.

Based on the Company's development plans as of September 30, 2024, the Company may be obligated to make future development, regulatory and commercial milestone payments and royalty payments on future sales of specified products. Payments under these agreements generally become due and payable upon achievement of such milestones or sales. When the achievement of these milestones or sales has not occurred, such contingencies are not recorded in the Company's condensed consolidated financial statements. As further discussed in Note 11, *Collaborative arrangements and strategic partnerships*, BMS assumed responsibility for amounts due to licensors as a result of any future ex-U.S. sales of *Abecma*.

Additionally, 2seventy bio was party to various contracts with contract research organizations and contract manufacturers that generally provide for termination on notice, with the exact amounts in the event of termination to be based on the timing of the termination and the terms of the agreement. The majority of these contracts were assumed by Regeneron upon or after closing of the Regeneron Transaction. For any contracts remaining, other than a decrease in committed spend due to the payment of these obligations in the normal course of business, there have been no material changes in future minimum purchase commitments from those disclosed in Note 8, *Commitments and Contingencies*, to the consolidated financial statements included in the Company's 2023 annual report on Form 10-K.

Litigation

From time to time, the Company expects to be party to various claims and complaints arising in the ordinary course of business. However, the Company is not currently a party to any litigation or legal proceedings that, in the opinion of its management, are probable of having a material adverse effect on its business. The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to these agreements, the Company indemnifies, holds harmless, and agrees to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners. In addition, pursuant to the separation agreement with bluebird bio, the Company indemnifies, holds harmless, and agrees to reimburse bluebird bio for its indemnification obligations with respect to the Company's business partners, relating to the Company's business or arising out of the Company's activities, in the past or to be conducted in the future. The term of these indemnification agreements is generally perpetual any time after execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. Management does not believe that any ultimate liability resulting from any of these claims will have a material adverse effect on its results of operations, financial position, or liquidity. However, management cannot give any assurance regarding the ultimate outcome of any claims, and their resolution could be material to operating results for any particular period.

The Company indemnifies each of its directors and officers for certain events or occurrences, subject to certain limits, while the officer or director is or was serving at the Company's request in such capacity, as permitted under Delaware law and in accordance with its certificate of incorporation and by-laws and indemnification agreements entered into with each of its directors and officers. The term of the indemnification period will last as long as a director or officer may be subject to any proceeding arising out of acts or omissions of such director or officer in such capacity. The maximum amount of potential future indemnification is unlimited; however, the Company holds director and officer liability insurance.

10. Equity

In January 2023, the Company entered into a Share Purchase Agreement with Regeneron, pursuant to which it sold 1,114,827 shares of its common stock to Regeneron, subject to certain restrictions, for an aggregate cash price of approximately $20.0 million. The purchase price represents $9.9 million worth of common stock plus a $10.1 million premium, which represents collaboration deferred revenue. Details regarding the recognition of this deferred revenue as revenue are included below in Note 11, *Collaborative arrangements and strategic partnerships.*

In March 2023, the Company sold 10,869,566 shares of common stock through an underwritten public offering at a price per share of $11.50. This resulted in aggregate net proceeds to the Company of approximately $117.0 million, after deducting underwriting fees and offering expenses. The underwriters did not exercise their option to purchase up to 1,630,434 additional shares of common stock and therefore no additional proceeds were received.

11. Collaborative arrangements and strategic partnerships

To date, the Company's service and collaborative arrangement revenue has been primarily generated from collaboration arrangements with BMS, Regeneron, and Novo, each as further described below. These agreements were assumed by the Company in connection with the separation from bluebird bio as described in Note 14. Concurrent with the closings of the Regeneron Transaction and the Novo Transaction, the Regeneron Collaboration Agreement and the Novo Collaboration Agreement were terminated, respectively, as further described below.

Bristol-Myers Squibb

BMS Collaboration Agreement

In March 2013, bluebird bio entered into a collaboration agreement with BMS. The details of the collaboration agreements and the payments the Company has received, and is entitled to receive, are further described in Note 10,

Collaborative arrangements and strategic partnerships, to the consolidated financial statements included in the Company's 2023 annual report on Form 10-K. During the second quarter of 2023, the Company entered into an amendment to the collaboration agreement with BMS to assign future manufacturing of lentiviral vector to BMS, as further described in Note 8, *Commitments and contingencies*, to the consolidated financial statements included in the Company's 2023 annual report on Form 10-K.

Abecma

Under the collaboration agreement with BMS, the Company shares equally in the profit and loss related to the development and commercialization of ide-cel in the United States (marketed as *Abecma*). If the Company were to choose to terminate its existing agreement with BMS, it would be entitled to a mid-single digit to low teens royalty based on a percentage of net sales of Abecma in the United States with 90 days' notice. The Company has no remaining financial rights with respect to the development or commercialization of ide-cel outside of the United States. The Company accounts for its collaborative arrangement efforts with BMS in the United States within the scope of ASC 808 given that both parties are active participants in the activities and both parties are exposed to significant risks and rewards dependent on the commercial success of the activities. The calculation of collaborative activity to be recognized for joint *Abecma* efforts in the United States is performed on a quarterly basis and is independent of previous quarterly activity. This may result in fluctuations between revenue and expense recognition period over period, depending on the varying extent of effort performed by each party during the period. The Company recognizes revenue related to the combined unit of accounting for the ex-U.S. license and lentiviral vector manufacturing services under Topic 606.

Ide-cel U.S. Share of Collaboration Profit or Loss

The U.S. commercial and development activities under the First Amendment to the Amended and Restated Co-Development, Co-Promote and Profit Share Agreement (the "Amended Ide-Cel CCPS") are within the scope of ASC 808. On a quarterly basis, the Company determines its share of collaboration profit or loss for commercial activities (i.e. commercial sales of *Abecma* by BMS). The Company's share of any collaboration profit for commercial activities is recognized as collaborative arrangement revenue and its share of any collaboration loss for commercial activity is recognized as an operating expense and classified as share of collaboration loss on the Company's condensed consolidated statement of operations and comprehensive loss.

The Company is also responsible for equally sharing in the ongoing ide-cel research and development activities being conducted by BMS in the United States. The net amount owed to BMS for research and development activities determined on a quarterly basis is classified as research and development expense on the statements of operations and comprehensive income (loss). If BMS is obligated to reimburse the Company because the Company's research and development costs exceeds BMS' research and development costs in a particular quarterly period, the net amount is recorded as collaborative arrangement revenue.

The following tables summarize the components utilized in the Company's quarterly calculation of collaborative arrangement revenue or share of collaboration loss under the BMS collaboration arrangement for the three and nine months ended September 30, 2024 and 2023 (in thousands). The amounts reported for these periods represent the Company's share of BMS' *Abecma* product revenue, cost of goods sold, and selling costs, along with reimbursement by BMS of commercial costs incurred by the Company, and exclude expenses related to ongoing development, which are separately reflected in the consolidated statements of operations and comprehensive loss as described below.

Abecma U.S. Collaboration Profit/Loss Share	For the three months ended March 31, 2024	For the three months ended June 30, 2024	For the three months ended September 30, 2024	For the nine months ended September 30, 2024
2seventy's share of profits (losses), net of 2seventy's share of BMS costs for commercial activities	$ (1,975)	$ 3,549	$ 9,617	$ 11,191
Reimbursement from BMS for 2seventy costs of commercial manufacturing and commercial activities	745	815	1,067	2,627
Collaborative arrangement revenue [1]	$ —	$ 4,364	$ 10,684	$ 15,048
Share of collaboration loss [1]	$ (1,230)	$ —	$ —	$ (1,230)

Abecma U.S. Collaboration Profit/Loss Share	For the three months ended March 31, 2023	For the three months ended June 30, 2023	For the three months ended September 30, 2023	For the nine months ended September 30, 2023
2seventy's share of profits (losses), net of 2seventy's share of BMS costs for commercial activities	$ 21,581	$ 23,272	$ (582)	$ 44,271
Reimbursement from BMS for 2seventy costs of commercial manufacturing and commercial activities	1,380	1,271	1,118	3,769
Collaborative arrangement revenue [1]	$ 22,961	$ 24,543	$ 536	$ 48,040

(1) As noted above, the calculation is performed on a quarterly basis and consists of 2seventy's share of profits, net of 2seventy's share of BMS costs for commercial activities, offset by reimbursement from BMS for 2seventy commercial activities. The calculation is independent of previous activity, which may result in fluctuations between revenue and expense recognition period over period.

The following tables summarize the amounts associated with the research activities under the collaboration included in research and development expense or recognized as collaborative arrangement revenue for the three and nine months ended September 30, 2024 and 2023 (in thousands):

Abecma U.S. Collaboration Net R&D Expenses	For the three months ended March 31, 2024	For the three months ended June 30, 2024	For the three months ended September 30, 2024	For the nine months ended September 30, 2024
2seventy's obligation for its share of BMS research and development expenses	$ (6,963)	$ (8,625)	$ (8,225)	$ (23,813)
Reimbursement from BMS for 2seventy research and development expenses	224	192	57	473
Net R&D expense [1]	$ (6,739)	$ (8,433)	$ (8,168)	$ (23,340)

Abecma U.S. Collaboration Net R&D Expenses	For the three months ended March 31, 2023	For the three months ended June 30, 2023	For the three months ended September 30, 2023	For the nine months ended September 30, 2023
2seventy's obligation for its share of BMS research and development expenses	$ (9,461)	$ (7,195)	$ (6,980)	$ (23,636)
Reimbursement from BMS for 2seventy research and development expenses	4,590	1,543	860	6,993
Net R&D expense [1]	$ (4,871)	$ (5,652)	$ (6,120)	$ (16,643)

(1) As noted above, the calculation is performed on a quarterly basis and consists of 2seventy bio's obligation for its share of BMS research and development expenses, offset by reimbursement from BMS for 2seventy bio's research and development expenses.

