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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 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: 001-40544

AEROVATE THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**83-1377888**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
930 Winter Street, Suite M-500 Waltham, MA	**02451**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (617) 443-2400

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	AVTE	The Nasdaq Global Market

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

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

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

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

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

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

As of August 9, 2024, the registrant had 28,867,711 shares of common stock, $0.0001 par value per share, outstanding.

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SUMMARY OF THE MATERIAL AND OTHER RISKS ASSOCIATED WITH OUR BUSINESS

Our business is subject to numerous material and other risks and uncertainties that you should be aware of in evaluating our business. These risks include, but are not limited to, the following:

- We may not be successful in identifying and implementing any strategic transaction and any strategic transactions that we may consummate in the future could have negative consequences.
- Even if we successfully consummate any transaction from our strategic assessment, including, but not limited to, a merger, acquisition or business combination, we may fail to realize all of the anticipated benefits of the transaction, those benefits may take longer to realize than expected, or we may encounter integration difficulties.
- If we are successful in completing a strategic transaction, we may be exposed to other operational and financial risks.
- Our board of directors may decide to pursue a dissolution and liquidation instead of a strategic transaction. In such an event, the amount of cash available for distribution to our stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities.
- We are a biopharmaceutical company with a limited operating history.
- We have incurred significant operating losses since our inception and anticipate that we will continue to incur losses for the foreseeable future. We may never achieve or maintain profitability.
- We have no products approved for commercial sale and have not generated any revenue from product sales.
- Should we resume development of AV-101 or any other product candidates, our business would be entirely dependent on the successful development, regulatory approval and commercialization of such product candidates.
- The results of earlier studies and trials may not be predictive of future trial results.
- We have experienced, and should we resume development of AV-101 or any other product candidates, may in the future encounter, difficulties with site activation and patient enrollment in our clinical trials, and our clinical development activities could be delayed or otherwise adversely affected.
- Should we resume development of AV-101 or any other product candidates, we may face significant competition and our failure to effectively compete may prevent us from achieving significant market penetration. Our competitors are likely to have significantly greater resources than we do and we may not be able to successfully compete.
- Should we resume development of AV-101 or any other product candidates, we would rely on qualified third parties to supply all components of such product candidates. If we experience problems with any of these suppliers, or they fail to comply with applicable regulatory requirements or to supply sufficient quantities at acceptable quality levels or prices, or at all, it would materially and adversely affect our business.
- Should we resume development of AV-101 or any other product candidates, we would rely on third parties in the conduct of all of our clinical trials. If these third parties do not successfully carry out their contractual duties, fail to comply with applicable regulatory requirements or meet expected deadlines, we may be unable to obtain regulatory approval for any of our product candidates.
- We have six issued U.S. patents and many pending patent applications with respect to AV-101. We can provide no assurance that any of our other current or future patent applications will result in issued patents. If we cannot

protect our patent rights or our other proprietary rights, others may develop products similar or identical to ours, and we may not be able to compete effectively in our market or successfully commercialize any product candidates we may develop.

- Should we resume development of AV-101 or any other product candidates, we may be unable to obtain regulatory approval under applicable regulatory requirements. The denial or delay of any such approval would delay commercialization of any product candidates and adversely impact our potential to generate revenue, our business and our results of operations.

- AV-101 is a drug-device combination product, which may result in additional regulatory risks.

- Should we resume development of any product candidates, we may in the future conduct clinical trials outside the United States, and the U.S. Food and Drug Administration, or FDA, European Medicines Agency, or EMA, and applicable foreign regulatory authorities may not accept data from such trials.

- Unfavorable global economic or political conditions could adversely affect our ability to identify and implement any strategic transaction.

The material and other risks summarized above should be read together with the text of the full risk factors below and in the other information set forth in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and the related notes, as well as in other documents that we file with the U.S. Securities and Exchange Commission, or the SEC. If any such material and other risks and uncertainties actually occur, our business, prospects, financial condition and results of operations could be materially and adversely affected. The risks summarized above or described in full under Item 1A of this Quarterly Report on Form 10-Q are not the only risks that we face. Additional risks and uncertainties not currently known to us, or that we currently deem to be immaterial may also materially adversely affect our business, prospects, financial condition and results of operations.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- our ongoing comprehensive review and consideration of strategic alternatives for the company and our ability to maximize shareholder value with this process;
- should we decide to pursue a transaction in connection with our strategic review process, our ability to complete such transaction and do so on attractive terms;
- anticipated expenses and cost savings in connection with our discontinuation of development of AV-101 and our workforce reduction;
- estimates of our future expenses, revenues, capital requirements and, should we resume development of AV-101 or any other product candidates, our needs for additional financing;
- should we decide to resume development of AV-101 or any other product candidates, our expectations for clinical and regulatory development plans, and, if approved, subsequent commercialization of any product candidates;
- the timing of and our ability to submit applications for, obtain and maintain regulatory approvals for any product candidates we may develop should we decide to resume development of AV-101 or any other product candidates;
- our commercialization, marketing and manufacturing capabilities and strategy if we decide to pursue any future product development and commercialization efforts;
- our expectations regarding our ability to obtain and maintain intellectual property protection for any product candidates we may develop if we decide to pursue any future product development efforts;
- our ability to identify products, product candidates or technologies with significant commercial potential that are consistent with our commercial objectives if we decide to pursue any future product development efforts;
- the scope of protection we are able to establish and maintain for intellectual property rights covering AV-101 or any future product candidates we may pursue, including the projected terms of patent protection;
- potential regulatory developments in the United States and foreign countries;
- our ability to enter into strategic collaborations, including for the commercialization of any future product candidates inside or outside the United States;
- our ability to contract with third-party suppliers, manufacturers and contract research organizations, or CROs, and their ability to perform adequately;
- developments relating to our competitors and our industry, including the impact of government laws and regulations;
- our ability to retain key scientific or management personnel in order to operate our business following announcement of our workforce reduction plan;

- our ability to obtain additional funding for our operations, if needed, should we decide to resume development of AV-101 or any other product candidates; and

- other risks and uncertainties, including those listed under the section titled "Risk Factors."

In some cases, you can identify forward-looking statements by terminology such as "may," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed above under "Summary of the Material Risks Associated with Our Business" and under the section titled "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this Quarterly Report on Form 10-Q and the documents that we reference in this Quarterly Report on Form 10-Q and have filed with the Securities and Exchange Commission, or the SEC, as exhibits hereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this Quarterly Report on Form 10-Q represent our views as of the date of this Quarterly Report on Form 10-Q. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Quarterly Report on Form 10-Q.

This Quarterly Report on Form 10-Q also contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this Quarterly Report on Form 10-Q, their estimates, in particular as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under the section titled "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q.

PART I-FINANCIAL INFORMATION

Item 1. Financial Statements.

Aerovate Therapeutics, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(in thousands, except share and per share amounts)

	June 30, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 31,069	$ 23,491
Short-term investments	73,133	98,948
Prepaid expenses and other current assets	6,558	1,793
Total current assets	110,760	124,232
Property and equipment, net	232	288
Operating lease right-of-use assets	621	614
Other long-term assets	81	2,284
Total assets	$ 111,694	$ 127,418
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 4,179	$ 2,396
Accrued and other current liabilities	12,366	14,821
Operating lease liabilities	475	420
Total current liabilities	17,020	17,637
Operating lease liabilities, net of current portion	206	255
Other liabilities	70	70
Total liabilities	17,296	17,962
Commitments and contingencies (Note 5)		
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized as of June 30, 2024 and December 31, 2023, respectively; no shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively	—	—
Common stock, $0.0001 par value; 150,000,000 shares authorized at June 30, 2024 and December 31, 2023, respectively; 28,854,750 and 27,762,703 shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively	3	3
Additional paid-in capital	305,863	272,640
Accumulated other comprehensive (loss) income	(83)	237
Accumulated deficit	(211,385)	(163,424)
Total stockholders' equity	94,398	109,456
Total liabilities and stockholders' equity	$ 111,694	$ 127,418

See accompanying notes to unaudited interim condensed consolidated financial statements.

Aerovate Therapeutics, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Operating expenses:				
Research and development	$ 21,248	$ 16,034	$ 41,328	$ 29,522
General and administrative	4,917	4,302	9,455	8,453
Total operating expenses	26,165	20,336	50,783	37,975
Loss from operations	(26,165)	(20,336)	(50,783)	(37,975)
Other income (expense):				
Interest income	1,396	1,312	2,831	2,432
Other expense:	(6)	(1)	(9)	(2)
Total other income	1,390	1,311	2,822	2,430
Net loss	$ (24,775)	$ (19,025)	$ (47,961)	$ (35,545)
Comprehensive loss:				
Net loss	$ (24,775)	$ (19,025)	$ (47,961)	$ (35,545)
Other comprehensive loss:				
Unrealized (loss) gain on securities	(50)	(22)	(320)	243
Comprehensive loss	$ (24,825)	$ (19,047)	$ (48,281)	$ (35,302)
Net loss per share, basic and diluted	$ (0.86)	$ (0.76)	$ (1.68)	$ (1.42)
Weighted-average shares of common stock outstanding, basic and diluted	28,756,043	25,166,505	28,566,924	24,973,250

See accompanying notes to unaudited interim condensed consolidated financial statements.

Aerovate Therapeutics, Inc.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)
(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Gain/(Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2023	27,762,703	$ 3	$ 272,640	$ 237	$ (163,424)	$ 109,456
Unrealized loss on investments	—	—	—	(270)	—	(270)
Issuance of common stock upon exercise of stock options	133,282	—	704	—	—	704
Vesting of restricted stock units	2,776	—	—	—	—	—
Stock based compensation	—	—	4,200	—	—	4,200
Net loss	—	—	—	—	(23,186)	(23,186)
Balance at March 31, 2024	27,898,761	$ 3	$ 277,544	$ (33)	$ (186,610)	$ 90,904
Unrealized loss on investments	—	—	—	(50)	—	(50)
Issuance of common stock in connection with ATM, net	800,000	—	23,635	—	—	23,635
Issuance of common stock upon exercise of stock options	119,239	—	511	—	—	511
Issuance of common stock under ESPP	34,034	—	308	—	—	308
Vesting of restricted stock units	2,716	—	—	—	—	—
Stock based compensation	—	—	3,865	—	—	3,865
Net loss	—	—	—	—	(24,775)	(24,775)
Balance at June 30, 2024	28,854,750	$ 3	$ 305,863	$ (83)	$ (211,385)	$ 94,398

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Gain/(Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2022	24,722,974	$ 2	$ 215,110	$ (466)	$ (87,903)	$ 126,743
Unrealized gain on investments	—	—	—	265	—	265
Issuance of common stock upon exercise of stock options	93,966	—	223	—	—	223
Stock based compensation	—	—	2,384	—	—	2,384
Net loss	—	—	—	—	(16,520)	(16,520)
Balance at March 31, 2023	24,816,940	$ 2	$ 217,717	$ (201)	$ (104,423)	$ 113,095
Unrealized loss on investments	—	—	—	(22)	—	(22)
Issuance of common stock in connection with ATM, net	2,662,721	1	44,282	—	—	44,283
Issuance of common stock upon exercise of stock options	106,756	—	333	—	—	333
Issuance of common stock under ESPP	13,866	—	228	—	—	228
Vesting of restricted stock units	815	—		—	—	—
Stock based compensation	—	—	3,034	—	—	3,034
Net loss	—	—	—	—	(19,025)	(19,025)
Balance at June 30, 2023	27,601,098	$ 3	$ 265,594	$ (223)	$ (123,448)	$ 141,926

See accompanying notes to unaudited interim condensed consolidated financial statements.

Aerovate Therapeutics, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Six months ended June 30,	
	2024	2023
Cash flow from operating activities:		
Net loss	$ (47,961)	$ (35,545)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	8,065	5,418
Depreciation and amortization expense	56	43
Accretion of discounts and amortization of premiums on investments, net	(1,451)	(1,310)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4,765)	(98)
Other long-term assets	2,510	(55)
Accounts payable	1,783	2,894
Accrued and other liabilities	(2,455)	2,554
Operating lease assets and liabilities, net	(1)	(43)
Other liabilities	113	(225)
Net cash used in operating activities	$ (44,106)	$ (26,367)
Cash flow from investing activities:		
Purchases of short-term investments	(14,750)	(48,346)
Maturities of short-term investments	41,583	67,750
Purchases of property and equipment	—	(46)
Net cash provided by investing activities	$ 26,833	$ 19,358
Cash flow from financing activities:		
Proceeds from sale of common stock in connection with ATM, net	23,635	44,888
Payments for offering costs	(307)	(159)
Proceeds from issuance of common stock under ESPP	308	228
Proceeds from issuance of common stock upon exercise of stock options	1,215	556
Net cash provided by financing activities	$ 24,851	$ 45,513
Net increase in cash and cash equivalents	7,578	38,504
Cash and cash equivalents at the beginning of the year	23,491	22,397
Cash and cash equivalents at the end of the period	$ 31,069	$ 60,901
Supplemental disclosure of noncash investing and financing activities:		
Right-of-use asset obtained in exchange for operating lease liability	$ 206	$ —
Deferred offering costs included in accounts payable	$ —	$ 75

See accompanying notes to unaudited interim condensed consolidated financial statements.

AEROVATE THERAPEUTICS, INC.
NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(1) ORGANIZATION AND NATURE OF OPERATIONS

(a) Organization and Nature of Operations

Aerovate Therapeutics Inc. ("Aerovate" or the "Company") was incorporated in the state of Delaware in July 2018, and is headquartered in Waltham, Massachusetts. The Company has a wholly owned subsidiary, Aerovate Securities Corporation. The Company is a biopharmaceutical company. The Company's initial focus was on advancing AV-101, the Company's dry powder inhaled formulation of imatinib for the treatment of pulmonary arterial hypertension ("PAH"). However, in June 2024, the Company announced negative results from the Phase 2b portion of its global Phase 2b/Phase 3 trial of AV-101 in adults with PAH, and, as a result, the Company decided to halt enrollment and shut down the Phase 3 portion of the Phase 2b/Phase 3 trial as well as the long-term extension study. In July 2024, the Company engaged Wedbush PacGrow as the Company's exclusive strategic financial advisor to assist in the process of exploring strategic alternatives, which may include but are not limited to, an acquisition, merger, reverse merger, business combination, liquidation or other transaction.

(b) At-the-Market Offering

On April 5, 2023, the Company entered into an ATM Equity Offering^{SM} Sales Agreement, or the Sales Agreement, with BofA Securities, Inc., or the Agent, pursuant to which the Company can sell, from time to time, at its option, up to an aggregate of $75.0 million of shares of its common stock, through the Agent, as its sales agent. As of June 30, 2024, 3,462,721 shares have been sold under the Sales Agreement, generating $67.9 million of net proceeds after deducting commissions to the Agent and other offering costs. As of the date of this Quarterly Report on Form 10-Q, up to $6.0 million of shares of the Company's common stock remain available for sale from time to time under the Sales Agreement.

(c) Liquidity and Management Plans

Since inception, the Company has devoted substantially all of its resources to research and development activities, business planning, establishing and maintaining its intellectual property portfolio, hiring personnel, raising capital, and providing general and administrative support for these operations and has not realized revenues from its planned principal operations. The Company has incurred losses and negative cash flows from operations since inception. As of June 30, 2024, the Company had cash and cash equivalents and short-term investments of $104.2 million.

Management believes that the Company's current cash and cash equivalents and short-term investments will provide sufficient funds to enable the Company to meet its obligations for at least twelve months from the filing date of this report while it explores strategic alternatives.

(2) BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

(a) Basis of Presentation

The accompanying unaudited condensed consolidated financial statements as of June 30, 2024 and for the three and six months ended June 30, 2024 and 2023 have been prepared in conformity with generally accepted accounting principles ("GAAP") in the United States of America for interim financial information and pursuant to Article 10 of Regulation S-X of the Securities Act of 1933, as amended (the Securities Act). Accordingly, they do not include all of the information and notes required by GAAP for complete financial statements. These unaudited condensed consolidated financial statements include only normal and recurring adjustments that the Company believes are necessary to fairly state the Company's financial position and the results of its operations and cash flows.

The results for the three and six months ended June 30, 2024 are not necessarily indicative of the results expected for the full fiscal year or any subsequent interim period. The condensed consolidated balance sheet as of December 31, 2023 has been derived from the audited financial statements at that date but does not include all disclosures required by GAAP for complete financial statements. Because all of the disclosures required by GAAP for complete financial statements are not included herein, these unaudited condensed consolidated financial statements and the notes accompanying them should be read in conjunction with the Company's audited financial statements for the year ended December 31, 2023. Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB").

(b) Use of Estimates

The preparation of the Company's consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. Reported amounts and note disclosures reflect the overall economic conditions that are most likely to occur and anticipated measures management intends to take. Actual results could differ materially from those estimates. Accounting estimates and management judgements reflected in the consolidated financial statements include: normal recurring accruals, including the accrual for research and development expenses, stock-based compensation, fair value of investments, and operating lease right-of-use assets and lease liabilities. Estimates and assumptions are reviewed quarterly. Any revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

(c) Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period, without consideration of potential dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the sum of the weighted average number of common shares plus the potential dilutive effects of potential dilutive securities outstanding during the period. Potential dilutive securities are excluded from diluted earnings or loss per share if the effect of such inclusion is antidilutive. The Company's potentially dilutive securities have been excluded from the computation of diluted net loss per share as they would be anti-dilutive to the net loss per share. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

The following table summarizes the Company's net loss per share (in thousands, except share and per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Numerator:				
Net loss	$ (24,775)	$ (19,025)	$ (47,961)	$ (35,545)
Net loss attributable to common stockholders	$ (24,775)	$ (19,025)	$ (47,961)	$ (35,545)
Denominator:				
Weighted-average common stock outstanding, basic and diluted	28,756,043	25,166,505	28,566,924	24,973,250
Net loss per share, basic and diluted	$ (0.86)	$ (0.76)	$ (1.68)	$ (1.42)

Potentially dilutive securities not included in the calculation of diluted net loss per share attributable to common stockholders because to do so would have had an anti-dilutive effect are as follows (in common stock equivalent shares):

	As of June 30,	
	2024	2023
Options to purchase common stock	5,628,960	5,158,609
Unvested restricted stock units	—	31,066
	5,628,960	5,189,675

(d) Recently Issued and Recently Adopted Accounting Pronouncements

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280)*: Improvements to Reportable Segment Disclosures, which requires public entities to disclose information about their reportable segments' significant expenses on an interim and annual basis. The standard is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Entities must adopt the changes to the segment reporting guidance on a retrospective basis, and early adoption is permitted. The Company does not anticipate this ASU to materially impact our consolidated financial statements and related disclosures.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740)*: Improvements to Income Tax Disclosures, which expands disclosures in an entity's income tax rate reconciliation table and regarding cash taxes paid both in the U.S. and foreign jurisdictions. The standard is effective for fiscal years beginning after December 15, 2024, and interim periods in fiscal years beginning after December 15, 2024, with early adoption permitted. The Company is currently evaluating the impact the adoption of this standard may have on its consolidated financial statements and related disclosures, and does not anticipate this ASU to materially impact our consolidated financial statements and related disclosures.

