
**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: **001-42143**

Alumis Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

86-1771129
(I.R.S. Employer
Identification Number)

280 East Grand Avenue
South San Francisco, CA 94080
(Address of Principal Executive Offices)

(650) 231-6625
(Registrant's telephone number)

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

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

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

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

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

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

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

<u>Title of Each Class</u>	<u>Trading symbol</u>	<u>Name of Exchange on which registered</u>
Common Stock, par value \$0.0001 per share	ALMS	The Nasdaq Global Select Market

As of August 7, 2024, the registrant had 47,218,394 shares of common stock, \$0.0001 par value per share, and 7,184,908 shares of non-voting common stock, \$0.0001 par value per share, outstanding.

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In this Quarterly Report on Form 10-Q, unless otherwise stated or as the context otherwise requires, references to "Alumis," "the Company," "we," "us," "our" and similar references refer to Alumis Inc.

This Quarterly Report on Form 10-Q also contains registered marks, trademarks and trade names of other companies. All other trademarks, registered marks and trade names appearing in this report are the property of their respective holders. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management. All statements, other than statements of historical facts contained in this Quarterly Report on Form 10-Q, including statements regarding our future financial condition, business strategy and plans, and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by the following words: "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words.

These forward-looking statements involve risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Quarterly Report on Form 10-Q, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Forward-looking statements in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- our expectations regarding the potential benefits of our strategy;
- our expectations regarding the operation of our product candidates and related benefits;
- the success of competing therapies that are, or may become, available;
- developments relating to our competitors and our industry, including competing product candidates and therapies;
- details regarding our strategic vision and planned product candidate pipeline;
- our beliefs regarding the success, cost and timing of our product candidate development activities and current and future clinical trials and studies, including study design;
- the timing or likelihood of regulatory filings or other actions and related regulatory authority responses;
- the ability and willingness of various third parties to engage in research and development activities involving our product candidates, and our ability to leverage those activities;
- our expectations regarding the ease of administration associated with our product candidates;
- our expectations regarding the patient compatibility associated with our product candidates;
- our beliefs regarding the potential markets for our product candidates and our ability to serve those markets;
- the ability to obtain and maintain regulatory approval of any of our product candidates, and any related restrictions, limitations and/or warnings in the label of any approved product candidate;
- our ability to commercialize any approved products;
- the rate and degree of market acceptance of any approved products;
- our ability to attract and retain key personnel;

- the accuracy of our estimates regarding our future revenue, as well as our future operating expenses, capital requirements and needs for additional financing;
- our ability to obtain funding for our operations, including funding necessary to complete further development and any commercialization of our product candidates;
- our ability to obtain, maintain, protect and enforce intellectual property protection for our product candidates and technology and not infringe, misappropriate or otherwise violate the intellectual property of others;
- regulatory developments in the United States and foreign countries;
- our expectations regarding the period during which we qualify as an “emerging growth company” under the JOBS Act, and a “smaller reporting company,” as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”); and
- statements of belief and any statement of assumptions underlying any of the foregoing.

You should refer to the section titled “Risk Factors” in Part II, Item 1A. of this Quarterly Report on Form 10-Q for a discussion of other important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Quarterly Report on Form 10-Q will prove to be accurate.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report on Form 10-Q, and although we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted a thorough inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely upon these statements.

Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

ALUMIS 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	\$ 155,108	\$ 45,996
Restricted cash	113	113
Marketable securities	54,423	2,956
Research and development prepaid expenses	13,200	2,661
Other prepaid expenses and current assets	2,012	1,631
Total current assets	224,856	53,357
Restricted cash, non-current	1,024	1,024
Property and equipment, net	22,173	22,441
Operating lease right-of-use assets, net	12,772	12,783
Other long-term assets	4,354	7
Total assets	<u>\$ 265,179</u>	<u>\$ 89,612</u>
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities		
Accounts payable	\$ 9,188	\$ 1,118
Research and development accrued expenses	14,584	10,946
Other accrued expenses and current liabilities	8,118	7,087
Operating lease liabilities, current	1,523	1,720
Total current liabilities	33,413	20,871
Operating lease liabilities, non-current	30,050	30,860
Share repurchase liability	1,234	1,771
Total liabilities	<u>64,697</u>	<u>53,502</u>
Commitments and contingencies (Note 7)		
Redeemable convertible preferred stock, \$0.0001 par value; 202,643,727 and 89,016,578 shares authorized as of June 30, 2024 and December 31, 2023, respectively; 168,489,871 and 85,960,088 shares issued and outstanding as of June 30, 2024 and December 31, 2023, respectively; aggregate liquidation preference of \$629,540 and \$370,540 as of June 30, 2024 and December 31, 2023, respectively	639,237	375,370
Stockholders' deficit:		
Common stock, \$0.0001 par value; 225,000,000 and 125,000,000 Class A shares authorized as of June 30, 2024 and December 31, 2023, respectively; 2,741,498 and 2,675,979 Class A shares issued and outstanding as of June 30, 2024 and December 31, 2023, respectively; 168,489,897 and 85,960,088 Class B shares authorized as of June 30, 2024 and December 31, 2023, respectively; no Class B shares issued and outstanding as of June 30, 2024 and December 31, 2023	1	1
Additional paid-in capital	31,920	25,055
Accumulated other comprehensive (loss) income	(1)	2
Accumulated deficit	(470,675)	(364,318)
Total stockholders' deficit	<u>(438,755)</u>	<u>(339,260)</u>
Total liabilities, redeemable convertible preferred stock and stockholders' deficit	<u>\$ 265,179</u>	<u>\$ 89,612</u>

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

ALUMIS 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 expenses, including related party expenses of \$213, \$429, \$571 and \$754 for the three and six months ended June 30, 2024 and 2023, respectively	\$ 48,565	\$ 32,848	\$ 90,526	\$ 65,283
General and administrative expenses	7,575	4,775	13,207	9,000
Total operating expenses	56,140	37,623	103,733	74,283
Loss from operations	(56,140)	(37,623)	(103,733)	(74,283)
Other income (expense):				
Interest income	1,977	913	2,831	1,558
Change in fair value of derivative liability	(2,311)	432	(5,406)	432
Other income (expenses), net	(34)	(11)	(49)	(23)
Total other income (expense), net	(368)	1,334	(2,624)	1,967
Net loss	\$ (56,508)	\$ (36,289)	\$ (106,357)	\$ (72,316)
Other comprehensive income (loss):				
Unrealized gain (loss) on marketable securities, net	—	30	(3)	130
Net loss and other comprehensive loss	\$ (56,508)	\$ (36,259)	\$ (106,360)	\$ (72,186)
Net loss per share attributable to Class A common stockholders, basic and diluted	\$ (23.10)	\$ (17.13)	\$ (44.17)	\$ (35.14)
Weighted-average Class A common shares outstanding, basic and diluted	2,446,022	2,117,861	2,408,037	2,058,178

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

ALUMIS INC.