Ide-cel ex-U.S. Service Revenue

The Company accounts for any ex-U.S. activities under the Amended Ide-cel CCPS pursuant to ASC 606. The following table summarizes the revenue recognized related to ide-cel ex-U.S. activities for the three and nine months ended September 30, 2024 and 2023 (in thousands). These amounts are reflected in service revenue in the consolidated statements of operations and comprehensive loss:

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
ASC 606 ide-cel license and manufacturing revenue – ex-U.S. (included as a component of service revenue) [(1)]	$ 2,850	$ 3,324	$ 7,685	$ 12,435

(1) These amounts include reimbursements from BMS to the Company for the Company's ex-U.S. quality and other manufacturing costs associated with the manufacture of *Abecma* inventory.

One-time restructuring expenses

In the second quarter of 2024, the Company recognized one-time expense of $5.4 million representing its share of costs associated with BMS' early exit from a commercial manufacturing and supply agreement as a result of its transition to the use of suspension lentiviral vector in the manufacturing of *Abecma*. An additional $0.3 million of final exit costs were incurred and recognized in the third quarter of 2024. These costs are included in restructuring expenses on the condensed consolidated statements of operations and comprehensive loss.

Regeneron

Upon closing of the Regeneron Transaction, on April 1, 2024, the Regeneron Collaboration Agreement described below was terminated. Please refer to Note 3, *Asset Purchase Agreements* for further information regarding the accounting treatment for the termination.

Regeneron Collaboration Agreement

In August 2018, bluebird bio entered into a Collaboration Agreement (the "Regeneron Collaboration Agreement") with Regeneron, pursuant to which the parties will apply their respective technology platforms to the discovery, development, and commercialization of novel immune cell therapies for cancer. In August 2018, following the completion of required regulatory reviews, the Regeneron Collaboration Agreement became effective. As noted above, the agreement was assumed by the Company in connection with the separation. Under the terms of the agreement, the parties will leverage Regeneron's proprietary platform technologies for the discovery and characterization of fully human antibodies, as well as T cell receptors directed against tumor-specific proteins and peptides and the Company will contribute its field-leading expertise in gene therapy.

In accordance with the Regeneron Collaboration Agreement, the parties jointly selected six initial targets and intend to equally share the costs of research up to the point of submitting an Investigational New Drug ("IND") application for a potential gene therapy product directed to a particular target. Additional targets may be selected to add to or replace any of the initial targets during the five-year research collaboration term as agreed to by the parties.

Regeneron will accrue a certain number of option rights exercisable against targets as the parties reach certain milestones under the terms of the agreement. Upon the acceptance of an IND for the first product candidate directed to a target, Regeneron will have the right to exercise an option for co-development/co-commercialization of product candidates directed to such target on a worldwide or applicable opt-in territory basis, with certain exceptions. Where

Regeneron chooses to opt-in, the parties will share equally in the costs of development and commercialization and will share equally in any profits or losses therefrom in applicable opt-in territories. Outside of the applicable opt-in territories, the target becomes a licensed target and Regeneron would be eligible to receive, with respect to any resulting product, milestone payments of up to $130.0 million per product and royalties on net sales outside of the applicable opt-in territories at a rate ranging from the mid-single digits to low-double digits. A target would also become a licensed target in the event Regeneron does not have an option to such target, or Regeneron does not exercise its option with respect to such target.

Either party may terminate a given research program directed to a particular target for convenience, and the other party may elect to continue such research program at its expense, receiving applicable cross-licenses. The terminating party will receive licensed product royalties and milestone payments on the potential applicable gene therapy products. Where the Company terminates a given research program for convenience, and Regeneron elects to continue such research program, the parties will enter into a transitional services agreement. Under certain conditions, following its opt-in, Regeneron may terminate a given collaboration program and the Company may elect to continue the development and commercialization of the applicable potential gene therapy products as licensed products.

First Amendment to the Regeneron Collaboration Agreement

In January 2023, 2seventy bio and Regeneron announced an amendment to the Regeneron Collaboration Agreement (the "Amendment"), to amend and extend their current agreement, applying their respective technology platforms to the discovery, development and commercialization of novel immune cell therapies for cancer. Under the Amendment, the parties have identified four research targets to advance the next stage of research therapies. The parties will continue sharing costs for these activities in a manner largely consistent with the existing agreement, with Regeneron now covering 75% of eligible late-stage research costs to study combinations and 100% of the costs for the arms of clinical studies that include Regeneron agents through regulatory approval of two of the four targets. For other programs, cost-sharing will follow the existing 50/50 cost sharing agreement.

Additionally, Regeneron will make one-time milestone payments for each of the first Clinical Candidate directed to MUC-16 and the first Clinical Candidate directed to a selected early stage research target to achieve the applicable milestones. Clinical Candidate milestone events and payments include:

- $2.0 million payment from Regeneron for Development Candidate Nomination;
- $3.0 million payment from Regeneron for IND Acceptance; and
- $5.0 million payment from Regeneron for the earlier of (i) last patient dosed with a Monotherapy Regimen and (ii) dosing of the 10th patient in a Clinical Trial included in an Approved Research/ Development Plan.

The Development Candidate Nomination for MUC-16 has already occurred and the corresponding milestone payment will not be due until the Clinical Candidate milestone event (IND Acceptance) is achieved for MUC-16 at which time the first milestone will be reduced to $1.0 million for a total amount due for the two milestones related to MUC-16 of $4.0 million.

Regeneron Share Purchase Agreements

A Share Purchase Agreement ("SPA") was entered into by bluebird bio and Regeneron in August 2018. In August 2018, on the closing date of the transaction, bluebird bio issued to Regeneron 0.4 million shares of bluebird bio's common stock, subject to certain restrictions, for $238.10 per share, or $100.0 million in the aggregate. Following the spin-off, Regeneron held approximately 0.1 million shares of 2seventy bio's common stock, subject to certain restrictions. The purchase price represents $63.0 million worth of common stock plus a $37.0 million premium, which represents a collaboration research advancement, or credit to be applied to Regeneron's initial 50 percent funding obligation for collaboration research, after which the collaborators will continue to fund ongoing research equally. The collaboration research advancement only applies to pre-IND research activities and is not

refundable or creditable against post-IND research activities for any programs where Regeneron exercises its opt-in rights.

In connection with the Amendment, the Company entered into a SPA with Regeneron pursuant to which the Company sold 1.1 million shares of its common stock, subject to certain restrictions, for $17.94 per share, to Regeneron for an aggregate cash price of approximately $20.0 million. The purchase price represents $9.9 million worth of common stock plus a $10.1 million premium, which represents deferred revenue.

Accounting analysis – 2018 Regeneron Collaboration Agreement

At the commencement of the original Regeneron Collaboration Agreement, two units of accounting were identified, which are the issuance of 0.4 million shares of bluebird bio's common stock and joint research activities during the five-year research collaboration term. The Company determined the total transaction price to be $100.0 million, which comprises $54.5 million attributed to the bluebird bio equity sold to Regeneron and $45.5 million attributed to the joint research activities. In determining the fair value of the bluebird bio common stock at closing, the Company considered the closing price of the bluebird bio common stock on the closing date of the transaction and included a lack of marketability discount because Regeneron received shares subject to certain restrictions.

The Company analyzed the joint research activities to assess whether they fall within the scope of ASC 808, and will reassess this throughout the life of the arrangement based on changes in the roles and responsibilities of the parties. Based on the terms of the arrangement as outlined above, for the collaboration research performed prior to submission of an IND application for a potential gene therapy product, both parties are deemed to be active participants in the collaboration. Both parties are performing research and development activities and will share equally in these costs through IND submission. Additionally, Regeneron and the Company are exposed to significant risks and rewards dependent on the commercial success of any product candidates that may result from the collaboration. As such, the collaboration arrangement is deemed to be within the scope of ASC 808.

The $45.5 million attributed to the joint research activities includes the $37.0 million creditable against amounts owed to the Company by Regeneron. The collaboration research advancement will be reduced over time for amounts due to the Company by Regeneron as a result of the parties agreeing to share in the costs of collaboration research equally. The remainder of $8.5 million will be attributed to the joint research activities and recognized over the five-year research collaboration term.

Consistent with its collaboration accounting policy, the Company will recognize collaboration revenue or research and development expense related to the joint research activities in future periods depending on the amounts incurred by each party in a given reporting period. That is, if the Company's research costs incurred exceed those research costs incurred by Regeneron in a given quarter, the Company will record collaboration revenue and reduce the original $37.0 million advance by the amount due from Regeneron until such advancement is fully utilized, after which the Company would record an amount due from Regeneron. If Regeneron's research costs incurred exceed those research costs incurred by the Company in a given quarter, the Company will record research and development expense and record a liability for the amount due to Regeneron. The collaboration research advancement credit was fully utilized in the first quarter of 2023.

Accounting analysis - Regeneron Amendment

At the commencement of the Amendment, the Company identified two units of accounting, including the issuance of 1.1 million shares of 2seventy bio common stock and joint research activities under the amended agreement. The Company determined the total transaction price to be $20.0 million, which comprises $9.9 million of 2seventy bio equity sold to Regeneron and $10.1 million attributed to joint research activities. In determining the fair value of 2seventy bio common stock at closing, the Company considered the closing price of 2seventy bio common stock on the closing date of the transaction and included a lack of marketability discount because Regeneron received shares subject to certain restrictions.

Consistent with the original Regeneron Collaboration Agreement, the Company assessed whether the joint research activities under the Amendment fell within the scope of ASC 808 and will reassess this throughout the life of the arrangement based on changes in the roles and responsibilities of the parties. Based on the terms of the amended arrangement as outlined above, for the collaboration research performed prior to submission of an IND application for a potential gene therapy product, both parties continue to be active participants in the collaboration. Both parties continue to perform research and development activities and will share in these costs through IND submission. Additionally, Regeneron and the Company continue to be exposed to significant risks and rewards dependent on the commercial success of any product candidates that may result from the collaboration. As such, the collaboration arrangement is deemed to be within the scope of ASC 808. The Company continues to apply ASC 606 by analogy to determine the measurement and recognition of the consideration received from Regeneron.