(3) FAIR VALUE OF FINANCIAL INSTRUMENTS

The following tables summarize the Company's financial assets measured at fair value on a recurring basis and their respective input levels based on the fair value hierarchy (in thousands):

		Fair Value Measurements Using		
	June 30, 2024	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (level 3)
Assets:				
Cash equivalents				
Money market funds	$ 18,343	$ 18,343	$ —	$ —
Commercial paper	2,988	—	2,988	—
Total cash equivalents	21,331	18,343	2,988	—
Short-term investments				
Agency bonds	37,367	—	37,367	—
Commercial paper	19,503	—	19,503	—
U.S. Treasury bills	9,420	9,420	—	—
Corporate debt securities	6,843	—	6,843	—
Total short-term investments	73,133	9,420	63,713	—
Total fair value of assets	$ 94,464	$ 27,763	$ 66,701	$ —

	December 31, 2023	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (level 3)
Assets:				
Cash equivalents				
Money market funds	$ 19,787	$ 19,787	$ —	$ —
Total cash equivalents	19,787	19,787	—	—
Short-term investments				
Agency bonds	42,255		42,255	
Commercial paper	38,386	—	38,386	—
U.S. Treasury bills	10,362	10,362	—	—
Corporate debt securities	7,945	—	7,945	—
Total short-term investments	98,948	10,362	88,586	—
Total fair value of assets	$ 118,735	$ 30,149	$ 88,586	$ —

Cash Equivalents and Short-Term Investments

Financial assets measured at fair value on a recurring basis consist of the Company's cash equivalents and short-term investments. Cash equivalents consisted of money market funds and commercial paper, and short-term investments consisted of U.S. Treasury bills, agency bonds, corporate debt securities, and commercial paper. The Company obtains pricing information from its investment manager and generally determines the fair value of investment securities using standard observable inputs, including reported trades, broker/dealer quotes, and bids and/or offers.

The following tables summarize the Company's short-term investments (in thousands):

		As of June 30, 2024			
	Maturity	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Agency bonds	2 years or less	37,409	9	(51)	37,367
Commercial paper	2 years or less	19,508	3	(8)	19,503
U.S. Treasury bills	2 years or less	9,439	—	(19)	9,420
Corporate debt securities	2 years or less	6,860	—	(17)	6,843
		$ 73,216	$ 12	$ (95)	$ 73,133

		As of December 31, 2023			
	Maturity	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Agency bonds	2 years or less	$ 42,090	179	(14)	$ 42,255
Commercial paper	2 years or less	38,362	29	(5)	38,386
U.S. Treasury bills	2 years or less	10,334	31	(3)	10,362
Corporate debt securities	2 years or less	7,925	21	(1)	7,945
		$ 98,711	$ 260	$ (23)	$ 98,948

The following tables summarize the Company's short-term investments with unrealized losses for less than 12 months and 12 months or greater (in thousands):

	As of June 30, 2024					
	Less than 12 months		12 months or Greater			
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Total Fair Value	Total Unrealized Losses
Agency bonds	$ 17,234	$ (35)	$ 12,498	$ (15)	$ 29,732	$ (50)
Commercial paper	8,866	(8)	—	—	8,866	(8)
U.S. Treasury bills	7,380	(17)	1,975	(3)	9,355	(20)
Corporate debt securities	6,843	(17)	—	—	6,843	(17)
	$ 40,323	$ (77)	$ 14,473	$ (18)	$ 54,796	$ (95)

	As of December 31, 2023					
	Less than 12 months		12 months or Greater			
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Total Fair Value	Total Unrealized Losses
Commercial paper	$ 6,042	$ (5)	$ —	$ —	$ 6,042	$ (5)
Agency bonds	3,760	(6)	6,579	(8)	10,339	(14)
U.S. Treasury bills	488	(2)	1,007	(1)	1,495	(3)
Corporate debt securities	3,110	(1)	—	—	3,110	(1)
	$ 13,400	$ (14)	$ 7,586	$ (9)	$ 20,986	$ (23)

The Company considers whether unrealized losses have resulted from a credit loss or other factors. The unrealized losses on the Company's short-term investments as of June 30, 2024 and December 31, 2023 were caused by fluctuations in market value and interest rates as a result of the economic environment and not credit risk. As of June 30, 2024 and December 31, 2023, no allowance for credit losses was recorded. During the six months ended June 30, 2024, the Company did not recognize any impairment losses related to its short-term investments. It is neither management's intention to sell nor is it more likely than not that the Company will be required to sell these investments prior to recovery of their cost basis or recovery of fair value. Unrealized gains and losses are included in accumulated other comprehensive gain (loss).

Accrued interest receivable is written off through net realized investment gains (losses) at the time the issuer of the bond defaults or is expected to default on payment. Accrued interest receivable related to short-term investments was $0.5 million as of June 30, 2024 and $0.6 million as of December 31, 2023.

(4) BALANCE SHEET COMPONENTS

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	June 30, 2024	December 31, 2023
Prepaid research and development	$ 4,810	$ 375
Prepaid expenses	1,296	1,168
Other current assets	452	250
Total prepaid expenses and other current assets	$ 6,558	$ 1,793

Accrued and Other Current Liabilities

In June 2024, following the Company's decision to halt further development of AV-101, the Company announced its plan to terminate nearly all of its workforce in the coming months (the "Workforce Reduction Plan"). As of July 31, 2024, 35 individuals, or 69% of the Company's workforce, have been terminated. The affected individuals have been and will be provided severance benefits, including cash severance payments. Each affected individual's eligibility for severance benefits is contingent upon entering into a separation agreement, which includes a general release of claims against the Company. In connection with the Workforce Reduction Plan, the Company estimates that it will incur costs (in consideration of releases) of approximately $5.6 million, which are primarily one-time severance benefits. Approximately $2.6 million of these costs were incurred in the second quarter of 2024, and the remaining are expected to be incurred in the third and fourth quarter of 2024.

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

	June 30, 2024	December 31, 2023
Accrued research and development	$ 9,034	$ 9,363
Accrued payroll and other employee benefits	2,663	4,368
Other	669	1,090
Total accrued and other current liabilities	$ 12,366	$ 14,821

(5) COMMITMENTS AND CONTINGENCIES

In August 2021, the Company entered into a lease agreement (the "Waltham Lease") for approximately 5,000 square feet of office space in Waltham, Massachusetts for the Company's corporate headquarters. The Waltham Lease has a term of thirty-nine months ("Lease Term"), unless extended or earlier terminated. The Company had the option to extend the Waltham Lease for one additional period of three years. The Lease Term has an initial abatement period, and the initial base rent payable is approximately $18,000 per month following the abatement period. The initial base rent payable will increase by approximately 2% per year over the Lease Term. The Waltham Lease commencement date was September 1, 2021. In January 2024, the Company entered into the First Amendment to the Waltham Lease resulting in the lease expiring on December 31, 2025, and an increase of $1.00 per rentable square foot during the additional lease term. In obtaining this lease extension, the Company no longer has the option to extend the Waltham Lease for one additional period of three years.

In April 2022, the Company entered into a lease agreement (the "Foster City Lease") for approximately 3,500 square feet of office space in Foster City, California. The Foster City Lease has a term of thirty-nine months, unless extended or earlier terminated. The Company has the option to extend the Foster City Lease for an additional period of one year. The base rent payable under the Foster City Lease is $22,600 per month and will be subject to annual increase of 3% on each anniversary.

As of June 30, 2024, the future minimum annual lease payments under the operating leases were as follows (in thousands):

	Total Minimum Lease Payments
2024	$ 468
2025	242
Total operating lease payments	710
Less: Amount representing interest	(29)
Present value of net minimum lease payments	$ 681

As the Company's leases do not provide an implicit rate, the Company uses an incremental borrowing rate based on the information available at the lease commencement date. The components of operating leases as of June 30, 2024 and as of December 31, 2023 were as follows (in thousands except lease term and discount rate):

	June 30, 2024	December 31, 2023
Operating lease liabilities:		
Current	475	420
Non-current	206	255
Total lease liabilities	$ 681	$ 675
Weighted-average remaining lease term (in years)	1.4	1.5
Weighted-average incremental borrowing rate	6.4 %	6.0 %

Supplemental cash flow information related to cash paid for amounts included in the measurement of operating lease liabilities was as follows (in thousands):

	Six months ended June 30, 2024	Six months ended June 30, 2023
Cash paid included in operating cash flows	$ 254	$ 246

Rent expense was as follows (in thousands):

	Three months ended June 30, 2024	Three months ended June 30, 2023	Six months ended June 30, 2024	Six months ended June 30, 2023
Operating lease	$ 114	$ 111	$ 228	$ 221
Short-term lease	83	—	165	—
Total rent expense	$ 197	$ 111	$ 393	$ 221

(6) STOCKHOLDERS' EQUITY

On July 2, 2021, the Company's certificate of amendment to its certificate of incorporation became effective, which provided 150,000,000 authorized shares of common stock with a par value of $0.0001 per share and 10,000,000 authorized shares of undesignated preferred stock with a par value of $0.0001 per share.

The holders of the common stock are entitled to one vote for each share of common stock held at all meetings of stockholders.

As of June 30, 2024, the Company had reserved the following shares of common stock, on an as-converted basis, for future issuance:

	June 30, 2024
Common stock options granted and outstanding	5,628,960
Shares reserved for issuance under the 2021 Plan	1,080,210
Reserved for future ESPP issuances	401,218
Total	7,110,388

(7) STOCK-BASED COMPENSATION

(a) Stock Option Plan

The Company's 2021 Stock Option and Incentive Plan (the "2021 Plan") was adopted by the Company's board of directors and approved by the Company's stockholders in June 2021 and became effective as of June 29, 2021. Upon the effectiveness of the 2021 Plan, the Company's 2018 Equity Incentive Plan (the "2018 Plan") was terminated and no further grants may be made thereunder. The Company's 2021 Plan allows for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, stock bonuses, restricted stock, stock units and other forms of awards including cash awards to its officers, directors, employees, consultants and advisors.

As of June 30, 2024, a total of 5,675,841 shares of the Company's common stock were authorized for issuance with respect to awards granted under the 2021 Plan, of which 1,080,210 shares remain available for issuance. The share limit will automatically increase on the first trading day in January of each year (commencing with 2022) by an amount equal to the lesser of (1) 4% of the total number of outstanding shares of the Company's common stock on the last trading day in December in the prior year, or (2) such lesser number as determined by the Company's board of directors. Since adoption, the number of shares available under the 2021 Plan pursuant to the annual increases totaled 3,075,841 shares through January 1, 2024.

Any shares subject to awards granted under the 2021 Plan or the 2018 Plan that are not paid, delivered or exercised before they expire or are canceled or terminated, or otherwise fail to vest, as well as shares used to pay the purchase or exercise price of such awards or related tax withholding obligations, will become available for new award grants under the 2021 Plan.

As of June 30, 2024, 4,520,814 and 1,108,146 options had been granted under the 2021 Plan and 2018 Plan, respectively.

The options that are granted under the 2021 Plan and the 2018 Plan are exercisable at various dates as determined upon grant and terminate within 10 years of the date of grant. The vesting period generally occurs over three to four years.

The following table summarizes the option activity under the 2021 Plan and 2018 Plan for the six months ended June 30, 2024:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2023	5,230,344	$ 13.66	8.16	$ 49,728
Granted	1,489,191	19.70		
Exercised	(252,521)	4.82		
Cancelled/Forfeited	(838,054)	19.95		
Outstanding at June 30, 2024	5,628,960	$ 14.72	7.60	$ —
Vested and exercisable at June 30, 2024	2,829,947	12.78	6.73	—

The weighted-average grant date fair value of stock option grants was $14.92 per share for the six months ended June 30, 2024.

As of June 30, 2024, there was approximately $31.9 million of total unrecognized stock-based compensation expense related to unvested stock options granted under the 2021 Plan and 2018 Plan, which is expected to be recognized over a weighted-average period of approximately 2.3 years.

(b) Employee Stock Purchase Plan

The Company's Employee Stock Purchase Plan (the "ESPP") was adopted by the Company's board of directors and stockholders in June 2021 and became effective upon the consummation of the IPO. A total of 230,000 shares of the Company's common stock was initially available for issuance under the ESPP. The share limit will automatically increase on the first trading day in January of each year (commencing with 2022) by an amount equal to the lesser of (1) 1% of the total number of outstanding shares of the Company's common stock on the last trading day in December in the prior year, or (2) such lesser number as determined by the Company's board of directors. The number of shares available under the 2021 Plan increased by 247,229 shares effective January 1, 2023 as determined by the Company's board of directors. The ESPP allows eligible employees to purchase shares of the Company's common stock at a discount through payroll deductions of up to 15% of their eligible compensation, subject to any plan limitations. The ESPP provides for six-month offering periods, and at the end of each offering period, employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the last trading day of the offering period. As of June 30, 2024, 76,011 shares had been issued under the ESPP, and 401,218 shares authorized under the ESPP Plan were available for issuance.

(c) Restricted Stock Units

As of June 30, 2024, 31,881 restricted stock units had been awarded under the 2021 Plan. A summary of the status of and changes in unvested restricted stock unit activity under the Company's equity award plans for the six months ended June 30, 2024 was as follows:

	Units	Weighted-Average Grant Date Fair Value Per Unit
Unvested restricted stock units as of December 31, 2023	21,968	$ 22.26
Granted	—	—
Vested	(5,492)	21.30
Forfeited	(16,476)	22.58
Unvested restricted stock units as of June 30, 2024	—	$ —

Stock-based compensation of restricted stock units is based on the fair value of the Company's common stock on the date of grant and recognized over the vesting period. The vesting period generally occurs over three to four years.

As of June 30, 2024, the Company had no unrecognized stock-based compensation expense related to its unvested restricted stock units.

(d) Stock-Based Compensation Expense

Stock-based compensation expense recognized for all equity awards has been reported in the statements of operations and comprehensive loss as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Research and development	$ 2,035	$ 1,682	$ 4,529	$ 2,981
General and administrative	1,830	1,352	3,536	2,437
Total	$ 3,865	$ 3,034	$ 8,065	$ 5,418

Stock-based compensation expense by type of award included within the consolidated statements of operations and comprehensive income (loss) was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Stock options	$ 3,808	$ 2,940	$ 7,876	$ 5,229
Restricted stock awards and units	16	51	62	99
Employee stock purchase plan awards	41	43	127	90
Total	$ 3,865	$ 3,034	$ 8,065	$ 5,418

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and with the audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the Securities and Exchange Commission on March 25, 2024. This discussion contains forward-looking statements that reflect our plans, estimates and beliefs, and involve risks and uncertainties. Our actual results and the timing of certain events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those discussed in the section titled "Risk Factors" included under Part I, Item 1A and elsewhere in this Quarterly Report. See "Special Note Regarding Forward-Looking Statements" in this Quarterly Report.

Overview

We are a biopharmaceutical company. Our initial focus was on advancing AV 101, our dry powder inhaled formulation of imatinib for the treatment of pulmonary arterial hypertension, or PAH, a devastating disease impacting approximately 70,000 people in the United States and Europe. On June 17, 2024, we announced topline results from the Phase 2b portion of our Phase 2b/Phase 3 Inhaled Imatinib Pulmonary Arterial Hypertension Clinical Trial of AV-101, or IMPAHCT. Topline data showed that, while AV-101 was generally well tolerated across all dose groups, the study did not meet its primary endpoint for improvement in pulmonary vascular resistance compared to placebo for any of the studied doses or show meaningful improvements in the secondary endpoint of change in six minute walk distance. We also reviewed data from several additional secondary endpoints of the Phase 2b portion of IMPAHCT, which also failed to show meaningful improvements. Based upon these results and in agreement with the independent study advisory committee, we halted enrollment and shut down the Phase 3 portion of IMPAHCT as well as the long-term extension study. AV-101 for the treatment of PAH was our only product candidate in development. At this time, we do not intend to resume development of AV-101 or any other product candidates. In July 2024, we announced the decision to conduct a comprehensive review of strategic alternatives focused on maximizing shareholder value. We also engaged Wedbush Securities Inc. (Wedbush PacGrow) as our exclusive strategic financial advisor to assist in the process of exploring strategic alternatives, which may include but are not limited to, an acquisition, merger, reverse merger, business combination, liquidation or other transaction.

Recent Developments

Workforce Reduction Plan

In June 2024, following our decision to halt further development of AV-101, we announced our plan to terminate nearly all of our workforce in the coming months, or the Workforce Reduction Plan. As of July 31, 2024, 35 individuals, or 69% of our workforce, have been terminated. The affected individuals have been and will be provided severance benefits, including cash severance payments. Each affected individual's eligibility for severance benefits is contingent upon entering into a separation agreement, which includes a general release of claims against our company. In connection with the Workforce Reduction Plan, we estimate that we will incur costs (in consideration of releases) of approximately $5.6 million, which are primarily one-time severance benefits. Approximately $2.6 million of these costs were incurred in the second quarter of 2024, and the remaining are expected to be incurred in the third and fourth quarter of 2024.

At-The-Market Offering

On April 5, 2023, we entered into an ATM Equity Offering℠ Sales Agreement, or the Sales Agreement, with BofA Securities, Inc., or the Agent, pursuant to which we established an "at-the-market" offering program, or ATM Program, to sell, from time to time, at our option, up to an aggregate of $75.0 million of shares of our common stock, through the Agent, as our sales agent. As of June 30, 2024, 3,462,721 shares have been sold under the Sales Agreement, generating $67.9 million of net proceeds after deducting commissions to the Agent and other offering costs. As of the date of this Quarterly Report on Form 10-Q, up to $6.0 million of shares of our common stock remain available for sale from time to time under the Sales Agreement.

Components of Results of Operations

Revenue

We currently have no products approved for sale, and we have not generated any revenue to date. At this time, we do not intend to resume development of AV-101 or any other product candidates, and as a result, we currently do not anticipate generating revenue. Our ability to generate product revenue will depend on the successful development and eventual commercialization of any future drug candidates we may pursue. If we do not resume development activities or if we resume development but fail to obtain regulatory approval for any future drug candidates, our ability to generate future revenue and our results of operations and financial position would be materially adversely affected.

Operating Expenses

Research and Development

Prior to mid-June, our research and development expenses have related to the development of AV 101. Since our decision to halt further development of AV-101, we have also incurred costs related to shutting down our clinical trials and research and development operations. Research and development expenses are recognized as incurred and payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received.