CONDENSED CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(Unaudited)

(in thousands, except share amounts)	Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance at December 31, 2023	85,960,088	\$ 375,370	2,675,979	\$ 1	\$ 25,055	\$ 2	\$ (364,318)	\$ (339,260)
Issuance of Series C redeemable convertible preferred stock in March 2024 for cash, net of derivative liability of \$8,913 and issuance costs of \$382	41,264,891	120,205	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options and early exercise of stock options	—	—	3,186	—	29	—	—	29
Vesting of early exercised stock options	—	—	—	—	494	—	—	494
Vesting of restricted shares of common stock	—	—	—	—	6	—	—	6
Stock-based compensation expense	—	—	—	—	2,657	—	—	2,657
Other comprehensive loss, net	—	—	—	—	—	(3)	—	(3)
Net loss	—	—	—	—	—	—	(49,849)	(49,849)
Balance at March 31, 2024	127,224,979	\$ 495,575	2,679,165	\$ 1	\$ 28,241	\$ (1)	\$ (414,167)	\$ (385,926)
Issuance of Series C redeemable convertible preferred stock for cash and settlement of the derivative liability of \$14,319, net of issuance costs of \$157	41,264,892	143,662	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options and early exercise of stock options	—	—	62,333	—	287	—	—	287
Vesting of early exercised stock options	—	—	—	—	253	—	—	253
Vesting of restricted shares of common stock	—	—	—	—	6	—	—	6
Stock-based compensation expense	—	—	—	—	3,133	—	—	3,133
Net loss	—	—	—	—	—	—	(56,508)	(56,508)
Balance at June 30, 2024	168,489,871	\$ 639,237	2,741,498	\$ 1	\$ 31,920	\$ (1)	\$ (470,675)	\$ (438,755)
Balance at December 31, 2022	67,960,088	\$ 285,473	2,642,334	\$ 1	\$ 14,209	\$ (127)	\$ (209,325)	\$ (195,242)
Vesting of early exercised stock options	—	—	—	—	694	—	—	694
Vesting of restricted shares of common stock	—	—	—	—	5	—	—	5
Repurchase of unvested common stock shares issued upon early exercised stock options	—	—	(13,369)	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	1,831	—	—	1,831
Other comprehensive income, net	—	—	—	—	—	100	—	100
Net loss	—	—	—	—	—	—	(36,027)	(36,027)
Balance at March 31, 2023	67,960,088	\$ 285,473	2,628,965	\$ 1	\$ 16,739	\$ (27)	\$ (245,352)	\$ (228,639)
Issuance of Series B-2 and Series B-2A redeemable convertible preferred stock for cash, net of \$2,112 derivative liability and \$208 issuance costs	10,722,340	51,290	—	—	—	—	—	—
Issuance of Series B-2A redeemable convertible preferred stock for cash	1,277,660	6,389	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options and early exercise of stock options	—	—	18,395	—	71	—	—	71
Vesting of early exercised stock options	—	—	—	—	559	—	—	559
Vesting of restricted shares of common stock	—	—	—	—	6	—	—	6
Stock-based compensation expense	—	—	—	—	1,909	—	—	1,909
Other comprehensive income, net	—	—	—	—	—	30	—	30
Net loss	—	—	—	—	—	—	(36,289)	(36,289)
Balance at June 30, 2023	79,960,088	\$ 343,152	2,647,360	\$ 1	\$ 19,284	\$ 3	\$ (281,641)	\$ (262,353)

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

ALUMIS INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(in thousands)	Six Months Ended June 30,	
	2024	2023
Cash flows from operating activities		
Net loss	\$ (106,357)	\$ (72,316)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	5,790	3,740
Non-cash lease expense	12	1,520
Depreciation and amortization	1,518	240
Net accretion of discounts on marketable securities	(507)	(470)
Loss on disposal of fixed assets	5	—
Change in fair value of derivative liability	5,406	(432)
Changes in operating assets and liabilities:		
Research and development prepaid expenses	(10,540)	2,081
Other prepaid expenses and other assets	(382)	(157)
Accounts payable	7,788	666
Research and development accrued expenses	3,638	2,276
Other accrued expenses and current liabilities	(1,912)	(245)
Operating lease liabilities	(1,007)	95
Net cash used in operating activities	<u>(96,548)</u>	<u>(63,002)</u>
Cash flows from investing activities		
Maturities of marketable securities	8,000	66,500
Purchases of marketable securities	(58,964)	(8,340)
Purchases of property and equipment	(587)	(1,120)
Net cash (used in) provided by investing activities	<u>(51,551)</u>	<u>57,040</u>
Cash flows from financing activities		
Proceeds from issuance of redeemable convertible preferred stock and derivative liability, net of issuance costs	258,461	59,791
Proceeds from issuance of common stock upon exercise of stock options	537	171
Payments of deferred offering costs	(1,787)	—
Repurchase of unvested common stock shares issued upon early exercised stock options	—	(51)
Net cash provided by financing activities	<u>257,211</u>	<u>59,911</u>
Net increase in cash, cash equivalents and restricted cash	109,112	53,949
Cash, cash equivalents and restricted cash at beginning of period	47,133	26,954
Cash, cash equivalents and restricted cash at end of period	<u>\$ 156,245</u>	<u>\$ 80,903</u>
Supplemental disclosures:		
Right-of-use assets obtained in exchange for operating lease liabilities	\$ —	\$ 14,255
Property and equipment acquired through tenant improvement allowance	\$ —	\$ 11,537
Vesting of early exercised stock options and unvested restricted shares of common stock	\$ 759	\$ 1,264
Purchases of property and equipment in other accrued expenses and current liabilities	\$ 716	\$ 411
Recognition of derivative liability upon issuance of redeemable convertible preferred stock	\$ 8,913	\$ 2,112
Settlement of derivative liability upon issuance of redeemable convertible preferred stock	\$ (14,319)	\$ —
Deferred offering costs in accounts payable and other accrued expenses and current liabilities	\$ 2,559	\$ 90
Reconciliation of cash, cash equivalents and restricted cash:		
Cash and cash equivalents	\$ 155,108	\$ 79,560
Restricted cash	113	206
Restricted cash, non-current	1,024	1,137
Total cash, cash equivalents and restricted cash	<u>\$ 156,245</u>	<u>\$ 80,903</u>

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

ALUMIS INC.

NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(Unaudited)

1. Organization and Nature of the Business

Organization and Business

Alumis Inc. (the “Company”) is a clinical stage biopharmaceutical company focused on identifying, acquiring, and accelerating the development and commercialization of transformative medicines for autoimmune disorders. The Company leverages its proprietary precision data analytics platform, biological insights, and a team of experts with deep experience in precision medicine drug discovery, development, and immunology, to create medicines that significantly improve the lives of patients by replacing broad immunosuppression with targeted therapies.

The Company was founded on January 29, 2021 as a Delaware corporation under the name FL2021-001, Inc. FL2021-001, Inc.’s name was changed to Esker Therapeutics, Inc. on March 8, 2021 and to Alumis Inc. on January 6, 2022. The Company is headquartered in South San Francisco, California.

Reverse Stock Split

On June 19, 2024, the board of directors approved, and on June 20, 2024, the Company effected, a reverse stock split of the shares of the Company’s outstanding common stock at a ratio of 1-for-4.675 (the “Reverse Stock Split”). The number of authorized shares and par value per share were not adjusted as a result of the Reverse Stock Split. All references to shares, options to purchase common stock, share amounts, per share amount, and related information contained in the condensed consolidated financial statements have been retrospectively adjusted to reflect the effect of the Reverse Stock Split for all periods presented. The shares of common stock underlying outstanding stock options and other equity instruments were proportionately reduced and the respective exercise prices, if applicable, were proportionately increased in accordance with the terms of the agreements governing such securities. In addition, the conversion ratios for each series of the Company’s redeemable convertible preferred stock, which were automatically convertible into shares of common stock upon the closing of the Company’s initial public offering (the “IPO”) of common stock, were proportionally adjusted.

Initial Public Offering and Concurrent Private Placement

On June 28, 2024, the Company’s Registration Statement on Form S-1 for its IPO was declared effective, and on July 1, 2024, the Company completed its IPO, pursuant to which it issued and sold 13,125,000 shares of its common stock at \$16.00 price per share to the public. Net proceeds from the IPO were approximately \$193.2 million, after deducting underwriting discounts and commissions and other offering costs totaling approximately \$16.8 million.

In connection with the IPO, an existing investor and a holder of more than 5% of the Company’s capital stock, purchased an additional 2,500,000 shares of the Company’s common stock at the IPO price per share for a total of \$40.0 million in a private placement transaction (the “Concurrent Private Placement”). The closing of the Concurrent Private Placement was contingent on the closing of the IPO. The sale of such shares is not registered under the Securities Act of 1933, as amended (the “Securities Act”), and as such, the shares may not be offered or sold absent registration or an applicable exemption from registration. The shares sold in connection with the Concurrent Private Placement are subject to existing resale registration rights and are subject to a 180-day lock-up agreement with the underwriters in the IPO. The Concurrent Private Placement closed on July 17, 2024.

Immediately prior to the closing of the IPO on July 1, 2024, all of the shares of the Company’s redeemable convertible preferred stock then outstanding converted into 28,855,656 shares of Class A common stock and 7,184,908 shares of Class B common stock at a 1-for-4.675 conversion ratio (the “Preferred Stock Conversion”). All outstanding Class A common stock shares and all outstanding Class B common stock shares were redesignated immediately thereafter into the same number of shares of common stock and non-voting common stock, respectively (the “Common Stock Reclassification”).

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(unaudited)

1. Organization and Nature of the Business (Continued)

Initial Public Offering and Concurrent Private Placement (Continued)

The condensed consolidated financial statements as of June 30, 2024, including share and per share amounts, do not give effect to the Preferred Stock Conversion, the Common Stock Reclassification, the IPO or the Concurrent Private Placement, as they occurred subsequent to June 30, 2024.

In connection with the closing of the Company's IPO, the Company increased the authorized number of shares to 500,000,000 shares of common stock and 50,000,000 shares of preferred stock. The authorized number of common stock shares includes voting common stock of 492,815,092 shares and non-voting common stock of 7,184,908 shares.

Liquidity

The Company has incurred negative operating cash flows and significant losses from operations since its inception. For the three and six months ended June 30, 2024, the Company incurred net losses of \$56.5 million and \$106.4 million, respectively. Cash used in operating activities was \$96.5 million and \$63.0 million for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 2024, the Company had an accumulated deficit of \$470.7 million.

The Company has historically financed its operations primarily through issuance of common stock and redeemable convertible preferred stock and convertible promissory notes in private placements, and most recently, through an initial public offering and concurrent private placement. The Company expects to continue to incur substantial losses for the foreseeable future, and its ability to achieve and sustain profitability will depend on the successful development, approval, and commercialization of any product candidates it may develop, and on the achievement of sufficient revenue to support its cost structure. The Company may never achieve profitability and, unless and until it does, it will need to continue to raise additional capital. As of June 30, 2024, the Company had cash, cash equivalents and marketable securities of \$209.5 million. In July 2024, in connection with the closing of the IPO and the Concurrent Private Placement, the Company received an additional \$233.2 million in aggregate net cash proceeds, net of underwriting discounts and commissions and other offering costs. Management believes that its existing cash, cash equivalents and marketable securities together with the IPO and the Concurrent Private Placement proceeds will be sufficient to fund its current operating plan for at least the next 12 months from the date of issuance of these condensed consolidated financial statements.

Additional funds are necessary to maintain current operations and to continue research and development activities. The Company's management plans to monitor expenses and may raise additional capital through a combination of public and private equity, debt financings, strategic alliances, and licensing arrangements. The Company's ability to access capital when needed is not assured and, if capital is not available to the Company when, and in the amounts, needed, on the terms which are favorable, the Company could be required to delay, scale back, or abandon some or all of its development programs and other operations, which could materially harm the Company's business, financial condition and results of operations.

2. Summary of Significant Accounting Policies and Basis of Presentation

The significant accounting policies and estimates used in the preparation of the accompanying condensed consolidated financial statements are described in the Company's audited consolidated financial statements for the year ended December 31, 2023 included in the Company's final prospectus for its IPO filed pursuant to Rule 424(b)(4) under the Securities Act with the Securities and Exchange Commission (the "SEC"), on June 28, 2024 (the "Prospectus"). There have been no material changes in the Company's significant accounting policies during the three months ended June 30, 2024.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(unaudited)

2. Summary of Significant Accounting Policies and Basis of Presentation (Continued)

Basis of Presentation

The condensed consolidated financial statements and accompanying notes are unaudited and have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and applicable rules and regulations of the SEC regarding interim financial reporting and do not contain all information that is included in the annual financial statements and notes thereto of the company.