The Company analogized to the contract modification guidance in ASC 606 to account for the scope and pricing changes contained in the Amendment. The Company concluded the four targets outlined in the joint research activities within the Amendment are now four distinct performance obligations. Based on this, the Company treated the modification as a termination of the existing contract and a creation of a new contract. The remaining premium of $1.1 million that had not been recognized as of December 31, 2022 was allocated with the $10.1 million premium attributed to joint research activities from the Amendment, for a total of $11.2 million. This amount is recognized through the filing of IND for each individual target, allocated among the four distinct performance obligations based on the stand-alone selling price of each target performance obligation. Future milestones continue to be fully constrained until such time as the achievement of such milestones are considered probable.

The Company concluded that it continues to satisfy its obligations over-time as Regeneron received the benefit of the research activities as the activities were performed. The Company determined the most appropriate method to track progress towards completion of the four performance obligations was an input method that was based on costs incurred. There were significant judgments and estimates inherent in the determination of the costs to be incurred for the research and development activities related to the collaboration with Regeneron. These estimates and assumptions included a number of objective and subjective factors, including the likelihood that a target would be successfully developed through its IND filing and the estimated costs associated with such development, including the potential third-party costs related to each target's IND-enabling study. Any changes to these estimates would be recognized in the period in which they change as a cumulative catch-up.

As noted, the four targets represented four distinct performance obligations and as such, the Company had allocated the total transaction price of $11.2 million among the four performance obligations based on the stand-alone selling price of each target.

The following table summarizes the allocation of the transaction price to each performance obligation and the amount of the allocated transaction price (in thousands):

Performance Obligation		**Allocation of Transaction Price**
MUC16 Mono/Combo & Next Gen Therapies	$	1,905
MAGE-A4		178
Early Research Target (1)		8,701
Early Research Target (2)		475
Total	$	11,259

As of September 30, 2024, as the Regeneron Collaboration Agreement has been terminated concurrently with the closing of the Regeneron Transaction, there is no unsatisfied portion of the transaction price remaining and there is no remaining deferred revenue. The remaining deferred revenue amount of $7.8 million as of April 1, 2024, was derecognized as part of the Regeneron Transaction. Refer to Note 3, *Asset Purchase Agreements*, for further detail.

During the first quarter of 2024, the Company received a milestone payment of $4.0 million from Regeneron relating to IND acceptance for the MUC16 target. As the filing of IND for the target is complete, the performance obligation relating to the target is satisfied and the Company recognized the full $4.0 million as service revenue in the first quarter of 2024, and on the condensed consolidated statement of operations for the nine months ended September 30, 2024 under ASC 606.

The Regeneron Collaboration Agreement has terminated concurrently with the closing of the Regeneron Transaction, and as such the Company did not recognize revenue in the third quarter of 2024. For the nine months ended September 30, 2024, the Company recognized $4.7 million of collaborative arrangement revenue from the Regeneron Collaboration Agreement relating to the first quarter of 2024. For the three and nine months ended September 30, 2023, the Company recognized $5.3 million and $16.2 million of collaborative arrangement revenue, respectively.

JW Therapeutics

Please refer to Note 3, *Asset Purchase Agreements*, for further information on the terms of the Asset Sale. Upon closing of the Asset Sale on April 1, 2024, this program was assumed by Regeneron, including all upfront milestone and royalty payments to be made by JW (Cayman) Therapeutics Co., Ltd. ("JW"), if any.

In October 2022, the Company entered into a strategic alliance with JW to establish a translational and clinical cell therapy development platform designed to more rapidly explore T cell-based immunotherapy therapy products in the Chinese mainland, Hong Kong (China), and Macao (China). The initial focus of the collaboration is the Company's MAGE-A4 TCR program in solid tumors which is being developed as part of its collaboration with Regeneron.

Under the terms of the agreement, the Company granted JW a license for the MAGE-A4 cell therapy in the Chinese mainland, Hong Kong (China), and Macao (China). JW is responsible for development, manufacturing, and commercialization of the initial product within China. The Company was eligible to receive milestones and royalties on product revenues in China. The Company and Regeneron were to equally share all payments received from JW, including but not limited to all upfront, milestone and royalty payments made by JW to the Company. The Company and Regeneron were also to equally share all costs for any eligible expenses incurred in accordance with the terms of the Regeneron Collaboration Agreement. Additionally, the Company may leverage the early clinical data generated under the collaboration to support development in other geographies.

Accounting Analysis - JW

The Company concluded JW was a customer, and as such, the arrangement falls within the scope of Topic 606. Two performance obligations were identified within the contract consisting of (i) a license for the MAGE-A4 cell therapy, including a transfer of technology as agreed upon by both parties and (ii) vector supply necessary to conduct a Phase 1 clinical trial. The Company had concluded the manufacturing and supply of vector was a distinct performance obligation from the license for MAGE-A4 cell therapy because there were other vendors that could provide the necessary supply.

At contract inception, the Company determined the unconstrained transaction price was $7.3 million, consisting of the $3.0 million up-front consideration and $4.3 million consisting of variable consideration for the reimbursement of vector supply. JW provided the Company with a $3.0 million upfront payment related to the granting of a license for MAGE-A4 cell therapy and the transfer of technology for the development of the initial product in which the Company shared equally with Regeneron. During the first quarter of 2023, the Company completed the full transfer of the license of IP related to MAGEA4 cell therapy along with the technology transfer, and as such, the upfront payment received from JW was recognized as service revenue during the first quarter of 2023. The transaction price of $4.3 million related to the supply of vector consists of variable consideration based upon the estimated amount of vector needed in the development and commercialization for the initial Phase 1 clinical trial which the Company will also share equally with Regeneron. The agreement with JW was assumed by

Regeneron as a part of the Regeneron Transaction. As of September 30, 2024, no unsatisfied portion of the variable consideration for the reimbursement of vector supply remains.

Novo Nordisk

Upon the closing of an asset purchase agreement with Novo Nordisk in June 2024, the Collaboration and License Agreement with Novo Nordisk was terminated. Please refer to Note 3, *Asset Purchase Agreements*, for further information regarding the accounting treatment for the termination.

Novo Collaboration and License Agreement

In December 2021, the Company entered into a Collaboration and License Agreement (the "Novo Collaboration Agreement") with Novo for the discovery, development, and commercialization of a potential new gene therapy in hemophilia A. The Company and Novo have agreed to develop an initial research program with the goal of researching and developing a lead candidate directed to hemophilia A. The Company will provide Novo with research licenses to support the companies' activities during the initial research program and an option to enable Novo to obtain an exclusive license to commercialize the product derived from or containing compounds developed during the initial research program.

Under the terms of the Novo Collaboration Agreement, Novo agreed to pay the Company:

- a non-refundable, non-creditable upfront payment of $5.0 million;
- $15.0 million upon achievement of certain scientific milestones during the initial research program, or $9.0 million should Novo decide to continue the initial research program without achieving the scientific milestones;
- up to $26.0 million of exclusive license fees for the development, manufacture, and commercialization of the product should Novo exercise its option; and,
- up to $72.0 million in development and commercialization milestones.

Novo also agreed to reimburse the Company for research costs incurred in connection with the research program up to a mutually agreed upon amount. If Novo exercises its option to obtain a license to commercialize the product developed during the initial research program, the Company is also eligible to receive a mid-single digit percentage of royalties on product sales on a country-by-country and product-by-product basis, subject to certain royalty step-down provisions set forth in the agreement.

Accounting Analysis - Novo

The Company concluded that Novo is a customer, and as such, the arrangement falls within the scope of Topic 606. The Company identified two performance obligations consisting of (i) the research license and research and development services to be provided during the initial research program and (ii) a material right related to Novo's option to obtain an exclusive license for the development, manufacture, and commercialization of the product developed during the initial research program. The Company determined that the research license and research and development services promises were not separately identifiable and were not distinct or distinct within the context of the contract due to the specialized nature of the services to be provided by 2seventy, specifically with respect to the Company's expertise related to gene therapy and the interdependent relationship between the promises. The material right is considered a separate performance obligation pursuant to the provisions of Topic 606.

At contract inception, the Company determined the unconstrained transaction price was $11.7 million, consisting of the $5.0 million in up-front consideration and the $6.7 million in reimbursement for the research and development services. Variable consideration associated with the scientific milestones was fully constrained due to the uncertainty associated with the outcome of the research efforts under the initial research program. The Company allocated $6.7 million of the transaction price to the research services and $5.0 million to the material right using a

relative selling price methodology. Management will re-evaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur and adjust the transaction price as necessary.

In April 2023, the Company achieved positive proof of concept, preclinical data related to its joint research and development collaboration with Novo. This achievement triggered a $15.0 million milestone payment to the Company under the terms of the Novo Collaboration Agreement. Following the achievement of this milestone, Novo may elect to exercise an option to in-license technology from a third party in connection with the Novo Collaboration Agreement, for which the Company is responsible in making a $9.0 million payment to such third party. Novo exercised its option to in-license technology from a third party in connection with the Novo Collaboration Agreement, which triggered the aforementioned $9.0 million payment by the Company to such third party. The remaining $6.0 million, of the $15.0 million proof of concept milestone, is allocated to the material right alongside the $5.0 million upfront payment. Prior to the Novo Transaction, the total of $11.0 million was included in deferred revenue, net of current portion. This amount was derecognized as part of the accounting for the Novo Transaction. Please refer to Note 3, *Asset Purchase Agreements*, for further detail.

Revenue associated with the research and development performance obligation will be recognized as services are provided and costs are incurred. For the three and nine months ended September 30, 2024, the Company recognized no service revenue and $3.5 million of service revenue under this agreement, respectively. For the three and nine months ended September 30, 2023, the Company recognized $1.1 million and $4.7 million of service revenue under this agreement, respectively. The collaboration has been terminated following the signing of the asset purchase agreement with Novo in June 2024. Refer to Note 3, *Asset Purchase Agreements,* for further details.

12. Royalty and other revenue

bluebird bio has out-licensed intellectual property to various third parties. Under the terms of these agreements, some of which were assumed by the Company in connection with the separation, bluebird bio and the Company may be entitled to royalties and milestone payments.