Research and development expenses include:

- external research and development expenses incurred under agreements with contract research organizations, or CROs, and consultants to conduct and support clinical trials of AV-101 and our preclinical studies;
- costs related to manufacturing AV-101 for use in clinical trials;
- personnel-related costs, including salaries, payroll taxes, employee benefits, stock-based compensation charges and severance, for those individuals involved in research and development efforts; and
- costs related to shutting down clinical trials of AV-101.

Our research and development expenses consist principally of direct costs, such as fees paid to CROs, investigative sites and consultants in connection with our clinical trials, preclinical and non-clinical studies, and costs related to manufacturing clinical trial materials. We deploy our personnel related resources across all of our research and development activities. We track direct expenses on a clinical and non-clinical basis.

- If we decide to resume development of AV-101 or any other future product candidates, the successful development of any product candidates is highly uncertain. Therefore, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that would be necessary to complete the potential development and commercialization of any future product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of potential future product candidates, if approved. This is due to the numerous risks and uncertainties associated with developing product candidates, including the uncertainty of:
    - per patient trial costs;
    - the number of trials required for approval;
    - the number of sites included in the trials;
    - the countries in which the trials are conducted;

- the length of time required to enroll eligible patients;
- the number of patients that participate in the trials;
- the number of doses evaluated in the trials;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring requested by regulatory agencies;
- the duration of patient participation in the trials and follow-up; and
- the efficacy and safety profile of the product candidate.

General and Administrative

General and administrative expenses consist primarily of personnel-related costs, including salaries, payroll taxes, employee benefits, stock-based compensation and severance charges for those individuals in executive, finance and other administrative functions. Other significant costs include legal fees relating to intellectual property and corporate matters, professional fees for accounting and consulting services, and insurance costs. We anticipate that our general and administrative expenses will decrease for the second half of 2024 as we decrease the size of our organization in connection with the Workforce Reduction Plan. Our future general and administrative expenses will be significantly dependent on the outcome of our strategic review process, related audit and legal expenses and whether we decide to pursue any future product development efforts.

Interest Income

Interest income consists of interest earned on our cash and cash equivalents and short-term investments.

Results of Operations

Comparison of the three months ended June 30, 2024 and 2023 (Unaudited)

The following table summarizes our results of operations for the three months ended June 30, 2024 and 2023 (in thousands):

	Three Months Ended June 30,		
	2024	2023	Change
	(unaudited)		
Operating expenses:			
Research and development	$ 21,248	$ 16,034	$ 5,214
General and administrative	4,917	4,302	615
Total operating expenses	26,165	20,336	5,829
Loss from operations	(26,165)	(20,336)	(5,829)
Other income:			
Interest income	1,396	1,312	84
Other income (expense)	(6)	(1)	(5)
Total other income	1,390	1,311	79
Net loss	$ (24,775)	$ (19,025)	$ (5,750)

Research and Development Expenses

Research and development expenses for the three months ended June 30, 2024 were $21.2 million compared to $16 million for the three months ended June 30, 2023. The increase of $5.2 million was primarily due to a $2.2 million increase in headcount related costs, $1.5 million increase in contract manufacturing costs, $1.1 million increase in travel and other miscellaneous costs, $0.3 million increase in regulatory and preclinical costs, and $0.1 million increase in clinical trial costs.

General and Administrative Expenses

General and administrative expenses for the three months ended June 30, 2024 were $4.9 million compared to $4.3 million for the three months ended June 30, 2023. The increase of $0.6 million was primarily due to a $0.3 million increase in headcount related costs, $0.4 million increase in travel and other miscellaneous costs, partially offset by a decrease of $0.1 million in insurance costs.

Total Other Income

Other income for the three months ended June 30, 2024 was $1.4 million compared to $1.3 million for the three months ended June 30, 2023. The increase of $0.1 million was due to interest earned on our cash and cash equivalents and short-term investments for the three months ended June 30, 2024.

Comparison of the six months ended June 30, 2024 and 2023 (Unaudited)

The following table summarizes our results of operations for the six months ended June 30, 2024 and 2023 (in thousands):

	Six Months Ended June 30,		
	2024	2023	Change
	(unaudited)		
Operating expenses:			
Research and development	$ 41,328	$ 29,522	$ 11,806
General and administrative	9,455	8,453	1,002
Total operating expenses	50,783	37,975	12,808
Loss from operations	(50,783)	(37,975)	(12,808)
Other income (expense):			
Interest income	2,831	2,432	399
Other expense	(9)	(2)	(7)
Total other income	2,822	2,430	392
Net loss	$ (47,961)	$ (35,545)	$ (12,416)

Research and Development Expenses

Research and development expenses for the six months ended June 30, 2024 were $41.3 million compared to $29.5 million for the six months ended June 30, 2023. The increase of $11.8 million was primarily due to our Phase 2b/Phase 3 trial causing increases of $5.0 million contract manufacturing costs, $4.6 million in headcount related costs, $1.3 million in travel and other miscellaneous costs, $0.4 million in clinical trial costs, and $0.5 million in regulatory and preclinical costs.

General and Administrative Expenses

General and administrative expenses for the six months ended June 30, 2024 were $9.5 million compared to $8.5 million for the six months ended June 30, 2023. The increase of $1.0 million was primarily due to a $1.0 million increase in headcount related costs, $0.5 million in travel and other miscellaneous costs, partially offset by decreases of $0.3 million in insurance costs, and $0.2 million in legal and consulting costs.

Total Other Income (Expense)

Other income for the six months ended June 30, 2024, was $2.8 million compared to $2.4 million for the six months ended June 30, 2023. The increase of $0.4 million was due to interest earned on our cash and cash equivalents and short-term investments for the six months ended June 30, 2024.

Liquidity and Capital Resources

From our inception through June 30, 2024, we have received aggregate net proceeds of $79.8 million from the sale of shares of our convertible preferred stock and $5.0 million from convertible promissory notes to related parties. In July 2021, we completed our initial public offering, or IPO, with aggregate net proceeds from the offering of $126.9 million, after deducting underwriting discounts, commissions and offering costs.

At-the-Market Offering

On April 5, 2023, we entered into the Sales Agreement with the Agent, pursuant to which we can sell, from time to time, up to an aggregate of $75.0 million of shares of our common stock, through the Agent, as our sales agent. As of June 30, 2024, 3,462,721 shares have been sold under the Sales Agreement, generating $67.9 million of net proceeds after deducting commissions to the Agent and other offering costs. As of the date of this Quarterly Report on Form 10-Q, up to $6.0 million of shares of our common stock remain available for sale from time to time under the Sales Agreement.

Future Funding Requirements

As of June 30, 2024, we had cash and cash equivalents and short-term investments of $104.2 million. We expect our existing cash and cash equivalents and short-term investments will be sufficient to fund our operations for at least twelve months from the date of filing this Quarterly Report on Form 10-Q. However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. We have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we expect. Additionally, the process of conducting clinical trials is costly, and the timing of progress and expenses in these trials is uncertain.

Our future capital requirements will depend on many factors, including:

- the costs and timing of our strategic review process and the type of strategic alternative we may choose to pursue;
- our ability to consummate a successful transaction on favorable terms, if pursued;
- the costs and timing of any future product development efforts that we may pursue should we decide to resume development of AV-101 or any other product candidates;
- the costs associated with retaining key personnel and consultants, and hiring additional personnel should we decide to resume development activities;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the timing and amount of the milestone or other payments we must make to any future licensors, if we enter into any license agreements;
- the costs and timing of establishing or securing sales and marketing capabilities if AV-101 or any other product candidate is approved;

- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third- party payors and adequate market share and revenue for any approved products;

- patients' ability and willingness to pay out-of-pocket costs for any approved products in the absence of coverage and/or adequate reimbursement from third-party payors; and

- costs associated with any products or technologies that we may in-license or acquire.

If we resume development activities, we expect to finance our cash needs through equity offerings, debt financings, or other capital sources, potentially including collaborations, licenses and other similar arrangements. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, or other similar arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or drug candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. Our failure to raise capital or enter into such other arrangements when needed could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our drug candidates even if we would otherwise prefer to develop and market such drug candidates ourselves.

Lease Obligations

In August 2021, we entered into a lease agreement, or the Waltham Lease, for approximately 5,000 square feet of office space in Waltham, Massachusetts. The base rent under the Waltham Lease is $43.00 per rentable square foot, or approximately $18,000 per month and is subject to scheduled annual increases of $1.00 per rentable square foot during the lease term. In January 2024, the Company entered into the First Amendment to the Waltham Lease resulting in the lease expiring on December 31, 2025, and an increase of $1.00 per rentable square foot during the additional lease term. In obtaining this lease extension, the Company no longer has the option to extend the Waltham Lease for one additional period of three years.

In April 2022, we entered into a lease agreement, or the Foster City Lease, for approximately 3,500 square feet of office space in Foster City, California. The base rent under the Foster City Lease is $76.80 per rentable square foot, or approximately $22,600 per month and is subject to scheduled annual increases of 3% on each annual anniversary during the lease term. The term of the Foster City Lease is thirty-nine months, unless extended or earlier terminated pursuant to the terms of the Foster City Lease. We have the option to extend the Foster City Lease for one additional period of one year.

As of June 30, 2024, we do not have any other operating lease obligations, long-term debt obligations, capital lease obligations, purchase obligations or long-term liabilities.

We enter into contracts in the normal course of business for contract research services, contract manufacturing services, professional services and other services and products for operating purposes. These contracts generally provide for termination after a notice period, and, therefore, are cancelable contracts and not included above.

Cash Flows

Comparison of the six months ended June 30, 2024 and 2023 (Unaudited)

The following table sets forth a summary of the net cash flow activity for the six months ended June 30, 2024 and 2023 (in thousands):

	Six Months Ended June 30,	
	2024	2023
	(unaudited)	
Net cash used in operating activities	$ (44,106)	$ (26,367)
Net cash provided by investing activities	26,833	19,358
Net cash provided by financing activities	24,851	45,513
Net increase in cash and cash equivalents	$ 7,578	$ 38,504

Operating Activities

Net cash used in operating activities for the six months ended June 30, 2024 was $44.1 million, consisting primarily of our net loss incurred during the period of $48.0 million adjusted for non-cash charges of $8.1 million for stock-based compensation expense, $1.5 million of accretion on investments, $0.1 million of depreciation expense, and $2.9 million for net changes in operating assets and liabilities. The net change in operating assets and liabilities primarily related to a $4.8 million increase in prepaid expenses, a $2.5 million decrease in other assets, a $0.7 million decrease in accounts payable and accrued and other current liabilities, and a $0.1 million decrease in other long term liabilities.

Net cash used in operating activities for the six months ended June 30, 2023 was $26.4 million, consisting primarily of our net loss incurred during the period of $35.5 million adjusted for non-cash charges of $5.4 million for stock-based compensation expense, $1.3 million of accretion on investments, and $5.0 million for net changes in operating assets and liabilities. The net change in operating assets and liabilities primarily related to a $5.4 million increase in accounts payable and accrued and other current liabilities, a $0.1 million decrease in other assets, a $0.2 million decrease in other liabilities and a $0.1 million decrease in prepaid expenses.

Investing Activities

Net cash provided by investing activities for the six months ended June 30, 2024 of $26.8 million was comprised of purchases of short-term investments of $14.8 million, offset by maturities of short-term investments of $41.6 million.

Net cash provided by investing activities for the six months ended June 30, 2023 of $19.4 million was comprised of purchases of short-term investments of $48.3 million, $0.1 million for purchases of property and equipment, offset by maturities of short-term investments of $67.8 million.

Financing Activities

Net cash provided by financing activities for the six months ended June 30, 2024 of $24.9 million was comprised of $23.6 million in net proceeds received from sales of common stock under the Sales Agreement, after deducting Agent commissions, $0.3 million of payments made for offering costs, and $1.5 million of proceeds from stock option exercises and issuances of common stock under our employee stock purchase plan.

Net cash provided by financing activities for the six months ended June 30, 2023 of $45.5 million was comprised of $44.9 million in net proceeds received from sales of common stock under the Sales Agreement, after deducting Agent commissions, $0.2 million of payments made for offering costs, and $0.8 million of proceeds from stock option exercises and issuances of common stock under our employee stock purchase plan.

Critical Accounting Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, expenses and the related disclosures of contingent liabilities in our consolidated financial statements and accompanying notes. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and judgments on an ongoing basis. Actual results may differ significantly from these estimates under different assumptions, judgments or conditions.

There have been no significant changes in our critical accounting policies and estimates during the six months ended June 30, 2024, as compared to the critical accounting policies and estimates disclosed in "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our Annual Report on Form 10-K.

Research and Development Expenses

We are required to estimate our expenses resulting from obligations under contracts with vendors, consultants and CROs, in connection with conducting research and development activities. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. We reflect research and development expenses in our consolidated financial statements by matching those expenses with the period in which services and efforts are expended. We account for these expenses according to the progress of the preclinical or clinical study as measured by the timing of various aspects of the study or related activities. We determine clinical trial cost estimates through review of the underlying contracts along with preparation of financial models taking into account discussions with research and other key personnel and outsider service providers as to the progress of studies or other services being conducted. During the course of a study, we adjust our rate of expense recognition if actual results differ from our estimates.

Emerging Growth Company Status

As an emerging growth company under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, we can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected 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 public companies adopt the new or revised standard. The decision to opt out of the extended transition period under the JOBS Act is irrevocable.

Recently Issued Accounting Pronouncements

We have reviewed all recently issued accounting pronouncements by the Financial Accounting Standards Board and other standard-setting bodies and have determined that such standards that do not require adoption until a future date are not expected to have a material impact on our consolidated financial statements, if adopted, or do not otherwise apply to our operations.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate Fluctuation Risk

We hold certain financial instruments for which a change in prevailing interest rates may cause the principal amount of the cash equivalents to fluctuate. Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash and cash equivalents. We invest our excess cash primarily in money market funds. The primary objectives of our investment activities are to ensure liquidity and to preserve principal while at the same time maximizing the income we receive without significantly increasing risk. We do not believe interest rate fluctuations have had a material effect on our results of operations during the six months ended June 30, 2024 and 2023.

Foreign Currency Fluctuation Risk

We are exposed to market risk related to changes in foreign currency exchange rates. We contract with vendors that are located outside the United States and certain invoices are denominated in foreign currencies. We are subject to fluctuations in foreign currency rates in connection with such arrangements. We do not currently hedge our foreign currency exchange risk. We do not believe exchange rate fluctuations have had a material effect on our results of operations during the six months ended June 30, 2024 and 2023.

Inflation Fluctuation Risk

Inflation generally affects us by increasing our cost of labor and research and development contract costs. We do not believe inflation has had a material effect on our results of operations during the six months ended June 30, 2024 and 2023. 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.

Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosures controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of June 30, 2024. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2024, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control over Financial Reporting

Management determined that, as of June 30, 2024, there were no changes in our internal control over financial reporting that occurred during the fiscal quarter then ended 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.

From time to time, we may be involved in lawsuits, claims, investigations and proceedings, consisting of intellectual property, commercial, employment and other matters which arise in the ordinary course of business. While the outcome of any such proceedings cannot be predicted with certainty, as of June 30, 2024, we were not party to any legal proceedings that we would expect to have a material adverse impact on our financial position, results of operations or cash flow.

Item 1A. Risk Factors.

In evaluating the Company and our business, careful consideration should be given to the following risk factors, in addition to the other information set forth in this Quarterly Report on Form 10-Q and in other documents that we file with the SEC. Investing in our common stock involves a high degree of risk. If any of the following risks and uncertainties actually occurs, our business, prospects, financial condition or results of operations could be materially and adversely affected. The risks described below are not intended to be exhaustive and are not the only risks facing the Company. New risk factors can emerge from time to time, and it is not possible to predict the impact that any factor or combination of factors may have on our business, prospects, financial condition or results of operations.

The risk factors denoted with a "", if any, are newly added or have been materially updated from our Annual Report on Form 10-K for the year ended December 31, 2023.*

Risks Related to our Strategic Review Process

We may not be successful in identifying and implementing any strategic transaction and any strategic transactions that we may consummate in the future could have negative consequences.

In June 2024, based upon 24-week topline results from the Phase 2b portion of our clinical trial evaluating AV-101 for the treatment of pulmonary arterial hypertension, or PAH, we announced our decision to halt enrollment and shut down the Phase 3 portion of the trial as well as the long-term extension study. In July 2024, we announced that we are undertaking a comprehensive review of strategic alternatives focused on maximizing shareholder value, which may include but are not limited to, an acquisition, merger, reverse merger, business combination, liquidation or other transaction. We expect to devote substantial time and resources to exploring strategic alternatives that our board of directors believes will maximize stockholder value. Despite devoting significant efforts to identify and evaluate potential strategic alternatives, there can be no assurance that this strategic review process will result in us pursuing any transaction or that any transaction, if pursued, will be completed on attractive terms or at all. We have not set a timetable for completion of this strategic review process, and our board of directors has not approved a definitive course of action. Additionally, there can be no assurances that any particular course of action, business arrangement or transaction, or series of transactions, will be pursued, successfully consummated or lead to increased stockholder value or that we will make any additional cash distributions to our stockholders.

The process of continuing to evaluate these strategic options may be very costly, time-consuming and complex and we have incurred, and may in the future incur, significant costs related to this continued evaluation, such as legal and accounting fees and expenses and other related charges. We may also incur additional unanticipated expenses in connection with this process. A considerable portion of these costs will be incurred regardless of whether any such course of action is implemented or transaction is completed. Any such expenses will decrease the remaining cash available for use in our business.

In addition, potential counterparties in a strategic transaction involving our company may place minimal or no value on our assets and our public listing. We are not currently pursuing further clinical development of AV-101. Should we resume the development of AV-101, such activities and any potential commercialization will require substantial additional cash to fund the costs associated with conducting the necessary preclinical and clinical testing and obtaining regulatory approval. Consequently, any potential counterparty in a strategic transaction involving our company may choose not to spend additional resources and continue development of AV-101 and may attribute little or no value, in such a transaction, to those product candidates. Any strategic business combination or other transactions that we may consummate in the future could have a variety of negative consequences, and we may implement a course of action or consummate a transaction that yields unexpected results that adversely affects our business and decreases the remaining cash available for use in our business or the execution of our strategic plan. Any potential transaction would be dependent on a number of factors that may be beyond our control, including, among other things, market conditions, industry trends, the interest of third parties in a potential transaction with us, obtaining stockholder approval and the availability of financing to third parties in a potential transaction with us on reasonable terms. Any failure of such potential transaction to achieve the

anticipated results could significantly impair our ability to enter into any future strategic transactions and may significantly diminish or delay any future distributions to our stockholders.