Prior to their dissolution, the Company’s condensed consolidated financial statements included the accounts of FronThera U.S. Holdings, Inc. and FronThera U.S. Pharmaceuticals LLC, two wholly owned subsidiaries, and all intercompany transactions were eliminated. FronThera U.S. Holdings, Inc. was dissolved on April 8, 2024 and FronThera U.S. Pharmaceuticals LLC was dissolved on March 14, 2024.

The condensed consolidated interim financial statements have been prepared on the same basis as the audited annual financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments necessary for the fair statement of the Company’s financial position as of June 30, 2024 and the results of its operations and its cash flows for the three and six months ended June 30, 2024 and 2023. The condensed balance sheet as of December 31, 2023 was derived from audited annual consolidated financial statements but does not include all disclosures required by U.S. GAAP. The results of operations for the three and six months ended June 30, 2024 are not necessarily indicative of the results of operations to be expected for the full year or for any other subsequent interim period.

Any reference in these notes to applicable guidance is meant to refer to the authoritative U.S. GAAP as found in the Accounting Standards Codification (“ASC”) and Accounting Standards Updates (“ASU”) of the Financial Accounting Standards Board (“FASB”).

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. On an ongoing basis, the Company evaluates estimates and assumptions, including but not limited to those related to the fair value of its common and redeemable convertible preferred stock, the fair value of derivative liability, stock-based compensation expense, accruals for research and development expenses and the valuation of deferred tax assets. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from those estimates.

Segment and Geographical Information

The Company operates and manages its business as one reportable and operating segment, which is the business of developing medicines for autoimmune disorders. The chief executive officer, who is the chief operating decision maker, reviews financial information on an aggregate basis for purposes of allocating resources and evaluating financial performance. All of the Company’s long-lived assets are located in the United States.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentration of credit risk consist primarily of cash, investments in marketable securities and restricted cash. The Company maintains bank deposits in federally insured financial institutions and these deposits exceed federally insured limits. To date, the Company has not experienced any losses on its deposits of cash and periodically evaluates the creditworthiness of its financial institutions.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(unaudited)

2. Summary of Significant Accounting Policies and Basis of Presentation (Continued)

The Company also invests in money market funds and U.S. treasuries, which are subject to certain credit risks. The Company mitigates the risks by investing in high-grade instruments, limiting its exposure to any one issuer and monitoring the ongoing creditworthiness of the financial institutions and issuers. The Company has not experienced any loss of principal on its financial instruments.

Risks and Uncertainties

The Company is subject to certain risks and uncertainties, including, but not limited to, changes in any of the following areas that the Company believes could have a material adverse effect on the future financial position or results of operations: the Company's ability to advance the development of its proprietary precision data analytics platform, timing and ability to advance its product candidates through preclinical and clinical development; costs and timelines associated with the manufacturing of clinical supplies; regulatory approval, market acceptance of, and reimbursement for, any product candidates the Company may develop; performance of third-party vendors; competition from pharmaceutical or other biotechnology companies with greater financial resources or expertise; protection of intellectual property; litigation or claims against the Company based on intellectual property or other factors; and its ability to attract and retain employees necessary to support its growth.

The Company's business and operations may be affected by worldwide economic conditions, which may continue to be impacted by global macroeconomic challenges, such as the effects of the ongoing military conflicts in Ukraine, Israel, and the Middle East, tensions in U.S.-China relations, uncertainty in the markets, including disruptions in the banking industry, the COVID-19 pandemic and inflationary trends. Fiscal year 2023 was marked by significant market uncertainty and increasing inflationary pressures. These market dynamics continue into 2024, and these and similar adverse market conditions may negatively impact the Company's business, financial position and results of operations.

Deferred Finance Issuance Costs

Deferred finance issuance costs, consisting of legal, accounting and other third-party fees directly relating to in-process equity financings or offerings are capitalized. The deferred finance issuance costs will be offset against offering proceeds upon the completion of the financing or the offering. In the event the financing or the offering is terminated or delayed, deferred finance issuance costs will be expensed immediately as a charge to general and administrative expenses in the condensed consolidated statements of operations and comprehensive loss. The Company had \$4.3 million in deferred finance issuance costs capitalized and included in other long-term assets in its condensed consolidated balance sheet as of June 30, 2024, which will be reclassified to equity upon the closing of the IPO in the third quarter of 2024. There were no deferred finance issuance costs capitalized and included in other long-term assets in the condensed consolidated balance sheet as of December 31, 2023.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies and adopted by the Company as of the specified effective date. The Company qualifies as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended (the "JOBS Act"), and has elected not to "opt out" of the extended transition related to complying with new or revised accounting standards, which means that when a standard is issued or revised and it has different application dates for public and nonpublic companies, the Company will adopt the new or revised standard at the time nonpublic companies adopt the new or revised standard and will do so until such time that the Company either (i) irrevocably elects to "opt out" of such extended transition period or (ii) no longer qualifies as an emerging growth company. The Company may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for nonpublic companies.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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2. Summary of Significant Accounting Policies and Basis of Presentation (Continued)

Recently Issued and Not Yet Adopted Accounting Pronouncements

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*. This ASU requires public entities to disclose information about their reportable segments' significant expenses and other segment items on an interim and annual basis. Public entities with a single reportable segment are required to apply the disclosure requirements in ASU 2023-07, as well as all existing segment disclosures and reconciliation requirements in ASC 280 on an interim and annual basis. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and for interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. The Company is currently evaluating the impact of adopting ASU 2023-07 on its condensed consolidated financial statements.

In December 2023, the FASB issued ASU No. 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which requires the disclosure of specific categories in the rate reconciliation and greater disaggregation for income taxes paid. This standard is effective for annual periods beginning after December 15, 2024 and should be adopted prospectively with the option to be adopted retrospectively. The Company is currently evaluating the impact of this standard on its disclosure in its condensed consolidated financial statements.

In March 2024, the FASB issued ASU No. 2024-02, *Codification Improvements - Amendments to Remove References to the Concepts Statements*. The amendments in ASU 2024-02 clarify and simplify references to certain concept statements within U.S. GAAP. ASU 2024-02 is effective for fiscal years beginning after December 15, 2024, with early application permitted. The Company is currently evaluating the impact of the adoption of this standard on its condensed consolidated financial statements.

3. Fair Value Measurements

The Company discloses and recognizes the fair value of its assets and liabilities using a hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The guidance establishes three levels of the fair value hierarchy as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. The Company recognizes transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs.

The Company's financial instruments consist of Level 1, Level 2 and Level 3 financial instruments. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy.

Level 1 financial instruments are comprised of money market funds and U.S. treasuries. Level 2 financial instruments are comprised of U.S. treasuries. Usually, short term marketable securities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and

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NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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3. Fair Value Measurements (Continued)

benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis. Level 3 financial instruments include derivative liabilities issued in May 2023 and settled in October 2023 in connection with the closing of the second tranche of the Series B-2 and B-2A redeemable convertible preferred stock financing, and issued in March 2024 and settled in May 2024 in connection with the closing of the second tranche of the Series C redeemable convertible preferred stock financing.