Juno Therapeutics

In May 2020, bluebird bio entered into a non-exclusive license agreement with Juno Therapeutics, Inc., a wholly-owned subsidiary of BMS, related to lentiviral vector technology to develop and commercialize CD-19-directed CAR T cell therapies. The agreement was assumed by the Company in connection with the separation. Royalty revenue recognized from sales of lisocabtagene maraleucel is included within royalty and other revenue in the condensed consolidated statement of operations and comprehensive loss. As of August 24, 2023, the royalty term of this license agreement ended, and the Company will no longer receive royalties from sales of lisocabtagene maraleucel.

The Company did not recognize royalty and other revenue for the three and nine months ended September 30, 2024. The Company recognized $1.2 million and $4.6 million of royalty and other revenue for the three and nine months ended September 30, 2023, respectively.

13. Stock-based compensation

In connection with 2seventy bio's separation from bluebird bio in 2021, under the provisions of the existing plans, the outstanding bluebird bio equity awards were adjusted in accordance with the terms of the employee matters agreement (equitable adjustment) to preserve the intrinsic value of the awards immediately before and after distribution. Refer to Note 13, *Stock-based compensation*, to the consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2023 for details on the conversion methodology of the equity awards.

In October 2021, the Company's board of directors adopted the 2021 Stock Option and Incentive Plan ("2021 Plan") which allows for the granting of incentive stock options, non-qualified stock options, restricted stock units,

performance-based restricted stock units, and restricted stock awards to 2seventy bio's employees, members of the board of directors, and consultants of 2seventy bio, including those who became employees of the Company in connection with the separation. Shares of the Company's common stock underlie all awards granted under the 2021 Plan.

Stock-based compensation expense

Stock-based compensation expense includes compensation cost related to 2seventy bio equity awards held by its employees as well as bluebird bio equity awards issued upon separation to its employees.

Stock-based compensation expense recognized by award type was as follows (in thousands):

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
Stock options	$ 881	$ 2,655	$ 3,782	$ 9,237
Restricted stock units	1,748	7,046	5,840	17,697
Employee Stock Purchase Plan	14	99	90	272
	$ 2,643	$ 9,800	$ 9,712	$ 27,206

Stock-based compensation expense by classification included within the condensed consolidated statements of operations and comprehensive loss was as follows (in thousands):

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
Research and development	$ 75	$ 3,812	$ 2,070	$ 10,802
Selling, general and administrative	2,568	5,988	6,605	16,404
Restructuring expenses	—	—	1,037	—
	$ 2,643	$ 9,800	$ 9,712	$ 27,206

Employee Stock Purchase Plan

During the nine months ended September 30, 2024, 0.1 million shares of common stock were issued under the Company's 2021 Employee Stock Purchase Plan ("ESPP").

14. Related-party transactions

Relationship with bluebird bio

In January 2021, bluebird bio, Inc. ("bluebird bio") announced its plans to separate oncology portfolio and programs from its severe genetic disease portfolio and programs, and spin off its oncology portfolio and programs into a separate, publicly traded company (the "Separation"). In connection with the Separation, the Company entered into certain agreements pursuant to which the separation of its business from bluebird bio was effected and that govern its relationship with bluebird bio going forward. The separation agreement, tax matters agreement, employee matters agreement, intellectual property license agreement ("License Agreement") and two transition services agreements are described in Note 14, *Related-party transactions*, to the consolidated financial statements included in the Company's 2023 annual report on Form 10-K. The transition services agreements have since been terminated. Prior to the separation, all of Company's outstanding shares of common stock were owned by bluebird bio and therefore the transactions under those agreements were considered and disclosed as related party transactions.

Following the completion of the separation and distribution, the Company and bluebird bio have operated separately, each as an independent public company and bluebird bio no longer owns any shares of the Company's common stock. Therefore, transactions under those agreements are no longer accounted for as related party transactions.

15. Income taxes

Deferred taxes are recognized for temporary differences between the basis of assets and liabilities for financial statement and income tax purposes. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized. Due to the uncertainty surrounding the realization of the favorable tax attributes in future tax returns, the Company has recorded a full valuation allowance against the Company's otherwise recognizable net deferred tax assets.

16. Net Loss Per Share

The following common stock equivalents were excluded from the calculation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect (in thousands):

	For the three and nine months ended September 30,	
	2024	2023
Outstanding stock options [1]	3,962	3,369
Restricted stock units [1]	3,601	2,335
ESPP Shares	—	—
	7,563	5,704

(1) Outstanding stock options and restricted stock units include awards outstanding to employees of bluebird bio.

As described further in Note 9, *Stockholders' equity*, to the consolidated financial statements included in the Company's 2023 annual report on Form 10-K, in November 2021, the Company issued to certain institutional investors (who previously purchased pre-funded warrants to purchase shares of bluebird bio common stock) pre-funded warrants to purchase 757,575 shares of the Company's common stock at an exercise price of $0.0001 per share. The pre-funded warrants can be exercised at any time or times on or after November 4, 2021, until exercised in full. Based on the terms of the pre-funded warrants, management concluded that they should be considered outstanding shares in the computation of basic and diluted net loss per share.

17. Corporate Restructuring

2023 Restructuring Plan

In August 2023, the Company's board of directors approved a restructuring plan (the "2023 Restructuring Plan") to conserve financial resources and better align the Company's workforce with current business needs. As part of the 2023 Restructuring Plan, the Company's workforce was reduced by approximately 40% in September 2023. The Company's 2023 Restructuring Plan was complete as of June 30, 2024.

In connection with the 2023 Restructuring Plan, the Company incurred $8.6 million of one-time costs relating to severance and retention packages and related benefits. These costs were recognized in the third quarter of 2023, in accordance with ASC 420, *Exit and Disposal Activities,* and were included in restructuring expenses on the condensed consolidated statements of operations and comprehensive loss. Since inception of the 2023 Restructuring

Plan, the Company has paid $8.6 million of restructuring costs. All payments associated with the plan have been made and no accrued costs remain as of September 30, 2024.

2024 Restructuring Plan

In January 2024, the Company announced a strategic path forward to focus exclusively on the commercialization and development of *Abecma*. In connection with the Company's strategic re-alignment, the Company entered into an asset purchase agreement with Regeneron to sell the Company's oncology and autoimmune research and development programs, clinical manufacturing capabilities, and related platform technologies which closed on April 1, 2024. Approximately 62% of the workforce that was left following completion of the 2023 Restructuring Plan transitioned to Regeneron as a part of the Regeneron Transaction. Additionally, as part of the strategic re-alignment, the Company's board of directors approved a restructuring plan (the "2024 Restructuring Plan") to further reduce its remaining workforce by approximately 14%. The Company expects the 2024 Restructuring Plan to be substantially complete during the first half of 2025, as certain transition activities related to the Company's strategic re-alignment will extend into 2025.

In connection with the 2024 Restructuring Plan, the Company expects to incur approximately $6.6 million of costs for severance and related benefits and stock-based compensation expense. These costs will be recognized over the period from January 2024 through March 2025, and are disclosed as restructuring expenses on the condensed consolidated statements of operations and comprehensive loss. The table below summarizes the expenses recognized and expected to be recognized under the 2024 Restructuring Plan as of September 30, 2024:

	Expense recognized for the three months ended September 30, 2024	Expense recognized for the nine months ended September 30, 2024	Total expense expected to be recognized
Cash-related restructuring expenses:			
Severance and related benefits	$ 228	$ 5,376	$ 5,607
Non-cash expenses:			
Stock-based compensation expense	—	1,037	1,037
Total restructuring expenses	$ 228	$ 6,413	$ 6,644

The following table summarizes the cash-related restructuring accrued liabilities activity recorded in connection with the 2024 Restructuring Plan for the nine months ended September 30, 2024:

	For the nine months ended September 30, 2024
Beginning balance at January 1, 2024	$ —
Cash-related expenses recognized	5,376
Cash-related expenses paid	(3,814)
Reversal of excess accrual	—
Remaining accrual at September 30, 2024 [(1)]	$ 1,562

This balance is included within accrued expenses and other current liabilities on the condensed consolidated balance sheets.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following information should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q and the audited financial information and the notes thereto included in the Company's 2023 annual report on Form 10-K, which was most recently filed with the Securities and Exchange Commission, or the SEC, on March 7, 2024.

Except for the historical information contained herein, the matters discussed in this Quarterly Report on Form 10-Q may be deemed to be forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. In this Quarterly Report on Form 10-Q, words such as "may," "expect," "anticipate," "estimate," "intend," "plan," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements.

Our actual results and the timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Quarterly Report. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Quarterly Report, they may not be predictive of results or developments in future periods.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Overview

We are a cell and gene therapy company focused on the research, development, and commercialization of transformative treatments for cancer. We were incorporated in Delaware in April 2021 and are led by an accomplished team with significant expertise and experience in this field from discovery through clinical development to regulatory approval of idecabtagene vicleucel (ide-cel, marketed in the United States as *Abecma*). Our approach combines our expertise in T cell engineering technology and lentiviral vector ("LVV") gene delivery approaches, experience in research, development, and manufacturing of cell therapies and a suite of technologies that can be selectively deployed to develop highly innovative, targeted cellular therapies for patients with cancer. In January 2024, we announced a strategic realignment to focus exclusively on the development and commercialization of *Abecma*. We, together with our partner Bristol Myers Squibb's ("BMS"), are delivering *Abecma* to multiple myeloma patients in the United States following approval by the FDA of *Abecma* in March 2021 for the treatment of adults with multiple myeloma who have received at least four prior lines of therapy, including an immunomodulatory agent, a proteasome inhibitor and an anti-CD38 monoclonal antibody. On April 5, 2024 the U.S. Food and Drug Administration ("FDA"), approved *Abecma* for the treatment of adult patients with relapsed or refractory multiple myeloma after two or more prior lines of therapy. On September 25, 2024, following a joint decision we made with BMS earlier that week, we announced the discontinuation of enrollment in our ongoing Phase 3 KarMMa-9 study evaluating Abecma with lenalidomide maintenance versus lenalidomide maintenance alone in patients with newly diagnosed multiple myeloma who have suboptimal response to autologous stem cell transplant.