If we are not successful in setting forth a new strategic path for the company, or if our plans are not executed in a timely fashion, this may cause reputational harm with our stockholders and the value of our securities may be adversely impacted. In addition, speculation regarding any developments related to the review of strategic alternatives and perceived uncertainties related to the future of the company could cause our stock price to fluctuate significantly.

Even if we successfully consummate any transaction from our strategic assessment, including, but not limited to, a merger, acquisition or business combination, we may fail to realize all of the anticipated benefits of the transaction, those benefits may take longer to realize than expected, or we may encounter integration difficulties.

Our ability to realize the anticipated benefits of any potential business combination or any other result from our strategic assessment, is highly uncertain. Any anticipated benefits will depend on a number of factors, including our ability to integrate with any future business partner and our ability to generate future shareholder value in the platform we may elect to pursue. The process may be disruptive to our business and the expected benefits may not be achieved within the anticipated time frame, or at all. The failure to meet the challenges involved and to realize the anticipated benefits of any potential transaction could adversely affect our business and financial condition.

If we are successful in completing a strategic transaction, we may be exposed to other operational and financial risks.

Although there can be no assurance that a strategic transaction will result from the process we have undertaken to identify and evaluate strategic alternatives, the negotiation and consummation of any such transaction will require significant time on the part of our management, and the diversion of management's attention may disrupt our business.

The negotiation and consummation of any such transaction may also require more time or greater cash resources than we anticipate and expose us to other operational and financial risks, including:

- increased near-term and long-term expenditures;
- exposure to unknown liabilities;
- higher than expected acquisition or integration costs;
- incurrence of substantial debt or dilutive issuances of equity securities to fund future operations;
- write-downs of assets or goodwill or incurrence of non-recurring, impairment or other charges;
- increased amortization expenses;
- difficulty and cost in combining the operations and personnel of any acquired business with our operations and personnel;
- inability to retain key employees of our company or any acquired business; and
- possibility of future litigation.

Any of the foregoing risks could have a material adverse effect on our business, financial condition and prospects.

Our board of directors may decide to pursue a dissolution and liquidation instead of a strategic transaction. In such an event, the amount of cash available for distribution to our stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities.

Our board of directors may decide to pursue a dissolution and liquidation instead of a strategic transaction. In such an event, the amount of cash available for distribution to our stockholders will depend heavily on the timing of such decision and, with the passage of time the amount of cash available for distribution will be reduced as we continue to fund our operations. In addition, if our board of directors were to approve and recommend, and our stockholders were to approve, a dissolution and liquidation, we would be required under Delaware corporate law to pay our outstanding obligations, as well as to make reasonable provision for contingent and unknown obligations, prior to making any distributions in liquidation to our stockholders. As a result of this requirement, a portion of our assets may need to be reserved pending the resolution of such obligations and the timing of any such resolution is uncertain. In addition, we may be subject to litigation or other claims related to a dissolution and liquidation. If a dissolution and liquidation were pursued, our board of directors, in consultation with our advisors, would need to evaluate these matters and make a determination about a reasonable amount to reserve. Accordingly, holders of our common stock could lose all or a significant portion of their investment in the event of a liquidation, dissolution or winding up.

Our ability to consummate a strategic transaction depends on our ability to retain our employees required to consummate such transaction.

Our ability to consummate a strategic transaction depends upon our ability to retain our employees required to consummate such a transaction, the loss of whose services may adversely impact the ability to consummate such transaction. In connection with the evaluation of strategic alternatives and in order to extend our resources, we implemented workforce reduction plan, which will result in the termination of nearly all of our workforce in the coming months, or the Workforce Reduction Plan. Under the Workforce Reduction Plan, approximately 69% of our workforce was terminated by July 31, 2024. The strategic review process is supported by our deep and broad experience at the board of directors, executive management and supporting staff levels. Our cash conservation activities may yield unintended consequences, such as attrition beyond our Workforce Reduction Plan and reduced employee morale, which may cause remaining employees to seek alternative employment. Our ability to successfully complete a strategic transaction depends in large part on our ability to retain certain of our remaining personnel. If we are unable to successfully retain our remaining personnel, we are at risk of a disruption to our exploration and consummation of a strategic alternative as well as business operations.

Our cash preservation activities, including the Workforce Reduction Plan, may not result in anticipated savings, could result in total costs and expenses that are greater than expected and could disrupt our business.

In June 2024, we implemented our Workforce Reduction Plan. We estimate that we will incur costs of approximately $5.6 million, which are primarily one-time severance benefits, $2.6 million of which were realized in the second quarter of 2024, with the remaining costs to be incurred in the third and fourth quarter of 2024. We may not realize, in full or in part, the anticipated benefits, savings and improvements in our cost structure from our restructuring efforts due to unforeseen difficulties, delays or unexpected costs. If we are unable to realize the expected operational efficiencies and cost savings from the restructuring, our operating results and financial condition would be adversely affected. Furthermore, our Workforce Reduction Plan may be disruptive to our operations. For example, our headcount reductions could yield unanticipated consequences, such as increased difficulties in implementing our business strategy, including retention of our remaining employees.

Due to our limited resources, we may not be able to effectively manage our operations, which may result in weaknesses in our infrastructure, risks that we may not be able to comply with legal and regulatory requirements, and loss of employees and reduced productivity among remaining employees. For example, our limited resources and workforce reduction may negatively impact our efforts to winddown our clinical trial activities or expose us to cybersecurity risks, which could result in unexpected costs and expenses and have a material adverse effect on our business, financial condition and prospects.

We may become involved in litigation, including securities class action litigation, that could divert management's attention and harm the company's business, and insurance coverage may not be sufficient to cover all costs and damages.

In the past, litigation, including securities class action litigation, has often followed certain significant business transactions, such as the sale of a company or announcement of any other strategic transaction, or the announcement of negative events, such as negative results from clinical trials. These events may also result in investigations by the U.S. Securities and Exchange Commission, or the SEC. We may be exposed to such litigation even if no wrongdoing occurred. Litigation is usually expensive and diverts management's attention and resources, which could adversely affect our business and cash resources and our ability to consummate a potential strategic transaction or the ultimate value our stockholders receive in any such transaction.

Risks Related to Our Limited Operating History, Financial Position and Capital Requirements

We are a biopharmaceutical company with a limited operating history.

We are a biopharmaceutical company established in July 2018 with a limited operating history. Since our inception, we have devoted substantially all of our efforts to organizing and staffing our company, research and development of AV-101, our only product candidate, business planning, raising capital, and providing general and administrative support for these operations. We have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the pharmaceutical industry. In June 2024, we announced our decision to halt enrollment and shut down the Phase 3 portion of our Inhaled iMatinib Pulmonary Arterial Hypertension Clinical Trial (IMPAHCT) clinical trial for AV-101 in adults with PAH as well as the long-term extension study. We do not intend to resume development of AV-101 or conduct research on additional product candidates at this time. We have no products approved for commercial sale and therefore have never generated any revenue from product sales, and we do not expect to in the foreseeable future. We have no other experience as a company conducting clinical trials, submitting applications for regulatory approvals, such as a New Drug Application, or NDA, or commercializing any products.

We have incurred significant operating losses since our inception and anticipate that we will continue to incur losses for the foreseeable future. We may never achieve or maintain profitability.

We have incurred significant operating losses in each year since our incorporation in July 2018, do not expect to become profitable in the near future, and may never achieve profitability. Our net losses were $48.0 million and $35.5 million for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 2024, we had an accumulated deficit of $211.4 million. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We have no products approved for commercial sale, have not generated any revenue from product sales and have incurred losses in each year since our inception in July 2018. Substantially all of our operating losses have resulted from costs incurred in connection with our research and development program of AV-101 and from general and administrative costs associated with our operations. We do not intend to resume development of AV-101 or conduct research on additional product candidates at this time. If we resume development of AV-101, it will require substantial additional development time and resources before we would be able to apply for or receive regulatory approvals and begin generating revenue from product sales. We also do not yet have a sales organization or commercial infrastructure and, accordingly, we will incur significant expenses to develop a sales organization or commercial infrastructure in advance of generating any commercial product sales. As a public company, we continue to incur additional costs associated with operating that we did not incur as a private company. In addition, we expect to continue to incur costs and expenditures in connection with the process of winding down our clinical trial of AV-101 and evaluating our strategic alternatives. As a result, we expect to continue to incur significant expenses and operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing pharmaceutical products and evaluation of strategic alternatives, we are unable to predict the extent of any future losses. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' deficit and working capital.

The amount of our future losses is uncertain and our quarterly and annual operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline. Our quarterly and annual operating results may fluctuate significantly in the future due to a variety of factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and outcome of our exploration of potential strategic alternatives;

- a decision to resume development of AV-101 or any other product candidates;
- the experience of any delays or any issues with winding down our clinical trial activities for AV-101;
- our ability to retain necessary personnel;
- potential litigation, including securities class action litigation;
- the changing and volatile United States and global economic conditions; and
- future accounting pronouncements or changes in our accounting policies.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated guidance we may provide.

We have no products approved for commercial sale and have not generated any revenue from product sales.

Our ability to become profitable depends upon our ability to generate revenue. To date, we have not generated revenue, and we do not expect to generate any revenue in the near future. We do not intend to resume development of AV-101 or conduct research on additional product candidates at this time. Should we resume development of AV-101, we do not expect to generate significant revenue unless and until we obtain regulatory approval of, and begin to sell AV-101.

Should we resume development of AV-101 or any other product candidates, we will require additional capital to finance our operations, which may not be available on acceptable terms, or at all. If we are unable to raise capital when needed, we would be forced to delay, reduce or terminate our product development or commercialization efforts.

Since our inception, we have invested substantially all of our efforts and financial resources in the development of AV-101 to address the core disease processes of PAH. We do not intend to resume development of AV-101 or conduct research on additional product candidates at this time. Should we resume development of AV-101 or any other product candidates, we would expect to continue to expend substantial resources in connection with the clinical development of AV-101. These expenditures would include costs associated with clinical trials, obtaining regulatory approvals, manufacturing and supply and commercialization, if approved. In addition, other unanticipated costs may arise, and we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of a product candidate.

As of June 30, 2024, we had cash and cash equivalents and short-term investments of $104.2 million. We expect our existing cash and cash equivalents and short-term investments will be sufficient to fund our planned operations for at least twelve months from the date of filing this Quarterly Report on Form 10-Q based upon our current operating plans. However, our operating plans may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Should we resume development of AV-101 or any other product candidates, our future capital requirements depend on many factors, including:

- the scope, timing, rate of progress, results and costs of our preclinical studies or clinical trials for AV-101 and any additional product candidates;

- the number and scope of additional product candidates we decide to pursue;
- the extent to which we discover and develop additional product candidates;
- the scope and costs of manufacturing development and commercial manufacturing activities;
- the cost, timing and outcome of regulatory review of AV-101 and any additional product candidates;
- the cost of building a medical affairs and commercial organization including a sales force in anticipation of commercialization of AV-101 and any additional product candidates;
- the cost and timing associated with commercializing AV-101 and any additional product candidates, if approved;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- any product liability or other lawsuits related to AV-101 and any additional product candidates;
- our efforts to enhance operational systems and our ability to attract, hire and retain qualified personnel, including personnel to support the development of AV-101 and any additional product candidates;
- the extent to which we pursue additional indications for AV-101;
- the extent to which we acquire or in-license other product candidates;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the potential additional expenses attributable to adjusting our development plans (including any supply related matters) in response to global conflicts and public health crises; and
- the timing, receipt and amount of sales of AV-101 and any additional product candidates, if approved.

Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to:

- delay, limit, reduce or terminate clinical studies or other medical and development activities for AV-101; or
- delay, limit, reduce or terminate our efforts to establish manufacturing and sales and marketing capabilities or other activities that may be necessary to commercialize AV-101, or reduce our flexibility in developing or maintaining our sales and marketing strategy.

Should we resume development of AV-101 or any other product candidates, we also could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies or AV-101 that we would otherwise pursue on our own. We do not expect to realize revenue from sales of AV-101 in the foreseeable future, if at all, and unless and until AV-101 is clinically tested, approved for commercialization and successfully marketed. To date, we have funded our operations through private placements of convertible preferred stock, convertible notes and proceeds from our initial public offering, or IPO. We will be required to seek additional funding in the future and currently intend to do so through public or private equity offerings or debt financings, credit or loan facilities or a combination of one or more of these funding sources.

If we raise additional funds by issuing equity securities, our stockholders will suffer dilution and the terms of any financing may adversely affect the rights of our stockholders. In addition, as a condition to providing additional funds to us, future

investors may demand, and may be granted, rights superior to those of existing stockholders. Debt financing, if available, is likely to involve restrictive covenants limiting our flexibility in conducting future business activities, and, in the event of insolvency, debt holders would be repaid before holders of our equity securities received any distribution of our corporate assets. Additionally, global economic instability, higher interest rates and diminished credit availability may limit our ability to obtain debt financing on favorable terms.

Our ability to raise additional funds will depend on financial, economic and other factors, many of which are beyond our control. Should we decide to resume development of AV-101 or any other product candidates, fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize such product candidates. Disruptions in the financial markets in general, and due to public health crises, geopolitical conflicts and economic instability, may make equity and debt financing more difficult to obtain, and may have a material adverse effect on our ability to meet our fundraising needs. We cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all.

Risks Related to the Research and Development Activities

Should we resume development of AV-101 or any other product candidates, our business would be entirely dependent on the successful development, regulatory approval and commercialization of such product candidates.

We have invested substantially all of our efforts and financial resources in the development of AV-101 for the treatment of PAH, and we halted further development of AV-101 prior to approval for its sale or commercial use. We have not licensed, acquired or invented any other product candidates for preclinical or clinical evaluation. As we do not have any product candidates in development, an investment in our company may be riskier than similar companies that have multiple product candidates in active development and that therefore may be able to better sustain a failure of a lead candidate. Should we resume development of AV-101 or any other product candidates, the success of our business, including our ability to finance our company and generate any revenue in the future, will, depend entirely on the successful development, regulatory approval and commercialization of such product candidates, which may never occur. We may have inadequate financial or other resources to advance any product candidates through the clinical trial process, depending on the requirements of the FDA and similar foreign regulatory agencies. In addition, should we resume development activities, our clinical development programs may not lead to regulatory approval from the FDA and similar foreign regulatory agencies, and we may therefore fail to commercialize AV-101. Further, interpretation of trial results by the FDA and similar foreign regulatory agencies may vary and any product candidates we may pursue may not receive regulatory approval even if successful in planned and future clinical trials. Should we resume development of AV-101 or any other product candidates, any failure to obtain regulatory approval of such product candidates would have a material and adverse impact on our business. Even if we successfully obtain regulatory approvals, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval. If the markets or patient subsets that we are targeting are not as significant as we estimate, we may not generate significant revenues from sales of a product candidate, even if approved.

Should we resume development of AV-101 or any other product candidates, the clinical and commercial success of AV-101 will depend on a number of factors, including the following:

- our ability to raise any additional required capital on acceptable terms, or at all;
- timely completion of clinical trials, which may be significantly slower or cost more than we currently anticipate and will depend substantially upon the performance of third-party contractors, as well as timely completion of any preclinical studies that may be required in the future;
- whether we are required by the FDA or similar foreign regulatory agencies to conduct additional clinical trials or other studies beyond those planned to support approval;
- our ability to consistently manufacture product candidates on a timely basis;

- our ability, and the ability of any third parties with whom we contract, to remain in good standing with regulatory agencies and develop, validate and maintain commercially viable manufacturing processes that are compliant with current Good Manufacturing Practices, or current GMPs;

- our ability to demonstrate to the satisfaction of the FDA and similar foreign regulatory authorities the safety, efficacy and acceptable risk-benefit profile;

- the prevalence, duration and severity of potential side effects or other safety issues experienced with our product candidates;

- the timely receipt of necessary marketing approvals from the FDA and similar foreign regulatory authorities;

- achieving and maintaining, and, where applicable, ensuring that our third-party contractors achieve and maintain, compliance with our contractual obligations and with all applicable regulatory requirements applicable;

- our ability to successfully develop a commercial strategy and thereafter commercialize product candidates in the United States and internationally, if approved for marketing, sale and distribution in such countries and territories, whether alone or in collaboration with others;

- acceptance by physicians, payors and patients of the benefits, safety and efficacy of our product candidates, if approved;

- our ability to establish and enforce our intellectual property rights; and

- our ability to avoid third-party patent interference, intellectual property challenges or intellectual property infringement claims.

These factors, many of which are beyond our control, could cause us to experience significant delays or an inability to obtain regulatory approvals or commercialize any product candidates should we resume development activities.

While the scope of regulatory approval generally is similar in other countries, in order to obtain separate regulatory approval in other countries we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy. For example, European regulatory authorities generally require a trial comparing the efficacy of the new drug to an existing drug prior to granting approval. Other countries also have their own regulations governing, among other things, clinical trials and commercial sales, as well as pricing and distribution of our product candidates, and we may be required to expend significant resources to obtain regulatory approval and to comply with ongoing regulations in these jurisdictions. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others.

Any outbreak of highly infectious or contagious diseases could seriously harm our research, development, and commercialization efforts, increase our costs and expenses and have a material adverse effect on our business, financial condition, and results of operations.

Public health crises such as pandemics or similar outbreaks could adversely impact our business. The extent to which any outbreak of highly infectious or contagious diseases impacts our operations will ultimately depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the scope, severity, and duration of the pandemic or outbreak, actions taken to contain the pandemic or mitigate its impact, and the direct and indirect economic effects of the pandemic or outbreak and containment measures, among others. Similar to other biopharmaceutical companies, we may experience protocol deviations, delays in enrolling patients, as well as general supply chain delays. Any negative impact public health crises may have on patient enrollment or treatment or the execution of our clinical trials, should we resume development activities, could cause costly delays, which could adversely affect our ability to obtain regulatory approval for and to commercialize our product candidates, increase our operating expenses, and have a material adverse effect on our financial results. Timely enrollment in future planned clinical trials is dependent upon clinical trial

sites being able to actively recruit, screen, enroll, and treat patients in geographies which could be and have been adversely affected by global health matters, such as pandemics.

The results of earlier studies and trials may not be predictive of future trial results.

Product candidates in later stages of clinical trials may fail to show the desired pharmacological properties or safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. For example, in June 2024, we announced the discontinuation of our Phase 3 portion of IMPAHCT as well as the long-term extension study, despite prior positive results in preclinical studies and initial clinical trials of AV-101.