The following tables represent the Company's fair value hierarchy for financial assets and liabilities measured at fair value on a recurring basis as of June 30, 2024 and December 31, 2023 (in thousands):

	Fair Value Measurements as of June 30, 2024			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents				
Money market funds	\$ 104,826	\$ —	\$ —	\$ 104,826
U.S. treasuries	42,072	—	—	42,072
Marketable securities				
U.S. treasuries	27,006	27,417	—	54,423
Total assets	<u>\$ 173,904</u>	<u>\$ 27,417</u>	<u>\$ —</u>	<u>\$ 201,321</u>

	Fair Value Measurements as of December 31, 2023			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents				
Money market funds	\$ 21,310	\$ —	\$ —	\$ 21,310
U.S. treasuries	2,000	—	—	2,000
Marketable securities				
U.S. treasuries	1,958	998	—	2,956
Total assets	<u>\$ 25,268</u>	<u>\$ 998</u>	<u>\$ —</u>	<u>\$ 26,266</u>

The derivative liability issued in May 2023 in connection with the closing of the second tranche of the Series B-2 and B-2A redeemable convertible preferred stock financing was a freestanding financial instrument and represented the Company's obligation to issue additional shares of Series B-2 and B-2A redeemable convertible preferred stock at a fixed price upon the approval by the Company's board of directors. In connection with the Series C redeemable convertible preferred stock financing in March 2024, the Company issued to investors two freestanding financial instruments: the Series C second tranche option liability and the put right option liability. The Company estimated their fair value using a Black-Scholes option pricing model weighted by the probability of occurring. The Company used the intrinsic value calculation to estimate the fair value of the Series C second tranche option liability and the put right option liability upon settlement. Significant estimates and assumptions impacting the derivative liability fair value included the probability of each option exercise, redeemable convertible preferred stock fair value, estimated stock volatility and the expected term.

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NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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3. Fair Value Measurements (Continued)

The following tables provide a range of assumptions used in the valuation of the derivative liabilities for the six months ended June 30, 2024 and 2023:

	<u>Six Months Ended June 30,</u>	
	<u>2024</u>	<u>2023</u>
Expected term (in years)	0.16 – 0.36	0.26 – 0.41
Expected volatility	55.1% – 59.9%	67.63% – 83.25%
Risk-free interest rate	5.4% – 5.5%	5.23% – 5.44%
Expected dividend yield	0%	0%
Probability of event occurring	0% – 100%	30%

The following table provides a roll-forward of the fair value of the Company's Level 3 financial instrument, the derivative liabilities, for the six months ended June 30, 2024 and 2023 (in thousands):

Balance as of January 1, 2024	\$ —
Fair value upon issuance	8,913
Changes in fair value	5,406
Fair value upon settlement	(14,319)
Balance as of June 30, 2024	<u>\$ —</u>
Balance as of January 1, 2023	\$ —
Fair value upon issuance	2,112
Changes in fair value	(432)
Balance as of June 30, 2023	<u>\$ 1,680</u>

There were no transfers between Level 1, Level 2 or Level 3 categories for the three and six months ended June 30, 2024 and 2023.

4. Marketable Securities

Marketable securities, which are classified as available-for-sale marketable securities, consisted of the following as of June 30, 2024 and December 31, 2023 (in thousands):

	<u>Amortized Cost Basis</u>	<u>Gross Unrealized Gains</u>	<u>Gross Unrealized Losses</u>	<u>Fair Value as of June 30, 2024</u>
Short-term marketable securities:				
U.S. treasuries	\$ 54,424	\$ —	\$ (1)	\$ 54,423
Total short-term marketable securities	<u>\$ 54,424</u>	<u>\$ —</u>	<u>\$ (1)</u>	<u>\$ 54,423</u>
	<u>Amortized Cost Basis</u>	<u>Gross Unrealized Gains</u>	<u>Gross Unrealized Losses</u>	<u>Fair Value as of December 31, 2023</u>
Short-term marketable securities:				
U.S. treasuries	\$ 2,954	\$ 2	\$ —	\$ 2,956
Total short-term marketable securities	<u>\$ 2,954</u>	<u>\$ 2</u>	<u>\$ —</u>	<u>\$ 2,956</u>

All marketable securities held as of June 30, 2024 and December 31, 2023, had contractual maturities of less than one year.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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4. Marketable Securities (Continued)

As of June 30, 2024 and December 31, 2023, no significant facts or circumstances were present to indicate a deterioration in the creditworthiness of the issuers of the marketable securities, and the Company has no requirement or intention to sell these securities before maturity or recovery of their amortized cost basis. The Company considered the current and expected future economic and market conditions and determined that its investments were not significantly impacted. For all securities with a fair value less than its amortized cost basis, the Company determined the decline in fair value below amortized cost basis to be immaterial and non-credit related, and therefore no allowance for losses has been recorded. During the three and six months ended June 30, 2024 and 2023, the Company did not recognize any impairment losses on its investments.

5. Balance Sheet Components

Other Prepaid Expenses and Current Assets

Other prepaid expenses and current assets consisted of the following as of June 30, 2024 and December 31, 2023 (in thousands):

	June 30, 2024	December 31, 2023
Tax receivable	\$ 614	\$ 614
Interest receivable	283	108
Prepaid subscriptions	797	703
Other	318	206
Total other prepaid expenses and current assets	<u>\$ 2,012</u>	<u>\$ 1,631</u>

Property and Equipment, net

Property and equipment, net consisted of the following as of June 30, 2024 and December 31, 2023 (in thousands):

	Estimated Useful Life (in years)	June 30, 2024	December 31, 2023
Leasehold improvements	Shorter of useful life or lease term	\$ 17,618	\$ 17,592
Laboratory equipment	5	4,798	3,577
Furniture and fixtures	5	1,709	1,709
Computer equipment	5	896	896
Capitalized software	3	75	75
Total property and equipment, gross		<u>25,096</u>	<u>23,849</u>
Less: Accumulated depreciation and amortization		<u>(2,923)</u>	<u>(1,408)</u>
Total property and equipment, net		<u>\$ 22,173</u>	<u>\$ 22,441</u>

Depreciation and amortization expense was \$0.8 million and \$0.1 million for the three months ended June 30, 2024 and 2023, respectively, and \$1.5 million and \$0.2 million for the six months ended June 30, 2024 and 2023, respectively.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(unaudited)