In connection with the strategic realignment to focus on the development and commercialization of *Abecma*, we entered into an asset purchase agreement with Regeneron to sell to Regeneron substantially all of the assets related

to our solid tumor and other oncology and autoimmune cell therapy programs, including the bbT369 program in B-NHL, SC-DARIC33 in AML, MUC16 in ovarian cancer, MAGE-A4, autoimmune, and several unnamed targets (the "Asset Sale"). Upon closing the transaction on April 1, 2024, Regeneron assumed all of the ongoing program infrastructure and personnel costs related to these programs. Also, as part of our strategic realignment, in June 2024, we announced the completion of the Novo Transaction.

We have incurred normal operating losses and have experienced negative operating cash flows for all historical periods presented. During the nine months ended September 30, 2024, we incurred a net loss of $37.7 million and used $75.5 million of cash in operations. We expect to continue to generate operating losses and negative operating cash flows for the near future.

We expect to incur significant expenses as we continue to (i) expand site footprint, educate physicians on treatment sequencing and the emerging data supporting the use of BCMA-directed CAR Ts before other BCMA-targeted therapies, (ii) competitively differentiate *Abecma*'s real-world safety, efficacy and product reliability and predictability profile and, (iii) continue to support the quality control of LVV and the transition to suspension LVV. Accordingly, until we generate significant revenues from product sales, we may continue to seek to fund our operations through public or private equity or debt financings, strategic collaborations, or other sources. If we use our capital resources sooner than expected, we would evaluate further reductions in our expense or obtaining additional financing. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements as and when needed would have a negative impact on our financial condition and our ability to develop and commercialize *Abecma*. Refer to sections *Liquidity and Capital Resources* and *Funding Requirements* below for further discussion.

Financial Operations Overview

Revenue

Our revenues have been derived from collaboration arrangements and out-licensing arrangements, primarily related to our collaboration arrangement with BMS as part of which we are jointly commercializing *Abecma* in the United States. To date, all revenue we have recognized relating to the sale of products has been the collaboration revenue derived from commercial sales of *Abecma* by BMS, and we have not recognized any revenue from the sale of products by us.

We analyze our collaboration arrangements to assess whether they are within the scope of ASC 808, *Collaborative Arrangements* ("ASC 808"), which includes determining whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, we first determine which elements of the collaboration are deemed to be within the scope of ASC 808 and those that are more reflective of a vendor-customer relationship and therefore within the scope of ASC 606, *Revenue from Contracts with Customers* ("Topic 606" or "ASC 606"). For those elements of the arrangement that are accounted for pursuant to Topic 606, we apply the five-step model prescribed in Topic 606. For elements of collaboration arrangements that are accounted for pursuant to ASC 808, an appropriate recognition method is determined and applied consistently, generally by analogy to Topic 606. In arrangements where we do not deem our collaborator to be our customer, payments to and from our collaborator are presented in the consolidated statements of operations and comprehensive loss based on the nature of the payments, as summarized in the table and further described below.

Nature of Payment	Statement of Operations Presentation
Our share of net profits in connection with commercialization of products	Collaborative arrangement revenue
Our share of net losses in connection with commercialization of products	Share of collaboration loss
Net reimbursement to us for research and development expenses	Collaborative arrangement revenue
Net reimbursement to the collaborator for research and development expenses	Research and development expense

Where the collaborator is the principal in the product sales, we recognize our share of any profits or losses, representing net product sales less cost of goods sold and shared commercial and other expenses, along with reimbursement by BMS of commercial costs incurred by the Company, in the period in which such underlying sales occur and costs are incurred by the collaborator. We also recognize our share of costs arising from research and development activities performed by collaborators in the period our collaborators incur such expenses.

As we recognize revenue under our collaborative arrangements both within and outside the scope of Topic 606, we present revenue on our consolidated statements of operations and comprehensive loss as follows: service revenue includes revenue from collaborative partners recognized within the scope of Topic 606 and collaborative arrangement revenue includes only revenue from collaborative partners recognized outside the scope of Topic 606.

For the three and nine months ended September 30, 2024 and 2023, service revenue consisted of the following (in thousands):

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
ide-cel ex-U.S. service revenue from BMS	$ 2,850	$ 3,324	$ 7,685	$ 12,435
Service revenue from December 2021 agreement with Novo Nordisk	—	1,112	3,507	4,732
Other	—	512	4,000	3,629
Total service revenue	$ 2,850	$ 4,948	$ 15,192	$ 20,796

For the three and nine months ended September 30, 2024 and 2023, collaborative arrangement revenue consisted of the following (in thousands):

	For the three months ended September 30,		For the nine months ended September 30,	
	2024	2023	2024	2023
U.S. *Abecma* collaboration with BMS	$ 10,684	$ 536	$ 15,048	$ 48,040
Collaboration with Regeneron	—	5,323	4,696	16,225
Total collaborative arrangement revenue	$ 10,684	$ 5,859	$ 19,744	$ 64,265

To date, *Abecma* is our only commercial product where the collaborator is the principal in the product sales and thus, all amounts shown within our condensed consolidated statements of operations and comprehensive loss for share of collaboration loss relate to *Abecma*. The tables below summarize the impact of the *Abecma* U.S. collaboration profit/loss share on our condensed consolidated statements of operations and comprehensive loss for the three and nine months ended September 30, 2024 and 2023 (in thousands). Note that these tables do not include research and development costs for *Abecma* shared between us and BMS - refer to Note 11, *Collaborative arrangements and strategic partnerships,* in the notes to the condensed consolidated financial statements for information on *Abecma* research and development costs.

Abecma U.S. Collaboration Profit (Loss) Share	For the three months ended March 31, 2024	For the three months ended June 30, 2024	For the three months ended September 30, 2024	For the nine months ended September 30, 2024
Our share of profits (losses), net of our share of BMS costs for commercial activities	$ (1,975)	$ 3,549	$ 9,617	$ 11,191
Reimbursement from BMS for our costs of commercial manufacturing and commercial activities	745	815	1,067	2,627
Collaborative arrangement revenue [1]	$ —	$ 4,364	$ 10,684	$ 15,048
Share of collaboration loss [1]	$ (1,230)	$ —	$ —	$ (1,230)
Costs of commercial manufacturing incurred by us, prior to BMS reimbursement	(1,428)	(1,141)	(1,567)	(4,136)
Costs of commercial activities incurred by us, prior to BMS reimbursement	(63)	—	(83)	(146)
Total impact of *Abecma* U.S. collaboration profit (loss) on our statements of operations and comprehensive income (loss)	$ (2,721)	$ 3,223	$ 9,034	$ 9,536

Abecma U.S. Collaboration Profit (Loss) Share	For the three months ended March 31, 2023	For the three months ended June 30, 2023	For the three months ended September 30, 2023	For the nine months ended September 30, 2023
Our share of profits (losses), net of our share of BMS costs for commercial activities	$ 21,581	$ 23,272	$ (582)	$ 44,271
Reimbursement from BMS for our costs of commercial manufacturing and commercial activities	1,380	1,271	1,118	3,769
Collaborative arrangement revenue [1]	$ 22,961	$ 24,543	$ 536	$ 48,040
Share of collaboration loss [1]	$ —	$ —	$ —	$ —
Costs of commercial manufacturing incurred by us, prior to BMS reimbursement	(2,583)	(2,389)	(2,167)	(7,139)
Costs of commercial activities incurred by us, prior to BMS reimbursement	(176)	(153)	(70)	(399)
Total impact of *Abecma* U.S. collaboration profit (loss) on our statements of operations and comprehensive loss	$ 20,202	$ 22,001	$ (1,701)	$ 40,502

(1) This calculation is performed on a quarterly basis and consists of our share of profits, net of our share of BMS costs for commercial activities, offset by reimbursement from BMS for our commercial activities. The calculation is independent of previous activity, which may result in fluctuations between revenue and expense recognition period over period.

Nonrefundable license fees are recognized as revenue upon delivery of the license provided there are no unsatisfied performance obligations in the arrangement. License revenue has historically been generated from out-license agreements, under which we may also recognize revenue from potential future milestone payments and royalties.

For arrangements with licenses of intellectual property that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which the royalty has been allocated has been satisfied.

Research and Development Expenses

Following the closing of the Novo and Regeneron Transactions, research and development expenses consist primarily of costs incurred for the development of *Abecma* in collaboration with BMS. This includes costs associated with the following clinical studies:

- KarMMa study – an open label, single-arm, multi-center phase 2 study to examine the efficacy and safety of ide-cel in the treatment of patients with relapsed and refractory multiple myeloma. The costs incurred by BMS for this study are subject to the cost-sharing provisions of our BMS collaboration arrangement.

- KarMMa-2 study – a multi-cohort, open-label, multicenter phase 2 study to examine the safety and efficacy of ide-cel in the treatment of patients with relapsed and refractory multiple myeloma and in high-risk multiple myeloma. The costs incurred by BMS for this study are subject to the cost-sharing provisions of our BMS collaboration arrangement.

- KarMMa-3 study – a multicenter, randomized, open-label phase 3 study comparing the efficacy and safety of ide-cel versus standard triplet regimens in patients with relapsed and refractory multiple myeloma. The costs incurred by BMS for this study are subject to the cost-sharing provisions of our BMS collaboration arrangement.

- KarMMa-9 study – a multicenter, randomized, open-label phase 3 study comparing the efficacy and safety of ide-cel with Lenalidomide maintenance versus Lenalidomide maintenance therapy alone in adult participants with newly diagnosed multiple myeloma who have suboptimal response after autologous stem cell transplantation. The costs incurred by BMS for this study are subject to the cost-sharing provisions of our BMS collaboration arrangement. In September 2024 we and BMS decided to discontinue enrollment in our ongoing Phase 3 KarMMa-9 study.

Additional research and development expenses include facilities, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, information technology, insurance, and other supplies in support of research and development activities.

Historical research and development expenses included costs for *Abecma*, as discussed above, as well as costs incurred for the development of product candidates that were sold to Regeneron and Novo in the second quarter of 2024. Information about the historical costs we incurred on these programs can be found in our previous Form 10-Q and Form 10-K filings.