Additionally, should we resume development of AV-101 or the development of any other product candidates, we may utilize "open-label" trial designs. An "open-label" clinical trial is one where both the patient and investigator know whether the patient is receiving the investigational product candidate or either an existing approved drug or placebo. Most typically, open-label clinical trials test only the investigational product candidate and sometimes may do so at different dose levels. Open-label clinical trials are subject to various limitations that may exaggerate any therapeutic effect as patients in open-label clinical trials are aware when they are receiving treatment. Open-label clinical trials may be subject to a "patient bias" where patients perceive their symptoms to have improved merely due to their awareness of receiving an experimental treatment. In addition, open-label clinical trials may be subject to an "investigator bias" where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge. The results from an open-label trial or extension may not be predictive of future clinical trial results when studied in a controlled environment with a placebo or active control.

We have experienced and, should we resume development of AV-101 or any other product candidates, may in the future encounter difficulties with site activation and patient enrollment in our clinical trials, and our clinical development activities could be delayed or otherwise adversely affected.

Should we resume development of AV-101 or any other product candidates, the timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We have experienced and may in the future experience difficulties in site activation delays and patient enrollment in our clinical trials for a variety of reasons as a result of staff shortages and short-term interruptions at clinical trial sites and CROs. The enrollment of patients depends on many additional factors, including:

- size and nature of the patient population and process for identifying patients;
- the severity of the disease under investigation;
- the availability and efficacy of approved drugs for the disease under investigation;
- the patient eligibility criteria defined in the protocol;
- the general willingness of patients to enroll in the trial;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience, and to obtain Investigational Review Board, or IRB, approval to conduct our trial at U.S. sites, and similar approvals at sites outside the United States;

- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new therapies that may be approved for the indications we are investigating;
- competition for patients from other investigational clinical trials being conducted at the same time; and
- the clinical site's ability to obtain and maintain patient consents.

Enrollment risks are heightened with respect to indications that are rare or orphan diseases, which may limit the pool of patients that may be enrolled in our clinical trials. For example, we previously pursued the development of AV-101 for the treatment of PAH, which is an orphan disease and does not have a large patient population. As a result, we experienced some difficulties enrolling subjects in our clinical trials evaluating AV-101 for the treatment of PAH due, in part, to the small size of this patient population.

In addition, our clinical trials may compete with other clinical trials for product candidates that seek to treat the same indications, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we may conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials in such clinical trial sites.

Any delays in patient enrollment may result in increased costs or may affect the timing or outcome of clinical trials, which could prevent completion of such trials and adversely affect our ability to advance the development of our product candidates should we resume development activities.

Clinical development involves a lengthy and expensive process with an uncertain outcome, and delays can occur for a variety of reasons outside of our control.

Clinical development is expensive and can take many years to complete, and its outcome is inherently uncertain. Should we resume development of AV-101 or any other product candidates, failure can occur at any time during the clinical trial process. Changes in regulatory requirements and guidance may occur and we may need to amend our clinical trial protocol to reflect these changes with appropriate regulatory authorities. Furthermore, we cannot be certain that studies or trials will not require redesign, enroll an adequate number of subjects on time or be completed on schedule, if at all. These factors may also impact our ability to release data within our anticipated timeframe. Clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials;
- delays in obtaining regulatory authorization to commence a trial;
- reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining institutional review board, or IRB, approval at each trial site;
- recruiting an adequate number of suitable patients to participate in a trial;
- the number of patients required for clinical trials may be larger than we anticipate;

- having subjects complete a trial or return for post-treatment follow-up;
- clinical sites deviating from trial protocol or dropping out of a trial;
- addressing subject safety concerns that arise during the course of a trial;
- adding a sufficient number of clinical trial sites; or
- obtaining sufficient quantities of a product candidate for use in clinical trials from third-party suppliers on a timely basis.

Should we resume development of AV-101 or any other product candidates, we may experience numerous adverse or unforeseen events during, or as a result of, preclinical studies, if additional studies are required, and clinical trials that could delay or prevent our ability to receive marketing approval or commercialize, including:

- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials or conduct additional studies;
- clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon our development program;
- the number of patients required for clinical trials may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials at a higher rate than we anticipate;
- we or our third-party contractors may fail to comply with regulatory requirements, fail to maintain adequate quality controls, or be unable to produce sufficient product supply to conduct and complete clinical trials in a timely manner, or at all;
- we or our investigators might have to suspend or terminate clinical trials for various reasons, including non-compliance with regulatory requirements, a finding that a product candidate has undesirable side effects or other unexpected characteristics, or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials may be greater than we anticipate;
- the quality of our active pharmaceutical ingredient or other materials necessary to conduct clinical trials may be insufficient or inadequate;
- the FDA may determine that we cannot rely on the Section 505(b)(2) approval pathway, in which case we may be required to conduct additional clinical trials and provide additional data and information and meet additional standards for product approval;
- the FDA may determine that we have identified the wrong listed drug(s), or LD, or that approval of a Section 505(b)(2) application is blocked by patent or non-patent exclusivity of the LD or LDs;
- regulators may revise the requirements for approving a product candidate, or such requirements may not be as we anticipate; and
- future collaborators may conduct clinical trials in ways they view as advantageous to them but that are sub-optimal for us.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs or ethics committees of the institutions in which such trials are being conducted, by the Safety Monitoring Committee, if any, for such clinical trial or

by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site or a manufacturing, processing or storage site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

Principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and may receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, or a regulatory authority concludes that the financial relationship may have affected the interpretation of the trial, the integrity of the data generated at the applicable clinical trial site may be questioned and the utility of the clinical trial itself may be jeopardized, which could result in the delay or rejection of the marketing application we submit. Any such delay or rejection could prevent or delay us from commercializing any product candidates.

Should we resume development activities, if any of our clinical trials are unsuccessful, delayed or terminated, our commercial prospects may be harmed, and our ability to generate revenues from sales will be delayed or not realized at all. In addition, any delays in completing our clinical trials may increase our costs, slow down our development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval. Furthermore, if a product candidate generally proves to be ineffective, as was seen in the Phase 2b portion of our IMPAHCT clinical trial, unsafe or commercially unviable, it would have a material and adverse effect on our business, financial condition, results of operations and prospects.

Should we resume development of AV-101 or any other product candidates, such product candidate may cause undesirable side effects or have other properties that could delay or prevent its regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

The results of our preclinical studies or clinical trials may show undesirable side effects, which could interrupt, delay or halt clinical trials, resulting in the denial of regulatory approval by the FDA and other regulatory authorities. In light of widely publicized events concerning the safety risk of certain drug products, regulatory authorities, members of Congress, the Government Accounting Office, medical professionals and the general public have raised concerns about potential drug safety issues. These events have resulted in the withdrawal of drug products, revisions to drug labeling or boxed warnings that further limit use of the drug products and establishment of risk management programs that may, for instance, restrict distribution of drug products. The increased attention to drug safety issues may result in a more cautious approach by the FDA to clinical trials. Data from clinical trials may receive greater scrutiny with respect to safety, which may make the FDA or other regulatory authorities more likely to terminate clinical trials before completion, or require longer or additional clinical trials that may result in substantial additional expense and a delay or failure in obtaining approval or approval for a more limited indication than originally sought.

If we receive marketing approval for a product candidate and we or others later identify undesirable side effects caused by such product or by other imatinib products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw, suspend or limit approvals of the product, or seek an injunction against its manufacture or distribution;
- we may be required to recall a product or change the way such product is administered to patients or conduct additional clinical trials or post-approval studies;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;

- we may be required to add additional warnings or boxed warnings to our drug labeling or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product;
- we may be required to implement a Risk Evaluation and Mitigation Strategy, or REMS, which may include distribution or use restrictions;
- we could be sued and held liable for harm caused to patients;
- we may be subject to fines, injunctions or the imposition of criminal penalties;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of the foregoing events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and result in the loss of significant revenues to us, which would materially and adversely affect our results of operations and business.

Interim, topline and preliminary results from our preclinical studies and clinical trials that we announce or publish from time to time may change as more data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary, interim or topline data from our preclinical studies and clinical trials. These interim updates are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline results that we report may differ from future results of the same studies or trials, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, topline data should be viewed with caution until the final data are available. In addition, we may report interim analyses of only certain endpoints rather than all endpoints. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse changes between interim data and final data could significantly harm our business and prospects. Further, additional disclosure of interim data by us or by our competitors in the future could result in volatility in the price of our common stock.

In addition, the information we choose to publicly disclose regarding a particular study or trial is typically selected from a more extensive amount of available information. Investors may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. If the preliminary or topline data that we report differ from late, final or actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, any of our product candidates may be harmed, which could harm our business, financial condition, results of operations and prospects.

Risks Related to Commercialization

Should we resume development of AV-101 or any other product candidates, we may face significant competition and our failure to effectively compete may prevent us from achieving significant market penetration. Our competitors are likely to have significantly greater resources than we do and we may not be able to successfully compete.

The pharmaceutical industry is highly competitive, with a number of established, large pharmaceutical companies, as well as many smaller companies. Many of these companies have greater financial resources, marketing capabilities and experience in obtaining regulatory approvals for product candidates. One or more of our competitors may develop products based upon the principles underlying our proprietary technologies earlier than us, obtain approvals for such products from the FDA more rapidly than us or develop alternative products or therapies that are safer, more effective and/or more cost effective. Competitive products may make any products we develop obsolete or noncompetitive before we recover the expense of developing and commercializing these products. Such competitors could also recruit our employees, which could negatively impact our level of expertise and our ability to execute our business plan.

Should we resume development of AV-101 or any other product candidates, our ability to generate revenue may be adversely affected if the FDA or comparable regulatory authorities approve generic versions of such product candidates, or do not grant a sufficient period of market exclusivity before approving its generic version.

Once an NDA is approved, including under the 505(b)(2) pathway, the product covered thereby becomes a "reference listed drug" in the FDA's publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," commonly known as the Orange Book. Manufacturers may seek approval of generic versions of reference listed drugs through submission of Abbreviated New Drug Applications, or ANDAs, and may obtain therapeutical equivalence evaluations for 505(b)(2) pathway drugs under the Food and Drug Omnibus Reform Act's expanded authorities, in the United States. In support of an ANDA, a generic manufacturer need not conduct clinical trials to assess safety and efficacy. Rather, the applicant generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use or labelling as the reference listed drug and that the generic version is bioequivalent to the reference listed drug, meaning it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the reference listed drug and companies that produce generic products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug, a significant percentage of the sales of any branded product or reference listed drug is typically lost to the generic product.

Generic drug manufacturers may seek to launch generic products following the expiration of any applicable exclusivity period we obtain if a product candidate is approved, even if we still have patent protection. Competition from generic versions could materially and adversely affect our future revenue, profitability, and cash flows and substantially limit our ability to obtain a return on the investments into any product candidates.

Should we resume development of AV-101 or any other product candidates, our revenue and ability to achieve profitability will be adversely affected, possibly materially if the market opportunity for such product candidates is smaller than we estimate or if any regulatory approval that we obtain is based on a narrower definition of the patient population.

The incidence and prevalence for target patient populations is often difficult to establish with precision. The total addressable market opportunity will ultimately depend upon, among other things, the patient criteria included in the final label, the indications for which a product candidate is approved for sale, acceptance by the medical community and patient access, product pricing and reimbursement. The number of patients with the disease for which a product candidate may be approved as treatment may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our products, or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business. Should we resume development of AV-101 or any other product candidate, our business would be dependent on the market opportunity for such product.

Should we resume development of AV-101 or any other product candidates, successful commercialization will depend in part on the extent to which governmental authorities, private health insurers, and other third-party payors provide coverage and adequate reimbursement levels. Failure to obtain or maintain coverage and adequate reimbursement for any product candidates, if approved, could limit our ability to market our product and decrease our ability to generate revenue.

In the United States and markets in other countries, patients generally rely on third-party payors to be able to afford medical services and pharmaceutical products that receive FDA approval. Our ability to successfully commercialize our product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. A decision by a third-party payor not to cover or separately reimburse for our product candidates, could reduce physician utilization if approved. Assuming there is coverage for our product candidates by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. We cannot be sure that coverage and reimbursement in the United States, the European Union, or EU, or elsewhere will be available and any reimbursement that may become available may not be adequate or may be decreased or eliminated in the future. For more information, see "*Business – Government Regulation – Pricing and Reimbursement"* in our Annual Report on Form 10-K for the year ended December 31, 2023.

No uniform policy for coverage and reimbursement for products exists among third-party payors in the United States. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. Private third-party payors tend to follow Medicare coverage policies and payment limitations in setting their own reimbursement rates to a substantial degree, but also have their own methods and approval process apart from Medicare determinations. As a result, the coverage determination process is often a time-consuming and costly process that may require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases on short notice, and we believe that changes in these rules and regulations are likely.

Moreover, increasing efforts by governmental and other third-party payors in the United States and abroad to cap or reduce healthcare costs have resulted in increasing challenges to prices charged for pharmaceutical products and services, and many third-party payors may refuse to provide coverage and adequate reimbursement for particular drugs when an equivalent generic drug, biosimilar or a less expensive therapy is available. Even if we show improved efficacy or improved convenience of administration, pricing of existing third-party therapeutics may limit the amount we will be able to charge for it. These third-party payors may deny or revoke the reimbursement status of our product candidates, if approved, or establish prices for it at levels that are too low to enable us to realize an appropriate return on our investment. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates.

Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that reimbursement will be available for any product candidate that we commercialize and, if reimbursement is available, the level of reimbursement. In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price, or ASP, and best price. Penalties may apply in some cases when such metrics are not submitted accurately and timely. Further, these prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs.

Outside the United States, pharmaceutical products are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe and other countries will likely put pressure on the pricing and usage of medical products. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product

candidates. Accordingly, in markets outside the United States, the reimbursement may be reduced compared with the United States and may be insufficient to generate commercially-reasonable revenue and profits.

Even if a product candidate obtains regulatory approval, it may fail to achieve market acceptance.

Even if we receive FDA or other regulatory approval for a product candidate, commercial success will depend significantly on adoption and use by physicians and patients for approved indications. The degree of market acceptance of a product candidate, if approved, will depend on a number of factors, including:

- safety and efficacy as compared to other available treatments;
- patient satisfaction with the product candidate and overall treatment experience;
- the clinical indications for which a product candidate is approved and patient demand for approved products that treat those indications;
- our ability to manufacture and release adequate commercial supplies on a timely basis;
- the availability of coverage and adequate reimbursement from managed care plans, private insurers, government payors (such as Medicare and Medicaid) and other third-party payors;
- the cost of treatment with a product candidate in relation to alternative treatments and patients' ability and willingness to pay out-of-pocket for the product, if approved, in the absence of coverage and/or adequate reimbursement from third-party payors;
- acceptance by physicians, operators of hospitals and clinics and patients of the product as a safe, effective and easy to administer treatment;
- physician and patient willingness to adopt a new therapy over other available therapies;
- the prevalence and severity of side effects;
- the effectiveness of our sales, marketing and distribution efforts;
- adverse or favorable publicity about competitive products;
- potential product liability claims; and
- the approval of other new therapies for the same indication.

Should we resume development of AV-101 or any other product candidates, we cannot assure you that such product candidates, if approved, will achieve market acceptance among physicians and patients. Any failure to achieve market acceptance or commercial success would adversely affect our results of operations.

****We currently have no sales organization. If we are unable to establish sales capabilities on our own or through third parties, should we resume development of AV-101 or any other product candidates, we may not be able to market and sell any product candidates effectively in the United States and foreign jurisdictions, if approved, or generate product revenue.***

Should we resume development of AV-101 or any other product candidates and seek to commercialize any such product candidates, if approved, in the United States and foreign jurisdictions, we must build our marketing, sales, commercial operations, access and distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. As a company, Aerovate has no prior

experience in the marketing, sale and distribution of pharmaceutical products and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain, and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing, commercial operations, access and distribution capabilities would adversely impact the commercialization of our product candidates. We may choose to collaborate with third parties that have commercial capabilities, either to augment our own commercial capabilities or in lieu of Aerovate building certain capabilities such as those related to sales or distribution. If we are unable to enter into such arrangements on acceptable terms or at all, we may not be able to successfully commercialize any product candidates. If we are not successful in commercializing any product candidates, either on our own or through arrangements with one or more third parties, we may not be able to generate product revenue and we would incur significant additional losses.

Should we resume development of AV-101 or any other product candidates, if product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of such product candidates.

We face an inherent risk of product liability as a result of clinical testing of product candidates and will face an even greater risk if we commercialize it. For example, we may be sued if a product candidate allegedly causes injury. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, and a breach of warranty. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization efforts. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- regulatory investigations, product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue; and
- the inability to commercialize our product candidates.

Our inability to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims could prevent or inhibit commercialization efforts. We currently carry product liability insurance covering our clinical trials, however, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient funds to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. If we obtain approval for marketing any product candidates, we intend to expand our insurance coverage to include its sale; however, we may be unable to obtain this liability insurance on commercially reasonable terms or at all.

Risks Related to Our Reliance on Third Parties

Should we resume development of AV-101 or any other product candidates, we would rely on qualified third parties to supply all components of such product candidates. If we experience problems with any of these suppliers, or they fail to comply with applicable regulatory requirements or to supply sufficient quantities at acceptable quality levels or prices, or at all, it would materially and adversely affect our business.

We do not own or operate manufacturing facilities for clinical or commercial manufacture, and we do not plan to own or operate our own manufacturing and packaging facilities. Should we resume development of AV-101 or any other product candidates, we would outsource all manufacturing and packaging of such product candidates to third parties. There can be no assurance that our clinical development product supplies will not be limited, interrupted, or of satisfactory quality or continue to be available at acceptable prices. In addition, any replacement of any of our third-party suppliers could require significant effort and expertise because there may be a limited number of qualified replacements.

Certain of our suppliers may be subject to regulatory requirements covering manufacturing, testing, quality control and record keeping, and are subject to pre-approval and inspections by the regulatory agencies. Failure by any of our suppliers to comply with applicable regulations may result in long delays and interruptions to our manufacturing capacity while we seek to secure another supplier that meets all regulatory requirements. In addition, the facilities used by our contract manufacturing organizations, or CMOs, to manufacture our product candidates may be subject to various regulatory requirements and may be subject to inspection by the FDA or other regulatory authorities. We do not directly control manufacturing at our CMOs, and are completely dependent on them for compliance with current regulatory requirements. If the FDA or a comparable foreign regulatory authority finds the facilities of our CMOs inadequate for the manufacture of our product candidates or if such facilities are subject to enforcement action in the future or are otherwise inadequate, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or commercialize our product candidates and the timing of any such approval and commercialization.