5. Balance Sheet Components (Continued)

Other Accrued Expenses and Current Liabilities

Other accrued expenses and current liabilities consist of the following as of June 30, 2024 and December 31, 2023 (in thousands):

	June 30, 2024	December 31, 2023
Accrued personnel and related expenses	\$ 3,355	\$ 5,585
Accrued professional services	4,213	1,093
Accrued other expenses	550	409
Total other accrued expenses and current liabilities	<u>\$ 8,118</u>	<u>\$ 7,087</u>

6. Related Party Transactions

Foresite Labs Services Agreement

Foresite Labs, LLC (“Foresite Labs”) is an affiliate of Foresite Capital Management, a stockholder of the Company. In January 2021, the Company entered into a services agreement with Foresite Labs, which was amended and restated in August 2021 and in December 2023, and expires in December 2026, unless terminated earlier by the parties. Thereafter, on each anniversary of the effective date, the agreement will automatically renew for an additional one year term, unless terminated earlier by the parties. Foresite Labs provides services to assist the Company in exploring specified immunology genetic targets. For the three months ended June 30, 2024 and 2023, the Company recognized \$0.2 million and \$0.4 million as research and development expenses under the service agreement, respectively. For the six months ended June 30, 2024 and 2023, the Company recognized \$0.6 million and \$0.8 million as research and development expenses under the service agreement, respectively. Accrued expenses under the service agreement were zero as of June 30, 2024 and were less than \$0.1 million as of December 31, 2023.

7. Commitments and Contingent Liabilities

Operating Leases

In 2021, the Company entered into a lease agreement for 14,000 square feet of office space in South San Francisco, California, which commenced in August 2021 and had a contractual termination date of September 2024. In September 2023, the Company abandoned this right-of-use asset as it had moved to its new office space described below; the Company recognized a loss on this abandonment in the amount of \$0.6 million.

In January 2022, the Company entered into a lease agreement for 12,000 square feet of office and laboratory space in South San Francisco, California, that commenced in July 2022 and had a contractual termination date of July 2029. This lease contained an early termination option, allowing the Company to terminate this lease before the expiry of the lease term. The Company concluded the lease term for accounting purposes ended in August 2023. In April 2023, this lease was modified to reduce the contractual lease term to terminate in October 2023. The accounting impact of the modification was not material.

In August 2022, the Company entered into a lease agreement for 55,000 square feet of additional office and laboratory space in South San Francisco, California, which commenced in January 2023 and has a contractual termination date in August 2033. The Company constructed leasehold improvements in the space, which were concluded to be lessee assets. The lessor provided the Company a tenant improvement allowance of \$17.2 million, of which \$0.5 million was received in the year ended December 31, 2022, and \$16.7 million was received in the year ended December 31, 2023, and was accounted for as a reduction to lease payments. At the commencement date, future lease payments totaled \$37.9 million,

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NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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7. Commitments and Contingent Liabilities (Continued)

Operating Leases (Continued)

including \$54.6 million in gross fixed payments less \$16.7 million in lease incentives expected to be received during the first year of the lease. The lease liability at lease commencement was calculated to be \$14.1 million, which is equal to the present value of the future lease payments, discounted at the incremental borrowing rate of 11.4%. Following the commencement date, the Company measured its lease liability and right-of-use asset in accordance with ASC 842-20-35-3. In accordance with this guidance, future lease payments increased as the \$16.7 million incentive was received and future gross fixed payments were no longer offset by these incentives. The Company recorded the leasehold improvements in property and equipment, net in the condensed consolidated balance sheets as of June 30, 2024 and December 31, 2023. The lease agreement also includes a renewal option allowing the Company to extend this lease for an additional three years at the prevailing rental rate, which the Company was not reasonably certain to exercise.

The Company maintains letters of credit on these leases in the amount of \$1.1 million as of June 30, 2024 and December 31, 2023. The lease letters of credit are reflected on the Company's condensed consolidated balance sheets in restricted cash, current and restricted cash, noncurrent as of June 30, 2024 and December 31, 2023.

The components of lease costs were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Operating lease costs	\$ 835	\$ 1,279	\$ 1,711	\$ 2,551
Variable lease costs	326	70	656	116
Total lease costs	<u>\$ 1,161</u>	<u>\$ 1,349</u>	<u>\$ 2,367</u>	<u>\$ 2,667</u>

Supplemental cash flow information related to the operating leases were as follows (in thousands):

	Six Months Ended June 30,	
	2024	2023
Cash payments included in the measurement of operating lease liabilities	\$ 2,745	\$ 935

Weighted-average remaining lease term and incremental borrowing rate for the operating leases were as follows:

	June 30, 2024	December 31, 2023
Weighted-average remaining lease term (years)	9.1	9.5
Weighted-average incremental borrowing rate	11.4 %	11.4 %

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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7. Commitments and Contingent Liabilities (Continued)

Operating Leases (Continued)

Future minimum lease payments under non-cancelable leases as of June 30, 2024, were as detailed below (in thousands):

2024 (remainder of the year)	\$ 2,554
2025	4,959
2026	5,125
2027	5,296
2028	5,474
Thereafter	27,515
Total undiscounted lease payments	<u>50,923</u>
Less: Imputed interest	(19,350)
Total operating lease liabilities	<u>\$ 31,573</u>

FronThera Contingent Consideration

In March 2021, the Company entered into a stock purchase agreement to acquire FronThera U.S. Holdings, Inc. and its wholly owned subsidiary, FronThera U.S. Pharmaceuticals LLC., and the transaction was accounted for as an asset acquisition. Under the stock purchase agreement, the Company is obligated to pay contingent consideration of up to an aggregate of \$120.0 million based on the achievement of specified clinical and approval milestones, for up to an aggregate of \$70.0 million payable for clinical milestones, and for up to an aggregate of \$50.0 million payable for approval milestones, all related to technology acquired under the agreement. The Company incurred and paid a \$37.0 million milestone in 2022 for the first administration of ESK-001 to a patient enrolled in a Phase 2 clinical trial of ESK-001, which was recorded as research and development expense in the consolidated statement of operations and comprehensive loss for the year ended December 31, 2022. In July 2024, the Company met its milestone in connection with the first administration of ESK-001 to a patient enrolled in a Phase 3 clinical trial of ESK-001 and became obligated to pay \$23.0 million, which is expected to be recorded as research and development expenses in the third quarter of 2024, when probable. No other milestones were achieved or probable as of June 30, 2024.

Research and Development Agreements

The Company enters into various agreements in the ordinary course of business, such as those with suppliers, clinical research organizations, contract manufacturing organizations and clinical trial sites. These agreements provide for termination at the request of either party, generally with less than one-year notice and are, therefore, cancellable contracts and, if cancelled, are not anticipated to have a material effect on the Company's condensed consolidated financial condition, results of operations, or cash flows.