Research and development costs are expensed as incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided by vendors and clinical sites. We cannot determine with certainty the duration and completion costs of the current or future clinical studies of *Abecma.* The duration, costs, and timing of clinical studies and development of *Abecma* will depend on a variety of factors, any of which could mean a significant change in the costs and timing associated with the development of *Abecma* including:

- the scope, rate of progress, and expense of our ongoing as well as any additional clinical studies and other research and development activities we undertake;

- future clinical study results;

- uncertainties in clinical study enrollment rates;

- new manufacturing processes or protocols that we may choose to or be required to implement in the manufacture of our lentiviral vector or drug product;

- regulatory feedback on requirements for regulatory approval, as well as changing standards for regulatory approval; and

- the timing and receipt of any regulatory approvals.

Cost of Manufacturing for Commercial Collaboration

Cost of manufacturing for commercial collaboration consists of quality and other manufacturing costs incurred by us to support the manufacture of *Abecma* inventory sold by our collaborative partner, BMS, in both the U.S. and ex-U.S. regions. These costs are subject to the cost sharing arrangement under the terms of our collaboration agreement (the Amended Ide-cel CCPS) with BMS. For further information on the Amended Ide-cel CCPS, please refer to Note 11, *Collaborative arrangements and strategic partnerships*, in the notes to our condensed consolidated financial statements.

The reimbursement from BMS for their share of our U.S. quality and other manufacturing costs is recorded as collaborative arrangement revenue or share of collaboration loss in our condensed consolidated statements of operations and comprehensive loss. The reimbursement from BMS for our ex-U.S. quality and other manufacturing costs is recorded as service revenue in our condensed consolidated statements of operations and comprehensive loss.

Restructuring expenses

Costs relating to both the 2023 and 2024 Restructurings have been recorded as restructuring expenses in our condensed consolidated statements of operations and comprehensive loss.

In September 2023, we announced the 2023 Restructuring Plan to conserve financial resources and better align our workforce with current business needs. As part of the 2023 Restructuring Plan, our workforce was reduced by approximately 40%, with substantially all of the reduction in personnel completed by December 31, 2023. In connection with the 2023 Restructuring Plan, we incurred one-time costs in the third quarter of 2023 relating to severance and retention packages and related benefits. This plan was complete as of June 30, 2024.

In January 2024, we announced a strategic path forward to focus exclusively on the commercialization and development of *Abecma*. In connection with our strategic re-alignment, we entered into an asset purchase agreement with Regeneron to sell our oncology and autoimmune research and development programs, clinical manufacturing capabilities, and related platform technologies which closed on April 1, 2024. Approximately 62% of the workforce transitioned to Regeneron as a part of the sale. Additionally, as part of the strategic re-alignment, our board of directors approved the 2024 Restructuring Plan to further reduce our remaining workforce by approximately 14%. We expect the 2024 Restructuring Plan to be substantially complete during the first half of 2025, as certain transition activities related to our strategic re-alignment will extend into 2025.

Additionally, as of September 30, 2024, we recognized expenses of $5.7 million representing our share of costs associated with BMS' early exit from a commercial manufacturing and supply agreement as a result of our transition to the use of suspension lentiviral vector in the manufacturing of *Abecma*. This was recorded within restructuring expenses in our condensed consolidated statements of operations and comprehensive loss.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of salaries and related costs for personnel, including stock-based compensation and travel expenses for our employees in executive, operational, finance, legal, business development, commercial, information technology, and human resource functions. Other selling, general and administrative expenses include facility-related costs, insurance, IT costs, professional fees for accounting, tax, legal and consulting services, directors' fees and expenses associated with obtaining and maintaining patents.

Share of Collaboration Loss

Share of collaboration loss represents our share of net loss arising from product sales less cost of goods sold and shared commercial costs and other expenses related to the commercialization of a product where the collaborator is the principal in the product sales.

Cost of Royalty and Other Revenue

Cost of royalty and other revenue represents expenses associated with amounts owed to third-party licensors as a result of revenue recognized under our out-license arrangements.

Change in Fair Value of Contingent Consideration

On June 30, 2014, bluebird bio acquired Pregenen. All assets, liabilities and future obligations related to the Pregenen acquisition, including the resulting intangible assets, goodwill and contingent consideration, were assumed by us in connection with the separation. The agreement provided for up to $135.0 million in future contingent cash payments upon the achievement of certain preclinical, clinical and commercial milestones related to the Pregenen technology.

As of September 30, 2024, there were $99.9 million in future contingent cash payments related to commercial milestones. As of September 30, 2024, we determined the probability of milestone achievement to be zero and as a result reduced the fair value of contingent consideration, classified within other non-current liabilities on our condensed consolidated balance sheet, to zero. Please refer to Note 5, *Fair value measurements*, for further information.

Gain on sale to Novo Nordisk

The gain on sale to Novo Nordisk consists of upfront cash consideration received for the Novo Transaction, less consideration received and deferred related to transition services, combined with the derecognition of deferred revenue remaining from the Novo Collaboration Agreement.

Loss on assets held for sale to Regeneron

The loss on assets held for sale to Regeneron consists of fixed assets that ceased depreciation, measured at the lower of their carrying value or fair value less cost to sell.

Other Income, Net

Other income, net consists primarily of rental income from a third party, income recognized under our transition service agreements with bluebird bio, and sublease income from bluebird bio, which terminated in 2023.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of these condensed consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our condensed consolidated financial statements. On an ongoing basis, we evaluate our estimates and judgments, including expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. We base our estimates on historical experience, known trends and events and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. In making

estimates and judgments, management employs critical accounting policies. During the three and nine months ended September 30, 2024, there were no material changes to our significant accounting policies as reported in our annual consolidated financial statements included in our 2023 annual report on Form 10-K, except as otherwise described in Note 2, *Basis of presentation, principles of consolidation and significant accounting policies*, in the notes to the condensed consolidated financial statements.

Results of Operations

The following discussion summarizes the key factors we believe are necessary for an understanding of our condensed consolidated financial statements.

Comparison of the Three Months Ended September 30, 2024 and 2023:

	For the three months ended September 30,		
	2024	2023	Change
	(in thousands)		
Revenue:			
Service revenue	$ 2,850	$ 4,948	$ (2,098)
Collaborative arrangement revenue	10,684	5,859	4,825
Royalty and other revenue	—	1,227	(1,227)
Total revenues	13,534	12,034	1,500
Operating expenses:			
Research and development	8,320	51,315	(42,995)
Cost of manufacturing for commercial collaboration	5,768	4,408	1,360
Selling, general and administrative	12,884	13,004	(120)
Share of collaboration loss	—	—	—
Restructuring expenses	503	8,614	(8,111)
Cost of royalty and other revenue	—	551	(551)
Change in fair value of contingent consideration	—	54	(54)
Goodwill impairment charges	—	12,056	(12,056)
Total operating expenses	27,475	90,002	(62,527)
Loss from operations	(13,941)	(77,968)	64,027
Interest income, net	2,855	3,626	(771)
Other income, net	1,153	2,704	(1,551)
Gain on sale to Novo Nordisk	—	—	—
Loss on assets held for sale to Regeneron	—	—	—
Loss before income taxes	(9,933)	(71,638)	61,705
Income tax (expense) benefit	—	—	—
Net loss	$ (9,933)	$ (71,638)	$ 61,705

Revenue. Total revenue was $13.5 million for the three months ended September 30, 2024, compared to $12.0 million for the three months ended September 30, 2023. The increase of $1.5 million was primarily attributable to an increase in collaborative arrangement revenue recognized under our collaboration arrangement with BMS, driven by increased *Abecma* sales. The increase was partially offset by a decrease in royalty revenue due to the termination of our royalty term for Breyanzi in 2023, as well as a decrease in Regeneron collaboration revenue driven by the termination of the collaboration agreement concurrent with the close of the Regeneron Transaction.

Research and Development Expenses. Research and development expenses were $8.3 million for the three months ended September 30, 2024, compared to $51.3 million for the three months ended September 30, 2023. The overall decrease of $43.0 million was primarily attributable to the following:

- $17.9 million of decreased employee compensation costs, primarily resulting from the Asset Sale, as part of which a large portion of our research and development workforce transitioned to Regeneron. Additionally, there was a 40% reduction to our workforce as part of our restructuring in September 2023 and an additional reduction to our workforce initiated in January 2024;

- $15.9 million of decreased facilities and IT costs largely due to the Asset Sale, which resulted in Regeneron subleasing a significant portion of our current leased space in Cambridge and Seattle, reducing rent and associated facility costs;

- $5.4 million of decreased material production costs, which were assumed by Regeneron as part of the Asset Sale;

- $4.4 million of decreased lab expenses and other platform costs, primarily relating to a decrease in lab consumables relating to the Asset Sale; and

- $1.0 million of decreased consultant costs, primarily resulting from the Asset Sale, under which our oncology and autoimmune research and development programs were sold to Regeneron.

These decreases were partially offset by $2.5 million of increased net research and development expenses recognized under our collaboration with BMS.

Cost of Manufacturing for Commercial Collaboration. Cost of manufacturing for commercial collaboration was $5.8 million for the three months ended September 30, 2024, compared to $4.4 million for the three months ended September 30, 2023. The increase of $1.4 million was primarily due to increased costs allocated to *Abecma* during the third quarter of 2024 upon the completion of our strategic realignment to focus on the development and commercialization of *Abecma.*

Selling, General and Administrative Expenses. Selling, general and administrative expenses were $12.9 million for the three months ended September 30, 2024, compared to $13.0 million for the three months ended September 30, 2023. The decrease of $0.1 million was primarily due to the following:

- $6.2 million of decreased employee compensation costs, primarily resulting from the 40% reduction to our workforce announced in September 2023 and the additional reduction to our workforce announced in January 2024; and

- $1.6 million of decreased consulting and professional service fees.

These decreases were partially offset by:

- $4.9 million of increased facilities costs allocated to selling, general, and administrative costs as a result of the sale of our research and development pipeline to Regeneron and Novo; and

- $3.2 million of increased license and milestone fees in the third quarter of 2024 compared to the third quarter of 2023 due to a $3.5 million license agreement credit recognized during the third quarter of 2023.