Reliance on third-party manufacturers entails risks that we would more directly manage and control, or to which we would not be subject, if we manufactured any product candidates ourselves, including:

- reliance on the third parties for regulatory compliance, quality assurance and hazardous materials handling;
- the possible breach of the manufacturing and quality agreements by the third parties because of factors beyond our control;
- the possibility of termination or nonrenewal of the agreements by the third parties because of our breach of the manufacturing agreement or based on their own business priorities;
- difficulties or delays due to resource constraints or as a result of labor shortages, disputes or unstable political environments or on account of global pandemics or similar events;
- with respect to any manufacturers with which we do not have a long-term agreement, the possibility that the manufacturer decides to stop supplying to us or changes the price or other terms of supply; and
- changes in the products produced by our suppliers, such that they satisfy specifications but have an unanticipated negative impact on the performance of any product candidates.

Any of these factors could cause the delay of required approvals or commercialization of our product candidates, could prevent us from commercializing it successfully, could cause the suspension of initiation or completion of clinical trials and regulatory submissions, and could lead to higher product costs.

Should we resume development of AV-101 or any other product candidates, we would rely on third parties in the conduct of all of our clinical trials. If these third parties do not successfully carry out their contractual duties, fail to comply with applicable regulatory requirements or meet expected deadlines, we may be unable to obtain regulatory approval for any of our product candidates.

We currently do not have the ability to independently conduct any clinical trials. The FDA and comparable foreign regulatory authorities in other jurisdictions require us to comply with regulations and standards, commonly referred to as good clinical practice, or GCP, requirements for conducting, monitoring, recording and reporting the results of clinical trials, in order to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. Should we resume development of AV-101 or any other product candidates, we expect to rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct GCP-compliant clinical trials properly and on time. While we would agreements with these third parties, we would monitor and control only certain aspects of their activities and have limited influence over their actual performance and the amount or timing of resources that they devote to our programs. Third parties with whom we contract may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities that could harm our competitive position. The third parties with whom we contract for execution of our clinical trials play a significant role in the conduct of these trials and the subsequent collection and analysis of data. We remain responsible for ensuring that each of our clinical trials is conducted in accordance with its investigational plan and protocol and applicable laws and regulations, and our reliance on these third parties does not relieve us of our regulatory responsibilities.

If the third parties conducting our clinical trials do not adequately perform their contractual duties or obligations, experience significant business challenges, disruptions or failures, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to their failure to adhere to our protocols or to GCPs, or for any other reason, we may need to enter into new arrangements with alternative third parties. This could be difficult, costly or impossible, and clinical trials may need to be extended, delayed, terminated or repeated. As a result, we may not be able to obtain regulatory approval in a timely fashion, or at all, our results our business and results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed. We may also be required to register certain clinical trials and post the results of completed clinical trials on government-sponsored databases within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Should we resume development of AV-101 or any other product candidates, we would rely on third parties to supply the raw materials to produce these product candidates.

We do not intend to resume development of AV-101 or initiate development of any other product candidates. However, should we do so, we will rely on independent third parties to supply the raw materials. As such, we will be dependent upon their services and will not be in a position to control their operations as we might if we directly produced these raw materials. We do not have supplier contracts with these third parties. Although we believe the raw materials used to manufacture our products are readily available and can be obtained from multiple reliable sources on a timely basis, circumstances outside our control may impair our ability to have an adequate supply of raw materials which could lead to production delays, interruptions or the need to identify and qualify new raw materials in the production any product candidates.

We may seek to establish collaborations, and, if we are not able to establish them on commercially reasonable terms, or at all, we may have to alter our development and commercialization plans.

Should we resume development of AV-101 or any other product candidates, our product development program and the potential commercialization of any product candidate will require substantial cash to fund expenses. We may decide to collaborate with pharmaceutical and biotechnology companies for development and potential commercialization.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's own evaluation of a potential collaboration.

Such factors a potential collaborator will use to evaluate a collaboration may include the design or results of clinical trials, the likelihood of approval by the FDA or comparable foreign regulatory authorities, the potential market, the costs and complexities of manufacturing and delivering a product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us. The terms of any additional collaborations or other arrangements that we may establish may not be favorable to us.

We may also be restricted under collaboration agreements from entering into future agreements on certain terms with potential collaborators. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate additional collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of any product candidates for which we are seeking to collaborate, reduce or delay its development program, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop product candidates or bring it to market and generate product revenue.

In addition, any future collaborations that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation.

Risks Related to Our Intellectual Property

We have six issued U.S. patents, and many pending patent applications with respect to AV-101. We can provide no assurance that any of our other current or future patent applications will result in issued patents. If we cannot protect our patent rights or our other proprietary rights, others may develop products similar or identical to ours, and we may not be able to compete effectively in our market or successfully commercialize any product candidates we may develop.

Should we resume development of AV-101 or any other product candidates, our success depends to a significant degree upon whether we can continue to secure, enforce and defend intellectual property rights that protect our AV-101 product candidate or any other product candidates that we may identify, and to operate our business without infringing, misappropriating or otherwise violating the intellectual property rights of others. If we are unable to obtain and maintain sufficient intellectual property protection for AV-101 or other product candidates that we may identify, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors and other third parties could develop and commercialize product candidates similar or identical to ours, and our ability to successfully commercialize AV-101 and other product candidates that we may pursue may be impaired. We own six issued U.S. patents with respect to AV-101, and we can provide no assurance that any of our other current or future patent applications will result in issued patents or that any issued patents will provide us with any competitive advantage. Failure to obtain additional issued patents could have a material adverse effect on our ability to develop and commercialize our product candidates. Furthermore, other parties may successfully challenge, invalidate or circumvent our issued patents so that our patent rights do not create an effective competitive barrier or revenue source.

We seek to protect our proprietary position by, among other things, filing patent applications in the United States and abroad related to our proprietary technologies, development programs and product candidates. The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications or to maintain, defend and enforce any patents that may issue from such patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection.

Further, any of our non-provisional patent applications may fail to result in issued patents with claims that cover our proprietary products and technology, including our AV-101 product candidate or any other product candidate in the United States or in other foreign countries, in whole or in part. Although we enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach these agreement and disclose such results before a patent application is filed, thereby jeopardizing our ability to seek patent protection.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal, technological and factual questions and has, in recent years, been the subject of much debate and litigation throughout the world. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States, or vice versa. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. The subject matter claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Therefore, our pending and future patent applications may not result in patents being issued in relevant jurisdictions that protect our product candidates, in whole or in part, or which effectively prevent others from commercializing competitive product candidates, and even if our patent applications issue as patents in relevant jurisdictions, they may not issue in a form that will provide us with any meaningful protection for our product candidates or technology, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Additionally, our competitors may be able to circumvent our patents by developing similar or alternative product candidates or technologies in a non-infringing manner.

In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our current or future product candidates, we may be open to competition from generic versions of such products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. We may be subject to a third-party pre-issuance submission of prior art to the United States Patent and Trademark Office, or the USPTO, or become involved in opposition, derivation, revocation, reexamination, *inter partes* review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others, or other proceedings in the USPTO or applicable foreign offices that challenge priority of invention or other features of patentability. An adverse determination in any such submission, proceeding or litigation could result in loss of exclusivity or freedom to operate, patent claims being narrowed, invalidated or held unenforceable, in whole or in part, limit the scope or duration of the patent protection of AV-101 or any other product candidates that we may identify, all of which could limit our ability to stop others from using or commercializing similar or identical product candidates or technology to compete directly with us, without payment to us, or result in our inability to manufacture or commercialize product candidates or approved products (if any) without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates, or could have a material adverse effect on our ability to raise funds necessary to continue our research programs or clinical trials. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us.

We cannot be certain that the USPTO and courts in the United States or the patent offices and courts in foreign countries will consider the claims in our patents and applications covering our AV-101 product candidate and possible future product

candidates as patentable. Method-of-use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products off-label. Although off-label prescriptions may infringe or contribute to the infringement of method-of-use patents, the practice is common and such infringement is difficult to prevent, including through legal action.

If we lose or cannot obtain additional patent protection for our AV-101 product candidate or other future product candidates it could have a material adverse impact on our business.

Intellectual property litigation could cause us to spend substantial resources and prevent us from pursuing our programs.

From time to time we may have to defend our intellectual property rights. If we are involved in an intellectual property dispute, we may need to litigate to defend our rights or assert them against others. Disputes can involve arbitration, litigation or proceedings declared by the USPTO or the International Trade Commission or foreign patent authorities. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios.

If we were to initiate legal proceedings against a third party to enforce a patent covering our product candidate, the defendant could counterclaim that our patent is invalid or unenforceable. In patent litigation in the United States and in Europe, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness or non-enablement. Third parties might allege unenforceability of our patents because during prosecution of the patent an individual connected with such prosecution withheld relevant information or made a misleading statement. The outcome of proceedings involving assertions of invalidity and unenforceability during patent litigation is unpredictable. With respect to the validity of patents, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution, but that an adverse third party may identify and submit in support of such assertions of invalidity. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidate. Our patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without infringing our patents or other intellectual property rights.

Because of the expense and uncertainty of litigation, we may not be in a position to enforce our intellectual property rights against third parties.

Because of the expense and uncertainty of litigation, we may conclude that even if a third party is infringing our issued patent, any patents that may be issued as a result of our pending or future patent applications or other intellectual property rights, the risk-adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution.

Third parties may initiate or threaten legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our strategic partners to develop, manufacture, market and sell our drugs and use our proprietary technologies without infringing the proprietary rights and intellectual property of third parties. Extensive litigation regarding patents and other intellectual property rights is common in the biotechnology and pharmaceutical industries. We may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our drugs and technology, including interference, derivation, reexamination, post-grant review, opposition, cancellation or similar proceedings before the USPTO or its foreign counterparts. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, resulting in payment of damages. These damages potentially include increased damages and attorneys' fees if we are found to have infringed such rights willfully. Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. We may not be aware of all such intellectual property rights potentially relating to our drugs and their uses. If a third party claims that our AV-101 product candidate, any other product candidates that we may identify, or our technology infringe its patents or other intellectual property rights, we or our partners may have to discontinue an important product or product line, alter our products and processes, pay license fees or cease certain activities. We could be required to obtain a license from such third party in order to continue developing and commercializing AV-101 or other product candidates. However, we may not be able to obtain a license to needed intellectual property on commercially reasonable terms, if at all. Even if a license can be obtained on reasonable terms, the rights may be nonexclusive, which would give our competitors access to the same intellectual property rights. We might also be forced to redesign or modify our product candidates so that we no longer infringe the third-party intellectual property rights, which may result in significant cost or delay to us, or which redesign or modification could be impossible or technically infeasible. There are many patents issued or applied for in the biotechnology industry, and we may not be aware of patents or patent applications held by others that relate to our business. This is especially true since patent applications in the United States are filed confidentially for the first 18 months. Moreover, the validity and breadth of biotechnology patents involve complex legal and factual questions for which important legal issues remain. Thus, we do not know with certainty that our drugs or our intended commercialization thereof, does and will not infringe or otherwise violate any third party's intellectual property.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on drugs in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those we could obtain in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions.

Competitors may use our technologies in jurisdictions where we do not pursue and obtain patent protection to develop their own products. In addition, competitors may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patent rights or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop competitors from infringing our patent rights or misappropriating our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit our right to enforce our patent rights against third parties,

including government agencies, government contractors, or doctors. In these countries, patents may provide limited or no benefit. We must ultimately seek patent protection on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

In addition, proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patent rights at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop.

Should we resume development of AV-101 or any other product candidates, if we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the patent protection for AV-101 or any other product candidates that we may identify, our business may be materially harmed.

Should we resume development of AV-101 or any other product candidates, depending upon the timing, duration and specifics of the first FDA marketing authorization of such product candidate, a United States patent that we own may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments allow the owner of an approved product to extend patent protection for up to five years as compensation for patent term lost during product development and the FDA regulatory review process. During this period of extension, the scope of protection is limited to the approved product and approved uses.

Although we plan on seeking patent term restoration for our products, we may not succeed if, for example, we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we cannot obtain patent term restoration or the term of any such patent restoration is less than we request, our competitors may enter the market and compete against us sooner than we anticipate, and our ability to generate revenue could be materially adversely affected.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent which might adversely affect our ability to develop, manufacture and market our product candidate.

We cannot guarantee that any of our patent searches or analyses, including but not limited to the identification of relevant patents, analysis of the scope of relevant patent claims or determination of the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States, Europe and elsewhere that is relevant to or necessary for the commercialization of AV-101 or any other product candidates that we may identify in any jurisdiction. For example, in the United States, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Patent applications in the United States, EU and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates could be filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover AV-101 or any other product candidates that we may identify or the use of AV-101 or any other product candidates that we may identify. After issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that AV-101 or any other product candidates that we may identify is not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States, the EU or elsewhere that we consider relevant may be incorrect, which may negatively impact our ability to develop and market AV-101 or any other product candidates that we may identify. Our failure to identify and

correctly interpret relevant patents may negatively impact our ability to develop and market AV-101 or any other product candidates that we may identify.

If we fail to correctly identify or interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay monetary damages, we may be temporarily or permanently prohibited from commercializing AV-101 or any other product candidates that we may identify. We might, if possible, also be forced to redesign AV-101 or any other product candidates that we may identify in a manner that no longer infringes third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business.

Should we resume development of AV-101, changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect AV-101 or any other product candidates that we may identify.

Recent court rulings, including rules from the United States Supreme Court, have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the United States Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

In addition, the America Invents Act, or the AIA, which was passed in September 2011, resulted in significant changes to the U.S. patent system. An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned from a "first-to-invent" to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. A third party that files a patent application in the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application and diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action.

Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. It is not clear what, if any, impact the AIA will have on the operation of our business. However, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

We may become involved in opposition, interference, derivation, inter partes review or other proceedings challenging our patent rights, and the outcome of any proceedings are highly uncertain. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

There may be significant pressure on the U.S. government and international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful, as a matter of public policy regarding worldwide health concerns.

In addition, a European Unified Patent Court, or UPC, is scheduled to come into force during 2023. The UPC will be a common patent court to hear patent infringement and revocation proceedings effective for member states of the European Union. This could enable third parties to seek revocation of any of our European patents in a single proceeding at the UPC rather than through multiple proceedings in each of the jurisdictions in which the European patent is validated. Any such revocation and loss of patent protection could have a material adverse impact on our business and our ability to commercialize or license our technology and products. Moreover, the controlling laws and regulations of the UPC will develop over time and may adversely affect our ability to enforce or defend the validity of our European patents. We may decide to opt out our European patents and patent applications from the UPC. If certain formalities and requirements are not met, however, our European patents and patent applications could be challenged for non-compliance and brought under the jurisdiction of the UPC. We cannot be certain that our European patents and patent applications will avoid falling under the jurisdiction of the UPC, if we decide to opt out of the UPC.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and European and other patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In addition, periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and European and other patent agencies over the lifetime of a patent. While an inadvertent failure to make payment of such fees or to comply with such provisions can in many cases be cured by additional payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance with such provisions will result in the abandonment or lapse of the patent or patent application, and the partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents within prescribed time limits. If we fail to maintain the patents and patent applications covering AV-101 or if we otherwise allow our patents or patent applications to be abandoned or lapse, it can create opportunities for competitors to enter the market, which would hurt our competitive position and could impair our ability to successfully commercialize our product candidates in any indication for which they are approved.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We generally enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and contractors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, those agreements may not be honored and may not effectively assign intellectual property rights to us. Moreover, there may be some circumstances, where we are unable to negotiate for such ownership rights. Disputes regarding ownership or inventorship of intellectual property can also arise in other contexts, such as collaborations and sponsored research. If we are subject to a dispute challenging our rights in or to patents or other intellectual property, such a dispute could be expensive and time consuming. If we were unsuccessful, we could lose valuable rights in intellectual property that we regard as our own. The issuance of a patent is not conclusive as to its inventorship.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We could in the future be subject to claims that we or our employees have inadvertently or otherwise used or disclosed alleged trade secrets or other confidential information of former employers or competitors. Although we try to ensure that our employees and consultants do not use the intellectual property, proprietary information, know-how or trade secrets of others in their work for us, we may become subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement, or that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor.

While we may litigate to defend ourselves against these claims, even if we are successful, litigation could result in substantial costs and could be a distraction to management. If our defenses to these claims fail, in addition to requiring us to pay monetary damages, a court could prohibit us from using technologies or features that are essential to our product candidates, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. Moreover, any such litigation or the threat thereof may adversely affect our reputation, our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would have an adverse effect on our business, results of operations and financial condition.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

We rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology and other proprietary information and to maintain our competitive position. Trade secrets and know-how can be difficult to protect. We seek to protect these trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, collaborators consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology and processes. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our product candidates that we consider proprietary. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary information will be effective.

We also seek to preserve the integrity and confidentiality of our confidential proprietary information by maintaining physical security of our premises and physical and electronic security of our information technology systems, but it is possible that these security measures could be breached. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be materially and adversely harmed.

If we and our partners do not adequately protect the trademarks and trade names for our products, then we and our partners may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our competitors or other third parties may challenge, infringe or circumvent the trademarks or trade names for our products. We and our partners may not be able to protect these trademarks and trade names. In addition, if the trademarks or trade names for one of our products infringe the rights of others, we or our partners may be forced to stop using the trademarks or trade names, which we need for name recognition in our markets of interest. If we cannot establish name recognition based on our trademarks and trade names, we and our partners may not be able to compete effectively and our business may be adversely affected.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may make drug products that are similar to AV-101 but that are not covered by the claims of our patents;

- we, or current or future strategic partners, might not have been the first to make the inventions covered by our issued patent or pending patent applications;
- we, or current or future strategic partners, might not have been the first to file patent applications covering our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- our pending and future patent applications may not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business, results of operations and prospects.

Risks Related to Government Regulation

Should we resume development of AV-101 or any other product candidates or any other product candidates, we may be unable to obtain regulatory approval under applicable regulatory requirements. The denial or delay of any such approval would delay commercialization of any product candidates and adversely impact our potential to generate revenue, our business and our results of operations.

We have not previously submitted an NDA or any other marketing application to the FDA or similar filings to comparable foreign regulatory authorities. An NDA or other similar regulatory filing requesting approval to market a product candidate must include extensive preclinical and clinical data and supporting information to establish that the product candidate is safe, effective, pure and potent for each desired indication. The NDA or other similar regulatory filing must also include significant information regarding the chemistry, manufacturing and controls for the product.

The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of pharmaceutical products are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, and such regulations differ from country to country. We are not permitted to market AV-101 or any other product candidates in the United States or in any foreign countries until we receive the requisite approval from the applicable regulatory authorities of such jurisdictions.