Legal Contingencies

From time to time, the Company may become involved in legal proceedings arising from the ordinary course of business. The Company records a liability for such matters when it is probable that future losses will be incurred and that such losses can be reasonably estimated. Significant judgment by the Company is required to determine both probability and the estimated amount. Management is currently not aware of any legal matters that could have a material adverse effect on the Company's financial position, results of operations or cash flows.

Guarantees and Indemnifications

In the normal course of business, the Company enters into agreements that contain a variety of representations and provide for general indemnification. Its exposure under these agreements is unknown because it involves claims that may be made

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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7. Commitments and Contingent Liabilities (Continued)

Guarantees and Indemnifications (Continued)

against the Company in the future. To the extent permitted under Delaware law, the Company has agreed to indemnify its directors and officers for certain events or occurrences while the director or officer is, or was serving, at a request in such capacity. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. As of June 30, 2024 and December 31, 2023, the Company did not have any material indemnification claims that were probable or reasonably possible and consequently has not recorded related liabilities.

8. Redeemable Convertible Preferred Stock

In May 2023, the Company issued and sold an aggregate of 10,722,340 shares of Series B-2 redeemable convertible preferred stock for gross proceeds of \$53.6 million and 1,277,660 shares of Series B-2A redeemable convertible preferred stock for gross proceeds of \$6.4 million and incurred \$0.2 million of issuance costs. The purchase price for Series B-2 and B-2A redeemable convertible preferred stock was \$5.00 per share. The Series B-2 and Series B-2A stock purchase agreement contains an obligation to issue additional shares of Series B-2 or Series B-2A redeemable convertible preferred stock in a second tranche closing by October 2023 (the “Second Tranche Series B-2 Closing”) upon the occurrence of certain events, including the board of directors’ consent. The Company recognized this call option as a derivative liability and estimated its fair value of \$2.1 million.

In July 2023, the holders of the shares of Series B-2A redeemable convertible preferred stock elected to convert their 1,277,660 shares into the same number of Series B-2 redeemable convertible preferred stock.

In October 2023, the Company closed the Second Tranche Series B-2 Closing and issued an additional 4,221,170 shares of Series B-2 redeemable convertible preferred stock and 1,778,830 shares of Series B-2A redeemable convertible preferred stock at a price of \$5.00 per share and received gross proceeds of \$21.1 million and \$8.9 million, respectively. Accordingly, the derivative liability was settled, and the Company reclassified the derivative liability, remeasured at fair value of \$2.2 million, into redeemable convertible preferred stock. The Company incurred less than \$0.1 million of issuance costs in connection with the Second Tranche Series B-2 Closing.

In March 2024, the Company issued and sold an aggregate of 41,264,891 shares of Series C redeemable convertible preferred stock for gross proceeds of \$129.5 million and incurred \$0.4 million of issuance costs. The purchase price for Series C redeemable convertible preferred stock was \$3.13826 per share. Under the Series C stock purchase agreement, any time prior to the earliest of (i) December 31, 2024, (ii) the execution of a letter of intent for the sale of the Company, or (iii) the closing date of the Company’s IPO, at the discretion of the Company’s board of directors, the Company was obligated to sell and each Series C purchaser was obligated to purchase additional shares of Series C redeemable convertible preferred stock with the amount equal to the purchaser’s aggregate purchase price in the first tranche Series C closing less any previous payments by the purchaser as part of the Put Right (as defined below) exercise. If the purchaser did not purchase its full share in the second tranche closing (the “Second Tranche Series C Closing”), all of its existing shares of Series C redeemable convertible stock and Series C-1 redeemable convertible preferred stock were convertible into common stock at a 10-to-1 basis. Additionally, a purchaser had a right to purchase shares of Series C-1 redeemable convertible preferred stock at a purchase price of \$4.00 per share beginning from the earlier of (a) September 4, 2024 or (b) the date of a significant partnering or collaboration agreement and expiring upon the earlier of (a) December 31, 2024, (b) the public filing of a registration statement on Form S-1 for the IPO, (c) the Second Tranche Series C Closing and (d) the execution of a letter of intent for the sale of the Company (the “Put Right”). The Put Right could only be exercised once. The Company determined that the Second Tranche Series C Closing and the Put Right are two freestanding financial instruments and estimated their fair value of \$8.9 million at the issuance date.

In May 2024, the Company closed the Second Tranche Series C Closing and issued an additional 41,264,892 shares of Series C redeemable convertible preferred stock at a price of \$3.13826 per share. The Company received gross proceeds of \$129.5 million and incurred \$0.2 million of issuance costs. Accordingly, the derivative liability was settled, and the

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8. Redeemable Convertible Preferred Stock (Continued)

Company reclassified the derivative liability, remeasured at fair value of \$14.3 million, into redeemable convertible preferred stock.

The Series Seed and Series A redeemable convertible preferred stock are collectively referred to as the “Junior Redeemable Convertible Preferred Stock”. The Series B, Series B-1, Series B-2, Series B-2A, Series C and Series C-1 redeemable convertible preferred stock are collectively referred to as the “Senior Redeemable Convertible Preferred Stock”.

The Company’s redeemable convertible preferred stock as of June 30, 2024 and December 31, 2023, consisted of the following:

	June 30, 2024			
	Shares Authorized	Shares Issued and Outstanding (in thousands, except share amounts)	Aggregate Liquidation Preference	Net Carrying Value
Series Seed redeemable convertible preferred stock	10,500,000	10,500,000	\$ 10,500	\$ 10,480
Series A redeemable convertible preferred stock	7,500,000	7,500,000	30,000	29,972
Series B redeemable convertible preferred stock	40,200,000	40,200,000	201,000	200,711
Series B-1 redeemable convertible preferred stock	9,760,088	9,760,088	39,040	44,310
Series B-2 redeemable convertible preferred stock	18,000,000	16,221,170	81,106	80,969
Series B-2A redeemable convertible preferred stock	1,778,830	1,778,830	8,894	8,928
Series C redeemable convertible preferred stock	82,529,809	82,529,783	259,000	263,867
Series C-1 redeemable convertible preferred stock	32,375,000	—	—	—
Total redeemable convertible preferred stock	202,643,727	168,489,871	\$ 629,540	\$ 639,237

	December 31, 2023			
	Shares Authorized	Shares Issued and Outstanding (in thousands, except share amounts)	Aggregate Liquidation Preference	Net Carrying Value
Series Seed redeemable convertible preferred stock	10,500,000	10,500,000	\$ 10,500	\$ 10,480
Series A redeemable convertible preferred stock	7,500,000	7,500,000	30,000	29,972
Series B redeemable convertible preferred stock	40,200,000	40,200,000	201,000	200,711
Series B-1 redeemable convertible preferred stock	9,760,088	9,760,088	39,040	44,310
Series B-2 redeemable convertible preferred stock	18,000,000	16,221,170	81,106	80,969
Series B-2A redeemable convertible preferred stock	3,056,490	1,778,830	8,894	8,928
Total redeemable convertible preferred stock	89,016,578	85,960,088	\$ 370,540	\$ 375,370

Immediately prior to the closing of the Company’s IPO on July 1, 2024, all outstanding shares of the Company’s redeemable convertible preferred stock were converted and then redesignated into common stock and non-voting common stock (see Note 1) and are no longer outstanding.