Restructuring Expenses. Restructuring expenses were $0.5 million for the three months ended September 30, 2024, compared to $8.6 million for the three months ended September 30, 2023. The decrease in restructuring

expenses is primarily due to the 2023 Restructuring Plan implemented in September 2023 and substantially completed by June 2024.

Cost of Royalty and Other Revenue. There is no cost of royalty and other revenue for the three months ended September 30, 2024, and total cost of royalty and other revenue was $0.6 million for the three months ended September 30, 2023. The decrease is due to the royalty term relating to Breyanzi ending in August 2023.

Goodwill Impairment Charge. During the third and fourth quarters of 2023, the Company experienced a sustained decline in the price of its common stock in part due to decreased external expectations for future *Abecma* sales resulting from increased competitive dynamics, which was considered a triggering event. We performed a goodwill impairment test that resulted in a non-cash impairment charge of $12.1 million.

Interest Income, Net. Interest income was $2.9 million for the three months ended September 30, 2024 compared to $3.6 million for the three months ended September 30, 2023. The decrease of $0.8 million is due to a decline in the total securities held and decreases in interest rates over the comparative periods.

Other Income, Net. For the three months ended September 30, 2024 other income, net primarily consisted of rental income and income recognized under our transition service agreements with Regeneron from the Regeneron Transaction. For the three months ended September 30, 2023, other income, net consisted of rental income and income recognized under our transition service agreements with bluebird bio.

Comparison of the Nine Months Ended September 30, 2024 and 2023:

	For the nine months ended September 30,		
	2024	2023	Change
	(in thousands)		
Revenue:			
Service revenue	$ 15,192	$ 20,796	$ (5,604)
Collaborative arrangement revenue	19,744	64,265	(44,521)
Royalty and other revenue	—	4,642	(4,642)
Total revenues	34,936	89,703	(54,767)
Operating expenses:			
Research and development	68,264	179,541	(111,277)
Cost of manufacturing for commercial collaboration	12,490	11,672	818
Selling, general and administrative	35,400	53,213	(17,813)
Share of collaboration loss	1,230	—	1,230
Restructuring expenses	12,131	8,614	3,517
Cost of royalty and other revenue	—	2,099	(2,099)
Change in fair value of contingent consideration	(2,415)	180	(2,595)
Goodwill impairment charges	—	12,056	(12,056)
Total operating expenses	127,100	267,375	(140,275)
Loss from operations	(92,164)	(177,672)	85,508
Interest income, net	8,243	8,765	(522)
Other income, net	3,233	8,159	(4,926)
Gain on sale to Novo Nordisk	47,987	—	47,987
Loss on assets held for sale to Regeneron	(5,026)	—	(5,026)
Loss before income taxes	(37,727)	(160,748)	123,021
Income tax (expense) benefit	—	—	—
Net loss	$ (37,727)	$ (160,748)	$ 123,021

Revenue. Total revenue was $34.9 million for the nine months ended September 30, 2024, compared to $89.7 million for the nine months ended September 30, 2023. The decrease of $54.8 million was primarily attributable to a decrease in collaborative arrangement revenue recognized under our collaboration arrangement with BMS, driven by decreased *Abecma* sales and higher BMS selling, general and administrative expenses. The decrease was also due to the termination of the Regeneron Collaboration Agreement concurrently with the close of the Regeneron Transaction, which occurred on April 1, 2024.

Research and Development Expenses. Research and development expenses were $68.3 million for the nine months ended September 30, 2024, compared to $179.5 million for the nine months ended September 30, 2023. The overall decrease of $111.3 million was primarily attributable to the following:

- $46.3 million of decreased employee compensation costs, primarily resulting from the Asset Sale, as part of which a large portion of our research and development workforce transitioned to Regeneron. Additionally, there was a 40% reduction to our workforce as part of our restructuring in September 2023 and an additional reduction to our workforce initiated in January 2024;

- $29.6 million of decreased facilities and IT costs largely due to the Asset Sale, which resulted in Regeneron subleasing a significant portion of our current leased space in Cambridge and Seattle, reducing rent and

associated facility costs. The remaining decrease is driven by the reduction to our workforce as part of our restructuring;

- $25.2 million of decreased material production costs primarily related to decreased manufacturing activities of suspension lentiviral vector for ide-cel development for the nine months ended September 30, 2024 compared to the nine months ended September 30, 2023. The decrease is also attributable to decreased plasmids and cell bank manufacturing costs, which were assumed by Regeneron as part of the Regeneron Transaction beginning in the second quarter of 2024;

- $10.5 million of decreased lab expenses and other platform costs primarily relating to a decrease in lab consumables costs which were assumed by Regeneron as part of the Asset Sale beginning in the second quarter of 2024;

- $3.2 million in decreased license and milestone fees associated with a milestone paid to Medigene in the first quarter of 2023 for the continued development of our MAGE-A4 TCR program in solid tumors, which was being developed as part of our collaboration with Regeneron;

- $1.8 million decrease in consulting and professional service fees; and

- $1.2 million decrease in clinical trial and medical research costs.

These decreases were partially offset by a $5.8 million increase in net research and development expenses recognized under our collaboration with BMS.

Cost of Manufacturing for Commercial Collaboration. Cost of manufacturing for commercial collaboration was $12.5 million for the nine months ended September 30, 2024, compared to $11.7 million for the nine months ended September 30, 2023. The increase of $0.8 million was primarily due to an increase in quality testing performed by us on *Abecma* inventory during the nine months ended September 30, 2024 as well as increased costs allocated to *Abecma* during the third quarter of 2024 upon the completion of our strategic realignment to focus on the development and commercialization of *Abecma*.

Selling, General and Administrative Expenses. Selling, general and administrative expenses were $35.4 million for the nine months ended September 30, 2024, compared to $53.2 million for the nine months ended September 30, 2023. The decrease of $17.8 million was primarily due to the following:

- $19.7 million decrease in compensation expenses primarily resulting from the 40% reduction in our workforce announced in September 2023 and the additional reduction to our workforce announced in January 2024; and

- $2.5 million decrease in collaboration research funding expenses.

These decreases were partially offset by $5.3 million of increased facilities costs allocated to selling, general, and administrative costs as a result of the sale of our research and development pipeline to Regeneron and Novo.

Share of Collaboration Loss. Share of collaboration loss for the nine months ended September 30, 2024 represents our share of net loss arising from the commercialization of *Abecma* under the BMS collaboration during the first quarter of 2024. The collaboration resulted in collaborative arrangement revenue during the second and third quarters of 2024.

Restructuring Expenses. The increase in restructuring expenses is primarily due to our share of one-time costs incurred during the second and third quarters of 2024 of $5.7 million associated with BMS' early exit from a commercial manufacturing and supply agreement as a result of the transition to suspension lentiviral vector for

Abecma. The remaining increase is attributable to costs incurred related to the reduction in our workforce as a part of our 2024 Restructuring Plan, initiated in January 2024.

Cost of Royalty and Other Revenue. There is no cost of royalty and other revenue for the nine months ended September 30, 2024, and total cost of royalty and other revenue was $2.1 million for the nine months ended September 30, 2023. The decrease is due to the royalty term relating to Breyanzi ending in August 2023.

Change in Fair Value of Contingent Consideration. The change in fair value of contingent consideration of $2.6 million was primarily due to the change in significant unobservable inputs used in the fair value measurement of contingent consideration, including the probabilities of successful achievement of clinical and commercial milestones and discount rates. As of September 30, 2024, we determined the probability of milestone achievement to be zero and as a result we reduced the fair value of the contingent consideration liability to zero.

Goodwill Impairment Charge. During the third and fourth quarters of 2023, the Company experienced a sustained decline in the price of its common stock in part due to decreased external expectations for future *Abecma* sales resulting from increased competitive dynamics, which was considered a triggering event. We performed a goodwill impairment test that resulted in a non-cash impairment charge of $12.1 million.

Interest Income, Net. Interest income, net was $8.2 million and $8.8 million for the nine months ended September 30, 2024 and 2023, respectively. The decrease of $0.5 million was due to a decline in the total securities held partially offset by an increase in income earned on securities compared to the prior year.

Gain on sale to Novo Nordisk. In June 2024, the Company announced the completion of an asset purchase agreement with Novo Nordisk A/S. Please refer to Note 3, *Asset purchase agreements,* in the notes to the condensed consolidated financial statements for further detail regarding the gain on sale related to this transaction.

Loss on assets held for sale to Regeneron. The loss on assets held for sale consists of fixed assets that ceased depreciation, measured at the lower of their carrying value or fair value less cost to sell.

Other Income, Net. For the nine months ended September 30, 2024 other income, net primarily consisted of rental income and income recognized under our transition service agreements with Regeneron from the Regeneron Transaction. For the nine months ended September 30, 2023, other income, net consisted of rental income and income recognized under our transition service agreements with bluebird bio.

Liquidity and Capital Resources

As of September 30, 2024, we had cash, cash equivalents, and marketable securities of approximately $192.4 million. Based on our current operating plans, including with respect to the ongoing commercialization of *Abecma*, we expect our cash, cash equivalents and marketable securities will be sufficient to fund current planned operations for at least the next twelve months from the date of issuance of these condensed consolidated financial statements. Our current operating plan is based on various assumptions. If we use our capital resources sooner than expected, we would evaluate further reductions in expense or obtaining additional financing. This may include pursuing a combination of public or private equity offerings, debt financings, collaborations, strategic alliances or licensing arrangements with third parties. This may also include the potential sale of shares of our common stock of up to $150.0 million in gross proceeds under the ATM facility established in November 2022 with Cowen and Company, LLC. No sales of common stock have occurred under this ATM facility as of the date of this Quarterly Report on Form 10-Q. There can be no assurance that such financing will be available in sufficient amounts or on acceptable terms, if at all, and some could be dilutive to existing stockholders. If we are unable to obtain additional funding on a timely basis, we may be forced to significantly curtail, delay, or discontinue one or more of our planned research or development programs or be unable to expand our operations.

We have incurred normal operating losses and have experienced negative operating cash flows for all periods presented. During the nine months ended September 30, 2024, we incurred a loss of $37.7 million and used $75.5 million of cash in operations. We expect to continue to generate operating losses and negative operating cash flows for the near future.