The FDA or any foreign regulatory bodies can delay, limit or deny approval of product candidates for many reasons, including:

- our inability to demonstrate to the satisfaction of the FDA or the applicable foreign regulatory body that a product candidate is safe and effective for the requested indication;
- the FDA's or the applicable foreign regulatory agency's disagreement with our trial protocol or the interpretation of data from preclinical studies or clinical trials;

- our inability to demonstrate that the clinical and other benefits of a product candidate outweigh any safety or other perceived risks;
- the FDA's or the applicable foreign regulatory agency's requirement for additional preclinical studies or clinical trials;
- the FDA's or the applicable foreign regulatory agency's non-approval of the formulation, labeling or specifications for a product candidate;
- the FDA's or the applicable foreign regulatory agency's failure to approve our manufacturing processes and facilities or the facilities of third-party manufacturers upon which we rely; or
- the potential for approval policies or regulations of the FDA or the applicable foreign regulatory agencies to significantly change in a manner rendering our clinical data insufficient for approval.

Of the large number of pharmaceutical products in development, only a small percentage successfully complete the FDA or other regulatory bodies' approval processes and are commercialized.

Should we resume development of AV-101 or any other product candidates, even if we eventually complete clinical testing and receive approval from the FDA or applicable foreign agencies for such product candidates, the FDA or the applicable foreign regulatory agency may grant approval contingent on the performance of costly additional clinical trials which may be required after approval. The FDA or the applicable foreign regulatory agency also may approve a product candidate for a more limited indication or a narrower patient population than we originally requested, and the FDA, or applicable foreign regulatory agency, may not approve it with the labeling that we believe is necessary or desirable for the successful commercialization.

Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of a product candidate and would materially adversely impact our business and prospects.

AV-101 is a drug-device combination product, which may result in additional regulatory risks.

Should we resume development of AV-101, our finished drug product, a proprietary inhaled dry powder formulation and DPI, will be regulated as a drug-device combination product. The DPI we use to administer AV-101 is currently CE marked and used outside the United States but AV-101 would be the first drug to obtain approval with this DPI in the United States. There may be additional regulatory risks for drug-device combination products. Should we resume development of AV-101, we may experience delays in obtaining regulatory approval given the increased complexity of the review process when approval of the product and a delivery device is sought under a single marketing application. In the United States, each component of a combination product is subject to the requirements established by the FDA for that type of component, whether a drug, biologic or device. The DPI will be subject to FDA design control device requirements which comprise among other things, design verification, design validation (including human factors testing), and testing to assess performance, cleaning, and robustness. Delays in or failure of the studies conducted by us, or failure of our company, our collaborators, if any, or our third-party providers or suppliers to maintain compliance with regulatory requirements could result in increased development costs, delays in or failure to obtain regulatory approval, and associated delays in AV-101 reaching the market.

Should we resume development of any product candidates, we may in the future conduct, clinical trials outside the United States, and the FDA, EMA and applicable foreign regulatory authorities may not accept data from such trials.

The acceptance of trial data from clinical trials conducted outside the United States by the FDA, EMA, or applicable foreign regulatory authority may be subject to certain conditions. In cases where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; (ii) the trials were performed by clinical investigators of recognized competence and pursuant to

GCP regulations; and (iii) the data may be considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical trial requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory bodies have similar approval requirements.

In addition, such foreign trials will be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA, EMA, or any applicable foreign regulatory authority will accept data from trials conducted outside of the United States. If the FDA, EMA, or any applicable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in a product candidate not receiving approval or clearance for commercialization in the applicable jurisdiction.

Even if we obtain regulatory approval for a product candidate, we will be subject to ongoing regulatory requirements, which may result in significant additional expenses. If approved, our product candidates could be subject to labeling and other restrictions, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with any product candidates.

We do not intend to resume development of AV-101 or commence development of any other product candidates. However, should we resume development of a product candidate, if we have a product candidate approved by the FDA or a comparable foreign regulatory authority, it will be subject to extensive and ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy, and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and listing, as well as continued compliance with current GMPs, and Good Manufacturing Practices, or GMPs, for any clinical trials that we conduct post-approval. Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses, including the duration of use, for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing studies, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product. The FDA may also require a REMS in order to approve a product candidate, which could entail requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to current GMP regulations and implementing tracking and tracing requirements for certain prescription pharmaceutical products. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with current GMP and adherence to commitments made in any approved marketing application. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control.

In the event any future product candidates are approved, we would have to comply with requirements concerning advertising and promotion. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved label. As such, we may not promote a product candidate for indications or uses for which it does not have approval. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. We also must submit new or supplemental applications and obtain approval for certain changes to product labeling, or manufacturing process.

If we discover previously unknown problems with any product candidate, such as adverse events of unanticipated severity or frequency, or problems with the facility where a product candidate is manufactured, or if the FDA disagrees with the promotion, marketing or labeling, the FDA may impose restrictions on it or us, including requiring withdrawal of it from

the market. If we fail to comply with applicable regulatory requirements, the FDA and other regulatory authorities may, among other things:

- issue warning letters or other regulatory enforcement action;
- impose injunctions, fines or civil or criminal penalties;
- suspend or withdraw regulatory approval;
- suspend any clinical studies;
- refuse to approve pending applications or supplements to approved applications;
- require revisions to the labeling, including limitations on approved uses or the addition of additional warnings, contraindications or other safety information, including boxed warnings;
- impose a REMS which may include distribution or use restrictions;
- require the conduct of an additional post-market clinical trial or trials to assess the safety of the product;
- impose restrictions on our operations, including closing our contract manufacturers' facilities where regulatory inspections identify observations of noncompliance requiring remediation; or
- restrict the marketing of the product, require a product recall, seizure or detention, or refuse to permit the import or export of the product.

Any government action or investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

Moreover, the policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of any product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. In addition, if we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may be subject to enforcement action and we may not achieve or sustain profitability.

We have received orphan drug designation from the FDA and EMA for AV-101 for treatment of PAH, but should we resume development of AV-101, we may be unable to obtain additional designations or to maintain the benefits associated with orphan drug status, including the potential for non-patent market exclusivity.

We have obtained orphan drug designation for AV-101 in the United States from the FDA and in the European Union from the EMA. We may not be able to obtain orphan drug designation for additional indications for AV-101 or for future product candidates or maintain the benefits associated with orphan drug designation, including the potential for non-patent market exclusivity. Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug or biologic as an orphan drug if it is a product intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population of 200,000 or more in the United States where there is no reasonable expectation that the cost of developing the product will be recovered from sales in the United States. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly, in the European Union, the European Commission, upon the recommendation of the EMA's Committee for Orphan Medicinal Products, may grant orphan designation in respect of products that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions and either (i) such condition affects not more than five in 10,000 persons in the European Union when the application is made or (ii) without incentives, it is unlikely that the marketing of the product would generate sufficient return in the European Union to justify the necessary investment in its development, and, in each case, for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). In the European Union, orphan designation entitles a party to financial incentives such as reduction of fees or fee waivers.

Generally, if a product with an orphan drug designation subsequently receives the first regulatory approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA from approving another marketing application for the same product and indication for that time period, except in limited circumstances. Any competitor developing imatinib in the same indication with orphan drug designation may block our ability to obtain orphan drug exclusivity in the future if the competitor receives marketing approval before we do. The applicable exclusivity period is seven years in the United States and ten years in the European Union. The European Union exclusivity period can be reduced to six years if, at the end of the fifth year, it is established that a product no longer meets the criteria for orphan drug designation, including if the product is sufficiently profitable so that market exclusivity is no longer justified. Legislation has been proposed by the European Commission that, if implemented, has the potential in some cases to shorten the ten-year period of orphan drug exclusivity.

Even with orphan drug exclusivity for AV-101, that exclusivity may not effectively protect AV-101 from competition because different products can be approved for the same condition. Even after an orphan drug is approved, the FDA or EMA can subsequently approve the same product for the same condition if the FDA or EMA concludes that the later product is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition or if another product with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a product nor gives the product any advantage in the regulatory review or approval process. Although we have received orphan designation from the EMA, there is no guarantee that such designation will be maintained on grant of a marketing authorization for AV-101.

Should we resume development of AV-101 or any other product candidates, even if we obtain FDA approval in the United States, we may never obtain approval for or successfully commercialize a product candidate outside of the United States, which would limit our ability to realize its full market potential.

In order to market product candidates outside of the United States, we must obtain marketing authorizations and comply with numerous and varying regulatory requirements of other countries regarding quality, safety and efficacy. Clinical trials conducted in one country may not be accepted by foreign regulatory authorities, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and costs for us and require additional non-clinical studies or clinical trials, which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of a product candidate in those countries. We, as a company, do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approval in international markets is delayed, our target market will be reduced and we would not be able to realize the full market potential of such product candidate.

Our business operations and current and future relationships with investigators, healthcare professionals, consultants, third-party payors, patient organizations and customers will be subject to applicable healthcare regulatory laws, which could expose us to penalties.

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations and customers, may expose us to broadly applicable fraud and abuse and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute, the federal civil and criminal False Claims Act and Physician Payments Sunshine Act and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell and distribute product candidates, if approved. For more information, see "*Business – Government Regulation – Healthcare Laws and Regulation"* in our Annual Report on Form 10-K for the year ended December 31, 2023.

Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws. If our operations are found to be in violation of any of the laws described above or any other governmental laws that may apply to us, we may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to significant criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming and may require significant personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

The United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system that could prevent or delay regulatory approval of our current or future product candidates or any future product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell a product for which we obtain regulatory approval. Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements, (ii) additions or modifications to product labeling, (iii) the recall or discontinuation of our products or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business. For more information, see "*Business – Government Regulation – Pricing and Reimbursement"* in our Annual Report on Form 10-K for the year ended December 31, 2023.

Our revenue prospects could be affected by changes in healthcare spending and policy in the United States and abroad. We operate in a highly regulated industry and new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to healthcare availability, the method of delivery or payment for healthcare products and services could negatively impact our business, operations and financial condition.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future, including repeal, replacement or significant revisions to the ACA. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our current or future product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;

- our ability to obtain coverage and reimbursement approval for a product;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, if approved. In particular, while the FDA permits the dissemination of truthful and non-misleading information about an approved product, a manufacturer may not promote a product for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The government has also imposed consent decrees, corporate integrity agreements or permanent injunctions under which specified promotional conduct must be changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

Inadequate funding for the FDA, the SEC and other government agencies, including from government-shutdowns, or other disruptions to these agencies' operations, could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory and policy changes. Average review times at the agency have fluctuated in recent years as a result. Disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years the United States government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Risks Related to Employee Matters

Our insurance policies may be inadequate and potentially expose us to unrecoverable risks.

We have limited director and officer insurance and product liability insurance policies. Any significant insurance claims would have a material adverse effect on our business, financial condition and results of operations. Insurance availability, coverage terms, including deductibles and pricing, continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify; however, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage, and insurers may not respond as we intend to cover insurable events that may occur. We have observed rapidly changing conditions in the insurance markets relating to nearly all areas of traditional corporate insurance. Such conditions have resulted in higher premium costs, higher policy deductibles and lower coverage limits. For some risks, we may not have or maintain insurance coverage because of cost or availability.

We may be unable to adequately protect our information systems and infrastructure from cyberattacks and other cybersecurity incidents, which could result in the disclosure or compromise of confidential or proprietary information, including personal data, damage to our reputation, and subject us to significant financial and legal exposure.

We rely on information technology systems that we or our third-party providers operate to process, transmit and store electronic information in our day-to-day operations. In connection with our product discovery efforts, we may collect and use a variety of personal data, such as names, mailing addresses, email addresses, phone numbers and clinical trial information. A successful cyberattack or other cybersecurity incident could result in the theft or destruction of this personal data, intellectual property, other data, or other misappropriation of assets, or otherwise compromise our confidential or proprietary information and disrupt our operations. Cybersecurity incidents are increasing in their frequency, sophistication, level of persistence and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives and expertise. Cyberattacks could include wrongful conduct by hostile foreign governments, industrial espionage, wire fraud and other forms of cyber fraud, the deployment of harmful malware, denial-of-service, ransomware, social engineering fraud or other means to threaten data security, confidentiality, integrity and availability. We may also face increased cybersecurity risks due to our reliance on internet technology and the number of our employees who are working remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities. Furthermore, because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience cybersecurity incidents that may remain undetected for an extended period. A successful cyberattack could cause serious negative consequences for us, including, without limitation, the disruption of operations, the misappropriation of confidential business information, including financial information, trade secrets, financial loss and the disclosure of corporate strategic plans. Although we devote resources to protect our information systems, we realize that cybersecurity incidents are a threat, and there can be no assurance that our efforts will prevent cybersecurity incidents that would result in business, legal, financial or reputational harm to us, or would have a material adverse effect on our results of operations and financial condition. We maintain cybersecurity insurance in the event of a cybersecurity incident; however, the coverage may not be sufficient to cover all financial losses. Any failure to prevent or mitigate cybersecurity incidents or improper access to, use of, or disclosure or compromise of our clinical data or patients' personal data could result in significant liability under state (e.g., state breach notification laws), federal, and international law and may cause a material adverse impact to our reputation, affect our ability to conduct new studies and potentially disrupt our business.

We rely on our third-party providers to implement effective security measures and identify and correct for any such failures, deficiencies or breaches. If we or our third-party providers fail to maintain or protect our information technology systems and data integrity effectively or fail to anticipate, plan for or manage significant disruptions to our information technology systems, we or our third-party providers could have difficulty preventing, detecting and controlling such cyber-attacks and any such incidents could result in the losses described above as well as disputes with physicians, patients and our partners, regulatory sanctions or penalties, increases in operating expenses, other expenses or lost revenues or other adverse consequences, any of which could have a material adverse effect on our business, results of operations, financial condition, prospects and cash flows. Any failure by such third parties to prevent or mitigate cybersecurity incidents or

improper access to or disclosure or compromise of such information could have similarly adverse consequences for us. If we are unable to prevent or mitigate the impact of such cybersecurity incidents, we could be exposed to litigation and governmental investigations, which could lead to a potential disruption to our business. By way of example, the California Consumer Privacy Act as amended by the California Privacy Rights Act, or CCPA, provides a private right of action for data breaches impacting California residents.

Risks Related to Ownership of Our Common Stock

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage point change (by value) in the ownership of its equity over a three year period), the corporation's ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income may be limited. We may have experienced such ownership changes in the past, and we may experience ownership changes in the future or subsequent shifts in our stock ownership, some of which are outside our control. As of December 31, 2023, we had federal net operating loss (NOL) carryforwards of approximately $64.8 million and are accruing additional net operating losses in calendar year 2024, which will be added to the net operating loss carryover balance once the current year is completed. Our ability to utilize our net operating loss carryforwards could be limited by an "ownership change" as described above, which could result in increased tax liability to us. Furthermore, our ability to utilize our NOLs or credits is conditioned upon our attaining profitability and generating United States federal and state taxable income. As a result, the amount of the net operating loss and tax credit carryforwards presented in our financial statements could be limited and may expire unutilized. Federal net operating loss carryforwards generated since our incorporation in July 2018 will not be subject to expiration. However, any such net operating loss carryforwards may only offset 80% of our annual taxable income.

Changes in tax law may adversely affect us or our investors.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service, or IRS, and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our common stock. In recent years, many changes have been made and changes are likely to continue to occur in the future. For example, under Section 174 of the code, in taxable years beginning after December 31, 2021, expenses that are incurred for research and development in the U.S. are capitalized and amortized, which may have an adverse effect on our cash flow. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation.

It cannot be predicted whether, when, in what form, or with what effective dates, new tax laws may be enacted, or regulations and rulings may be enacted, promulgated or issued under existing or new tax laws, which could result in an increase in our or our shareholders' tax liability or require changes in the manner in which we operate in order to minimize or mitigate any adverse effects of changes in tax law or in the interpretation thereof.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Our second amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change of control of our company or changes in our board of directors that our stockholders might consider favorable. Some of these provisions include:

- a board of directors divided into three classes serving staggered three-year terms, such that not all members of the board of directors will be elected at one time;

- a prohibition on stockholder action through written consent, which requires that all stockholder actions be taken at a meeting of our stockholders;

- a requirement that special meetings of the stockholders may be called only by the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office, and special meetings of stockholders may not be called by any other person or persons;

- advance notice requirements for stockholder proposals and nominations for election to our board of directors;

- a requirement that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of not less than two-thirds (2/3) of all outstanding shares of our voting stock then entitled to vote in the election of directors;

- a requirement of approval of not less than a majority of all outstanding shares of our voting stock to amend any bylaws by stockholder action and not less than two-thirds (2/3) of all outstanding shares of our voting stock to amend specific provisions of our second amended and restated certificate of incorporation; and

- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval, which preferred stock may include rights superior to the rights of the holders of common stock.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporate Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. These anti-takeover provisions and other provisions in our second amended and restated certificate of incorporation and amended and restated bylaws could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving our company. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing or cause us to take other corporate actions you desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

Our amended and restated bylaws designate certain courts as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated bylaws provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claim for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers, and employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our second amended and restated certificate of incorporation or our amended and restated bylaws (including the interpretation, validity or enforceability thereof) or (iv) any action asserting a claim that is governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein, or the Delaware Forum Provision. The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Exchange Act. Our amended and restated bylaws further provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, or the Federal Forum Provision. In addition, our bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the foregoing provisions; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

We recognize that the Delaware Forum Provision in our amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims, particularly if the stockholders do not reside in or near the State of Delaware. Additionally, the forum selection clauses in our amended and restated bylaws may limit our stockholders' ability to bring a claim in a forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage such lawsuits against us and our directors, officers and employees even though an action, if successful, might benefit our stockholders. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection

provisions purporting to require claims under the Securities Act be brought in federal court were "facially valid" under Delaware law, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable, we may incur additional costs associated with resolving such matters. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the United States may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

General Risk Factors

Unfavorable global economic or political conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. A global financial crisis or a global or regional political disruption could cause extreme volatility in the capital markets and lead to diminished liquidity and credit availability, higher interest rates, declines in consumer confidence and economic growth, increases in unemployment rates and uncertainty about economic stability. For instance, the COVID-19 pandemic led to a period of considerable uncertainty and volatility and interest rates in the U.S. have recently increased to levels not seen in decades. In addition, the impact of geopolitical tension, such as a deterioration in the bilateral relationship between the United States and China or the ongoing war in Ukraine and the conflict in the Middle East, including any resulting sanctions, export controls or other restrictive actions, also could lead to disruption, instability, and volatility in the global markets, as well as disruptions to our business. A severe or prolonged economic downturn or political disruption could result in a variety of risks to our business, our strategic prospects and our ability to raise additional capital as needed on acceptable terms, if at all. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the political or economic climate and financial market conditions could adversely impact our business.

Adverse developments affecting the financial services industry, such as actual events or concerns involving liquidity, defaults, or non-performance by financial institutions or transactional counterparties, could adversely affect the Company's current and projected business operations and its financial condition and results of operations.

Actual events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. For example, on March 10, 2023, Silicon Valley Bank, or SVB, was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation, or FDIC, as receiver. Similarly, on March 12, 2023, Signature Bank and Silvergate Capital Corp. were each swept into receivership; since then, additional financial institutions have experienced similar failures and have been placed into receivership. It is possible that other banks will face similar difficulty in the future. We had no exposure to the SVB closure and did not experience any adverse impact to our liquidity or to our current and projected business operations, financial condition or results of operations. However, uncertainty remains over liquidity concerns in the broader financial services industry, and there may be additional impacts to our business and our industry that we cannot predict at this time. Similar impacts have occurred in the past, such as during the 2008-2010 financial crisis.

Although we assess our banking and customer relationships as we believe necessary or appropriate, our access to funding sources and other credit arrangements in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect the Company, the financial institutions with which the Company has credit agreements or arrangements directly, or the financial services industry or economy in general. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry. These factors could involve financial institutions or financial services industry companies with which the Company has financial or business relationships, but could also include factors involving financial markets or the financial services industry generally.

The results of events or concerns that involve one or more of these factors could include a variety of material and adverse impacts on our current and projected business operations and our financial condition and results of operations. These could include, but may not be limited to, the following:

- Delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets;
- Delayed or lost access to, or reductions in borrowings available under revolving existing credit facilities or other working capital sources and/or delays, inability or reductions in the company's ability to refund, roll over or extend the maturity of, or enter into new credit facilities or other working capital resources;
- Potential or actual breach of contractual obligations that require the Company to maintain letters of credit or other credit support arrangements; or
- Termination of cash management arrangements and/or delays in accessing or actual loss of funds subject to cash management arrangements.

Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other obligations, result in breaches of our financial and/or contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above, could have material adverse impacts on our liquidity and our current and/or projected business operations and financial condition and results of operations.

In addition, any further deterioration in the macroeconomic economy or financial services industry could lead to losses or defaults by our suppliers, which in turn, could have a material adverse effect on our current and/or projected business operations and results of operations and financial condition. For example, a supplier may determine that it will no longer deal with us as a customer or a supplier could be adversely affected by any of the liquidity or other risks that are described above as factors that could result in material adverse impacts on the Company, including but not limited to delayed access or loss of access to uninsured deposits or loss of the ability to draw on existing credit facilities involving a troubled or failed financial institution. Any supplier bankruptcy or insolvency, or the failure of any customer to make payments when due, or any breach or default by a supplier, or the loss of any significant supplier relationships, could result in material losses to the Company and may have a material adverse impact on our business.

Our business is affected by macroeconomic conditions, including rising inflation, interest rates and supply chain constraints.

Various macroeconomic factors could adversely affect our business and the results of our operations and financial condition, including changes in inflation, interest rates and overall economic conditions and uncertainties such as those resulting from the current and future conditions in the global financial markets. For instance, recent supply chain constraints have led to higher inflation, which if sustained could have a negative impact on our development of future product candidates, as well as our business and results of operations. If inflation or other factors were to significantly increase our business costs, our ability to develop our current pipeline and new therapeutic products may be negatively affected. Interest rates, the liquidity of the credit markets and the volatility of the capital markets could also affect the operation of our business and our ability to raise capital on favorable terms, or at all, in order to fund our operations.

Our employees and independent contractors, including principal investigators, consultants, commercial collaborators, service providers and other vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have an adverse effect on our results of operations.

We are exposed to the risk that our employees and independent contractors, including principal investigators, consultants, any future commercial collaborators, service providers and other vendors may engage in misconduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or other unauthorized

activities that violate the laws and regulations of the FDA and other similar regulatory bodies, including those laws that require the reporting of true, complete and accurate information to such regulatory bodies; manufacturing standards; United States federal and state fraud and abuse laws, data privacy and security laws and other similar non-United States laws; or laws that require the true, complete and accurate reporting of financial information or data. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of clinical trials, the creation of fraudulent data in our preclinical studies or clinical trials, or illegal misappropriation of product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third-parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. In addition, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and financial results, including, without limitation, the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other United States federal healthcare programs or healthcare programs in other jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Actual or perceived failures to comply with United States and foreign privacy and data protection laws, regulations and standards may adversely affect our business, operations and financial performance.

We are subject to or affected by numerous federal, state and foreign laws and regulations, as well as regulatory guidance, governing the collection, use, disclosure, retention, and security of personal information, such as information that we collect about patients and healthcare providers in connection with clinical trials in the United States and abroad. The global data protection landscape is rapidly evolving, and implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future. This evolution may create uncertainty in our business, affect our or any service providers', contractors' or future collaborators' ability to operate in certain jurisdictions or to collect, store, transfer, use and share personal information, necessitate the acceptance of more onerous obligations in our contracts, result in liability or impose additional costs on us. The cost of compliance with these laws, regulations and standards is high and is likely to increase in the future. Any failure or perceived failure by us or our collaborators, service providers and contractors to comply with federal, state or foreign laws or regulations, our internal policies and procedures or our contracts governing processing of personal information could result in negative publicity, diversion of management time and effort and proceedings against us by governmental entities or others. In many jurisdictions, enforcement actions and consequences for noncompliance are rising.

As our operations and business grow, we may become subject to or affected by new or additional data protection laws and regulations and face increased scrutiny or attention from regulatory authorities. In the United States, HIPAA imposes, among other things, certain standards relating to the privacy, security, transmission and breach reporting of individually identifiable health information. Certain states have also adopted comparable privacy and security laws and regulations, some of which may be more stringent than HIPAA. Such laws and regulations will be subject to interpretation by various courts and other governmental authorities, thus creating potentially complex compliance issues for us and our future customers and strategic partners. For example, the CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches. The CCPA may increase our compliance costs and potential liability. Following the amendment of the CCPA by the California Privacy Rights Act, or CPRA, the CCPA is implemented and enforced by a new California data protection agency, which may result in increased regulatory scrutiny of California businesses in the areas of data protection and security. The effects of the CCPA, as amended by the CPRA, are potentially significant and may require us to modify our data collection or processing practices and policies and to incur substantial costs and expenses in an effort to comply and increase our potential exposure to regulatory enforcement and/or litigation.

Certain other state laws impose similar privacy obligations and we also anticipate that more states will increasingly enact legislation similar to the CCPA. Already, laws similar to the CCPA have been passed in numerous other states. While

these laws incorporate many similar concepts of the CCPA, there are also several key differences in the scope, application, and enforcement of the laws that will change the operational practices of regulated entities. In addition, Washington state recently passed a comprehensive health information privacy law. Proposed and newly enacted legislation may add additional complexity, variation in requirements, restrictions and potential legal risk, require additional investment of resources in compliance programs, impact strategies and the availability of previously useful data and could result in increased compliance costs and/or changes in business practices and policies.

Our operations abroad may also be subject to increased scrutiny or attention from data protection authorities. Many countries in these regions have established or are in the process of establishing privacy and data security legal frameworks with which we, our collaborators, service providers, including our CROs, and contractors must comply. For example, the European Union General Data Protection Regulation (with regards to the European Economic Area, or EEA, and the UK GDPR (with regards to the UK), as well as applicable national data protection legislation and requirements. In this document, GDPR refers to both EU GDPR and the UK GDPR, unless specified otherwise. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal information, including requirements relating to having a legal basis for processing personal data, stricter requirements relating to the processing of sensitive data (such as health sensitive data), where required by GDPR obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, requirements to conduct data protection impact assessments for high risk processing and taking certain measures when engaging third-party processors. Failure to comply with the requirements of the GDPR may result in warning letters, mandatory audits, orders to cease/change the use of data, and financial penalties, including fines of up to 4% of global revenues, or 20,000,000 Euro (£17.5 million for the UK), whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR.

The GDPR provides that EEA Member States may make their own further laws and regulations in relation to the processing of genetic, biometric or health data, which could result in differences between Member States, limit our ability to use and share personal data or could cause our costs to increase, and harm our business and financial condition.

The GDPR also includes restrictions on cross-border transfers of personal data to countries outside the EEA and UK that are not considered by the European Commission or UK Government as providing adequate protection to personal data, including the United States, unless a valid GDPR mechanism (for example, the European Commission approved Standard Contractual Clauses, or SCCs, and the UK International Data Transfer Agreement/Addendum, or UK IDTA) has been put in place. Where relying on the SCCs or UK IDTA for data transfers, we may also be required to carry out transfer impact assessments to assess whether the recipient is subject to local laws which allow public authority access to personal data. Further, the EU and United States have adopted its adequacy decision for the EU-U.S. Data Privacy Framework, or the Framework, which entered into force on July 11, 2023. This Framework provides that the protection of personal data transferred between the EU and the United States is comparable to that offered in the EEA. This provides a further avenue to ensuring transfers to the United States are carried out in line with GDPR. There has been an extension to the Framework to cover UK transfers to the United States. The Framework could be challenged like its predecessor frameworks. The international transfer obligations under the EEA and UK data protection regimes will require significant effort and cost, and may result in us needing to make strategic considerations around where EEA and UK personal data is transferred and which service providers we can utilize for the processing of EEA and UK personal data. Although the UK is regarded as a third country under the EU GDPR, the European Commission has issued a decision recognizing the UK as providing adequate protection under the EU GDPR, or Adequacy Decision, and, therefore, transfers of personal data originating in the EEA to the UK remain unrestricted. The UK government has confirmed that personal data transfers from the UK to the EEA remain free flowing. The UK Government has also now introduced a Data Protection and Digital Information Bill, UK Bill, into the UK legislative process. The aim of the UK Bill is to reform the UK's data protection regime following Brexit. If passed, the final version of the UK Bill will have the effect of further altering the similarities between the UK and EEA data protection regime and threaten the UK Adequacy Decision from the European Commission. This may lead to additional compliance costs and could increase our overall risk. The respective provisions and enforcement of the EU GDPR and UK GDPR may further diverge in the future and create additional regulatory challenges and uncertainties.

In addition, many jurisdictions outside of Europe are also considering and/or enacting comprehensive data protection legislation. For example, as of August 2020, the Brazilian General Data Protection Law imposes stringent requirements similar to GDPR with respect to personal information collected from individuals in Brazil.

In China, there have also been recent significant developments concerning privacy and data security. On June 10, 2021, the Standing Committee of the PRC National People's Congress published the Data Security Law of the People's Republic of China, or the Data Security Law, which took effect on September 1, 2021. The Data Security Law requires data processing (which includes the collection, storage, use, processing, transmission, provision and publication of data), to be conducted in a legitimate and proper manner. The Data Security Law imposes data security and privacy obligations on entities and individuals carrying out data processing activities and also introduces a data classification and hierarchical protection system based on the importance of data in economic and social development and the degree of harm it may cause to national security, public interests, or legitimate rights and interests of individuals or organizations if such data are tampered with, destroyed, leaked, illegally acquired or illegally used. The appropriate level of protection measures is required to be taken for each respective category of data.

Also in China, on August 20, 2021, the Standing Committee of the National People's Congress of the PRC promulgated the Personal Information Protection Law, or PIPL, which took effect on November 1, 2021. PIPL raises the protection requirements for processing personal information, and many specific requirements of the PIPL remain to be clarified. Fines for PIPL violations range from $7.7 million to up to 5% of the infringing company's previous year's revenues. We may be required to make further significant adjustments to our business practices to comply with the personal information protection laws and regulations in China.

Although we work to comply with applicable laws, regulations and standards, our contractual obligations and other legal obligations, because the interpretation and application of many privacy and data protection laws (including the GDPR), commercial frameworks, and standards are uncertain, it is possible that these laws, frameworks, and standards may be interpreted and applied in a manner that is inconsistent with our existing data management practices and policies. If so, in addition to the possibility of fines, lawsuits, breach of contract claims, and other claims and penalties, we could be required to fundamentally change our business activities and practices or modify our solutions, which could have an adverse effect on our business. Any inability to adequately address privacy and security concerns, even if unfounded, or comply with applicable privacy and security or data security laws, regulations, and policies, could result in additional cost and liability to us, damage our reputation, inhibit our ability to conduct trials, and adversely affect our business and results of operations.

We are an "emerging growth company" as defined in the JOBS Act and a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act, and will be able to avail ourselves of reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies, which could make our common stock less attractive to investors and adversely affect the market price of our common stock.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We will remain an emerging growth company until the earlier of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of the fiscal year following the fifth anniversary of the date of the completion of our IPO; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of June 30th. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404;

- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

- providing only two years of audited financial statements in addition to any required unaudited interim financial statements and a correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

- the requirement to provide detailed compensation discussion and analysis in proxy statements and reports filed under the Exchange Act and instead provide a reduced level of disclosure regarding executive compensation; and

- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved and some of the disclosure requirements of the Dodd-Frank Act relating to compensation of executive officers.

Although we are still evaluating the JOBS Act, we currently intend to take advantage of some, but not all, of the available exemptions available to us so long as we qualify as an "emerging growth company." We have taken advantage of reduced reporting burdens in this Quarterly Report on form 10-Q. In particular, we have provided only two years of audited financial statements and have not included all of the executive compensation information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected 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 public companies adopt the new or revised standard.

As a result, changes in rules of United States generally accepted accounting principles or their interpretation, the adoption of new guidance or the application of existing guidance to changes in our business could significantly affect our financial position and results of operations. In addition, our independent registered public accounting firm will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an "emerging growth company," which may increase the risk that material weaknesses in our internal control over financial reporting go undetected. Likewise, so long as we qualify as an "emerging growth company," we may elect not to provide you with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would otherwise have been required to provide in filings we make with the SEC, which may make it more difficult for investors and securities analysts to evaluate our company. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock, and our stock price may be more volatile and may decline.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which would allow us to continue to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We may not pay any cash dividends on our capital stock in the foreseeable future, and capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We may retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We incur increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives.

As a public company, and particularly after we are no longer an "emerging growth company," we will continue to incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the SEC and Nasdaq have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance.

Pursuant to Section 404, we are required to furnish a report by our management on our internal control over financial reporting. Management's initial certification under Section 404 of the Sarbanes-Oxley Act was provided with our annual report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on March 25, 2024. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we have engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we have been and will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements. In addition, if we are not able to continue to meet these requirements, we may not be able to remain listed on Nasdaq.

If we fail to establish and maintain proper and effective internal control over financial reporting, our operating results and our ability to operate our business could be harmed.

Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles. In connection with our IPO, we began the process of documenting, reviewing and improving our internal controls and procedures for compliance with Section 404 of the Sarbanes-Oxley Act, which will require annual management assessment of the effectiveness of our internal control over financial reporting. We have also begun recruiting additional finance and accounting personnel with certain skill sets that we need as a public company.

Implementing any appropriate changes to our internal controls may distract our officers and employees, entail substantial costs to modify our existing processes, and take significant time to complete. These changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy, or consequent inability to produce accurate financial statements on a timely basis, could increase our operating costs and harm our business. In addition, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis may harm our stock price and make it more difficult for us to effectively market and sell our service to new and existing customers.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

We are subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal

controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us or our business. We do not have control over these analysts. There can be no assurance that existing analysts will continue to provide research coverage or that new analysts will begin to provide research coverage. Although we have obtained analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile. The stock market in general, and Nasdaq and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

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

None.

Use of Proceeds from our Public Offering of Common Stock

As of June 30, 2024, we have used all of the net proceeds from our initial public offering, or the IPO, and there was no material change in our actual use of the net proceeds from the IPO from that described in the final prospectus for the IPO filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended, on June 30, 2021.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

(a)

In connection with our previously announced workforce reduction plan, on August 6, 2024, our Chief Commercial Officer, Tim Pigot, was terminated without cause, effective August 15, 2024, or the Separation Date. Pursuant to Mr. Pigot's Employment Agreement with the Company, Mr. Pigot is entitled to receive severance equal to nine months of his base salary in effect on the Separation Date, in the total gross amount of $315,600, less applicable taxes and withholdings, payable in equal installments over a nine-month period, and reimbursement of COBRA premiums for healthcare insurance coverage for up to nine months to the extent Mr. Pigot is eligible for and elects COBRA coverage.

The foregoing severance benefits are contingent upon Mr. Pigot's execution of a separation agreement, including a general release of claims and customary cooperation clause in order to ensure a smooth transition after Mr. Pigot's departure.

Mr. Pigot's final separation agreement will be filed as an exhibit to our Quarterly Report on Form 10-Q for the quarter ending September 30, 2024, and this disclosure is qualified in its entirety by reference to the full text of the final agreement.

(c) ***Director and Officer Trading Plans and Arrangements***

During the three months ended June 30, 2024, Ralph Niven, our Chief Scientific Officer, adopted a trading arrangement on April 9, 2024 that is intended to satisfy the affirmative defense of Rule 10b5-1(c), or the Niven 10b5-1 Plan. Between August 8, 2024 and April 4, 2025, the Niven 10b5-1 Plan provides for the potential sale of up to 29,400 shares of our common stock. The Niven 10b5-1 Plan terminates on April 9, 2025, or upon the earlier completion of all authorized transactions under the plan.

Item 6. Exhibits.

Exhibit Number	Description
3.1	Second Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-40544) filed with the SEC on July 2, 2021).
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-40544) filed with the SEC on July 2, 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+	Certifications of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2+	Certifications of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	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 Data File (the cover page XBRL tags are embedded within the iXBRL document).

* Filed herewith.

\+ The certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to be furnished with this Quarterly Report on Form 10-Q and will not be deemed to be "filed" for purposes of Section 18 of 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, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

AEROVATE THERAPEUTICS, INC

Date: August 12, 2024

By: */s/ Timothy P. Noyes*
Timothy P. Noyes
Chief Executive Officer
(Principal Executive Officer)

Date: August 12, 2024

By: */s/ George Eldridge*
George Eldridge
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Timothy P. Noyes, certify that:

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

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

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

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

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

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

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

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

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

/s/ Timothy P. Noyes

Timothy P. Noyes
Chief Executive Officer
(Principal Executive Officer)

Dated: August 12, 2024

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, George A. Eldridge, certify that:

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

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

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

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

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

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

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

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

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

/s/ George A. Eldridge

George A. Eldridge
Chief Financial Officer
(Principal Financial and Accounting Officer)

Dated: August 12, 2024

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Aerovate Therapeutics, Inc. (the "Company") for the quarter ended June 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge, that:

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

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

/s/ Timothy P. Noyes
Timothy P. Noyes
Chief Executive Officer
(Principal Executive Officer)

Dated: August 12, 2024

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of Aerovate Therapeutics, Inc. (the "Company") for the quarter ended June 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge, that:

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

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

/s/ George A. Eldridge
George A. Eldridge
Chief Financial Officer
(Principal Financial and Accounting Officer)

Dated: August 12, 2024