Sources of Liquidity

Cash Flows

The following table summarizes our cash flow activity:

	For the nine months ended September 30,	
	2024	2023
	(in thousands)	
Net cash used in operating activities	$ (75,524)	$ (103,263)
Net cash provided by (used in) investing activities	58,774	(4,029)
Net cash provided by financing activities	414	127,137
(Decrease) increase in cash, cash equivalents and restricted cash and cash equivalents	$ (16,336)	$ 19,845

Cash Flows from Operating Activities. Net cash used in operating activities was $75.5 million for the nine months ended September 30, 2024 and primarily consisted of a net loss of $37.7 million adjusted for non-cash items, including:

- gain on sale to Novo Nordisk of $48.0 million and loss on assets held for sale to Regeneron of $5.0 million;
- stock-based compensation of $9.7 million;
- depreciation and amortization of $5.4 million;
- change in fair value of contingent consideration of $2.4 million; and
- other non-cash items of $3.4 million, as well as the change in our net working capital.

Net cash used in operating activities was $103.3 million for the nine months ended September 30, 2023 and primarily consisted of net loss of $160.7 million adjusted for non-cash items, including stock-based compensation of $27.2 million, a non-cash goodwill impairment charge of $12.1 million, and depreciation and amortization of $7.3 million, and the change in fair value of contingent consideration of $0.2 million, as well as the change in our net working capital.

Cash Flows from Investing Activities. Net cash provided by investing activities for the nine months ended September 30, 2024 was $58.8 million and was due to:

- proceeds from the Novo Transaction of $38.0 million and proceeds from the Regeneron Transaction of $5.0 million;
- proceeds from maturities of marketable securities of $122.5 million; and
- proceeds from maturities of restricted investments of $15.1 million;

These cash inflows were partially offset by the purchase of marketable securities of $104.5 million, the purchase of restricted investments of $16.8 million, and the purchase of property, plant and equipment of $0.7 million.

Net cash used in investing activities for the nine months ended September 30, 2023 was $4.0 million and was due to the purchase of marketable securities of $237.2 million, the purchase of restricted investments of $7.0 million, and the purchase of property, plant and equipment of $12.8 million, offset by proceeds from maturities of marketable securities of $245.9 million and proceeds from the maturities of restricted investments of $7.0 million.

Cash Flows from Financing Activities. Net cash provided by financing activities for the nine months ended September 30, 2024 was $0.4 million and was primarily due to net proceeds relating to the exercise of stock options and ESPP contributions.

Net cash provided by financing activities for the nine months ended September 30, 2023 was $127.1 million and was primarily due to net proceeds received of $117.0 million from the issuance of common stock in a public offering in March 2023 along with net proceeds of $9.9 million from the issuance of common stock to Regeneron from the January 2023 Share Purchase Agreement.

Funding Requirements

We intend to incur costs in support of the ongoing commercialization of *Abecma* pursuant to our cost sharing arrangements with BMS, other capital expenditures, working capital requirements, and other general corporate activities.

Based on our current operating plans, including with respect to the ongoing commercialization of *Abecma*, we expect that our cash, cash equivalents and marketable securities will be sufficient to fund current planned operations for at least the next twelve months from the date of issuance of these condensed consolidated financial statements. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect.

Because of the numerous risks and uncertainties associated with the development and commercialization of *Abecma*, we are unable to estimate the exact amount of our working capital requirements. The scope of our future funding requirements will depend on, and could increase significantly as a result of, many factors, including:

- the costs of activities, including clinical trials, sales, marketing, medical affairs, manufacturing and distribution, for *Abecma*;

- the cost and timing of hiring new employees or contractors to support our activities;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims; and
- the timing, receipt and amount of sales of, or milestone payments related to or royalties on *Abecma*, if any.

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

Until such time, if ever, as we can generate positive operating cash flows, we may need to finance our operations through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances or licensing arrangements with third parties. To the extent that we raise additional capital through the sale of equity or convertible debt securities, this could result in dilution and could adversely affect the rights of common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specified actions, such as incurring additional debt, making capital expenditures or declaring dividends. In addition, debt financing would result in increased fixed payment obligations.

If we raise 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 any future product candidates or grant licenses on terms that may not be favorable to us.

If we are unable to raise additional funds when needed, we may be required to delay, reduce or eliminate our product development for additional indications of *Abecma* or future commercialization efforts.

Contractual Obligations and Commitments

In connection with the Regeneron Transaction, Regeneron agreed to sublease our facilities in Seattle, Washington and a portion of our facilities in Cambridge, Massachusetts. The expected sublease income will cover a majority of the future minimum commitments through 2027. Please refer to Note 8, *Leases,* in the notes to the condensed consolidated financial statements included elsewhere in the Form 10-Q for further information regarding our future minimum commitments under ASC 842 under our operating leases and Note 3, *Asset Purchase Agreements*, for further information on the closing on the transaction with Regeneron. Additionally, 2seventy bio was party to various contracts with contract research organizations and contract manufacturers that generally provide for termination on notice, with the exact amounts in the event of termination to be based on the timing of the termination and the terms of the agreement. The majority of these contracts were assumed by Regeneron upon or after closing of the Regeneron Transaction. For any contracts remaining, other than a decrease in committed spend due to the payment of these obligations in the normal course of business, there have been no other material changes to our contractual obligations and commitments as included in our audited consolidated financial statements included in our 2023 annual report on Form 10-K.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012 permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to “opt out” of such extended transition period or (ii) no longer qualify as an emerging growth company. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate fluctuation risk

We are exposed to market risk related to changes in interest rates. As of September 30, 2024, we had cash, cash equivalents and marketable securities of $192.4 million, primarily invested in U.S. government agency securities and treasuries and commercial paper. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in short-term securities. Our available for sale securities are subject to interest rate risk and will fall in value if market interest rates increase. If market interest rates were to increase immediately and uniformly by 100 basis points, or one percentage point, from levels at September 30, 2024, the net fair value of our interest-sensitive marketable securities and restricted investments would have resulted in a hypothetical decline of $0.8 million.

Foreign currency fluctuation risk

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we have contracted with and may continue to contract with foreign vendors. Our operations may be subject to fluctuations in foreign currency exchange rates in the future.

Inflation fluctuation risk

Inflation generally affects us by increasing our cost of labor and operating expenses. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the three and nine months ended September 30, 2024. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, we may experience some effect in the near future (especially if inflation rates continue to rise) due to an impact on the costs to conduct clinical trials, labor costs we incur to attract and retain qualified personnel, and other operational costs, inflationary costs could adversely affect our business, financial condition and results of operations.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q of the effectiveness of the design and operation of our disclosure controls and procedures. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective at the reasonable assurance level in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reporting 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 us in the reports we file under the Exchange Act is accumulated and communicated to our management, including our principal executive officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control

There were no changes during the period covered by this Quarterly Report on Form 10-Q 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 a party to any material legal proceedings at this time. From time to time, we may be subject to various legal proceedings and claims, which may have a material adverse effect on our financial position or results of operations.

Item 1A. Risk Factors

There have been no material changes to the risk factors described in the section captioned "Part I, Item 1A. Risk Factors" in our annual report on Form 10-K for the year ended December 31, 2023. In addition to the other information set forth in this report, you should carefully consider the factors discussed in the section captioned "Part I, Item 1A. Risk Factors" in our annual report on Form 10-K for the year ended December 31, 2023, which could materially affect our business, financial condition, or future results. The risks described in our annual report on Form 10-K and our quarterly reports on Form 10-Q are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may have a material adverse effect on our business, financial condition, and/or operating results.

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

None

Item 3. Defaults Upon Senior Securities

None

Item 4. Mine Safety Disclosures

None

Item 5. Other Information

From time to time, our officers (as defined in Rule 16a–1(f)) and directors may enter into Rule 10b5-1 or non-Rule 10b5-1 trading arrangements (as each such term is defined in Item 408 of Regulation S-K). During the three months ended September 30, 2024, our officers and directors took the following actions with respect to 10b5-1 trading arrangements:

On September 13, 2024, Jessica Snow, our Senior Vice President of Quality and Head of Operations, adopted a Rule 10b5-1 trading plan, which is intended to satisfy the affirmative defense conditions of Exchange Act Rule 10b5-1(c), with respect to the sale of up to an aggregate of 48,089 shares of common stock of the Company pursuant to the terms of such trading plan. Her Rule 10b5-1 trading arrangement is active through October 13, 2025.

Item 6. Exhibit Index

Exhibit Number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of 2seventy bio, Inc. (incorporated by reference to Exhibit 3.1 to Current Report on Form 8-K filed on November 4, 2021).
3.2	Amended and Restated Bylaws of 2seventy bio, Inc. (incorporated by reference to Exhibit 3.2 to Annual Report on Form 10-K filed on March 16, 2023).
4.1	Form of Pre-Funded Warrant (incorporated by reference to Exhibit 10.7 to Current Report on Form 8-K filed on November 4, 2021).
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.*)

* Filed herewith.

** The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

SIGNATURES

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

2seventy bio, Inc.

Date: November 12, 2024

By: /s/ William Baird

William Baird

President and Chief Executive Officer (Principal Executive Officer and Duly Authorized Officer)

Date: November 12, 2024

By: /s/ Victoria Eatwell

Victoria Eatwell

Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION
PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, William Baird, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of 2seventy bio, Inc.;

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

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

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

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

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

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

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

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

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

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

Dated: November 12, 2024

/s/ William Baird
William Baird
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION
PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Victoria Eatwell, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of 2seventy bio, Inc.;

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

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

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

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

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

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

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

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

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

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

Dated: November 12, 2024

/s/ Victoria Eatwell
Victoria Eatwell
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

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

In connection with the quarterly report on Form 10-Q of 2seventy bio, Inc. (the "Company") for the quarter ended September 30, 2024, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, to his knowledge, that:

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

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

Dated: November 12, 2024 /s/ William Baird

William Baird
President and Chief Executive Officer
(Principal Executive Officer)

Dated: November 12, 2024 /s/ Victoria Eatwell

Victoria Eatwell
Chief Financial Officer
(Principal Financial and Accounting Officer)