The significant rights and obligations of the Company’s redeemable convertible preferred stock are as follows:

Liquidation Preference

In the event of the liquidation, dissolution or winding up of the Company, or a deemed liquidation event, including a merger or consolidation, or a sale or other disposition of all or substantially all of the Company’s assets, the holders of shares of the Senior Redeemable Convertible Preferred Stock are entitled to receive, before any payments are made to the holders of the Junior Redeemable Convertible Preferred Stock and holders of common stock, an amount per share equal to the greater of (i) the Series B, Series B-1, Series B-2, Series B-2A, Series C and Series C-1 original issuance price of

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8. Redeemable Convertible Preferred Stock (Continued)

Liquidation Preference (Continued)

\$5.00, \$4.00, \$5.00, \$5.00, \$3.13826 and \$4.00, respectively, plus any dividends declared but unpaid, or (ii) such amount per share as would have been payable had all shares of the applicable series of Senior Redeemable Convertible Preferred Stock been converted into common stock immediately prior to such liquidation, dissolution, winding up or deemed liquidation. If the proceeds are insufficient to pay the holders of shares of Senior Redeemable Convertible Preferred Stock their full liquidation preference, then the proceeds available for distribution are payable ratably among the holders of the Senior Redeemable Convertible Preferred Stock in proportion to the full preferential amount that each such holder is entitled to receive.

After the distributions to the holders of the Senior Redeemable Convertible Preferred Stock have been paid in full, the holder of shares of Junior Redeemable Convertible Preferred Stock will be entitled to receive, prior to and in preference to any distributions of the assets of the Company to the holders of common stock, an amount equal to the greater of (i) the Series Seed and Series A original issuance price of \$1.00 and \$4.00, respectively, plus any dividends declared but unpaid, or (ii) such amount per share as would have been payable had all shares of such series of Junior Redeemable Convertible Preferred Stock been converted into common stock immediately prior to such liquidation, dissolution, winding up or deemed liquidation. If the proceeds are insufficient to pay the holder of share of Junior Redeemable Convertible Preferred Stock their full liquidation preference, then the proceeds available for distribution are payable ratably among the holders of the Junior Redeemable Convertible Preferred Stock in proportion to the full preferential amount that each such holder is entitled to receive.

After the distributions described above have been paid in full, the remaining assets of the Company available for distribution to its stockholders will be distributed among the holders of shares of common stock, pro rata based on the number of shares held by each such holder.

Conversion

Each share of Series B-2 redeemable convertible preferred stock is convertible at the option of a holder into one share of Series B-2A redeemable convertible preferred stock.

Each share of Series B-2A redeemable convertible preferred stock is convertible at the option of a holder into one share of Series B-2 redeemable convertible preferred stock.

Each share of redeemable convertible preferred stock is convertible at the option of a holder into shares of Class A common stock or Class B common stock at a conversion rate, which is the redeemable convertible preferred stock original issuance price per share divided by the conversion price in effect at the time of conversion. No shares of Series C and Series C-1 redeemable convertible preferred stock may be converted into shares of common stock at any time during the period commencing on March 4, 2024 and ending on the first to occur of (i) the Second Tranche Series C Closing, (ii) the day after December 31, 2024, (iii) a termination event as specified in the Series C stock purchase agreement and (iv) such other time as determined by the board of directors in its good faith judgment. The conversion price is initially equal to the redeemable convertible preferred stock original issuance price, and is subject to adjustments for recapitalization, dilutive issuances, stock dividends, stock splits, and other distributions. No adjustment in the conversion price of any series of redeemable convertible preferred stock will be made as the result of the issuance or deemed issuance of additional shares of common stock if the Company receives written notice from a majority of the then outstanding shares of such series of redeemable convertible preferred stock agreeing that no such adjustment will be made as the result of the issuance or deemed issuance of such additional shares of common stock. As of June 30, 2024 and December 31, 2023, the conversion price as adjusted for the reverse stock split was \$4.68 per share for the Series Seed redeemable convertible preferred stock, \$14.67 per share for the Series C redeemable convertible preferred stock, \$18.70 per share for the Series A redeemable convertible preferred stock, Series B-1 redeemable convertible preferred stock and Series C-1 redeemable convertible

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8. Redeemable Convertible Preferred Stock (Continued)

Conversion (Continued)

preferred stock, and \$23.38 per share for the Series B redeemable convertible preferred stock, Series B-2 redeemable convertible preferred stock and Series B-2A redeemable convertible preferred stock.

All outstanding shares of redeemable convertible preferred stock are automatically converted into shares of Class A common stock, provided that, a holder of shares of redeemable convertible preferred stock may elect, upon written notice to the Company at least seven days prior to a qualified public offering, to have all or a portion of its shares of redeemable convertible preferred stock automatically convert into shares of Class B common stock at the then effective conversion rate, upon the earlier of: (i) the closing of the sale of shares of common stock to the public at a price of at least \$17.61, in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$75.0 million of proceeds to the Company, net of underwriting discount and commissions, and in connection with such offering the common stock is listed for trading on the Nasdaq Stock Market's National Market, the New York Stock Exchange or another exchange or marketplace approved by the board of directors, or (ii) the date and time, or the occurrence of an event, specified by a vote or a written consent of (a) the holders of a majority of outstanding shares of redeemable convertible preferred stock, voting together as a single class and on an as-converted basis, and (b) the holders of a majority of Series C and Series C-1 redeemable convertible preferred stock, voting together as a single class and on an as-converted basis.

Dividend Rights

The Company cannot declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Company (other than dividends on shares of common stock payable in shares of common stock), unless the holders of the redeemable convertible preferred stock then outstanding will first receive, or simultaneously receive, a dividend on each outstanding share of redeemable convertible preferred stock in an amount at least equal to (i) in the case of a dividend on common stock or any class or series that is convertible into common stock, the product of (a) the dividend payable on each share of such series determined as if all shares of such series had been converted into common stock and (b) the number of shares of common stock issuable upon conversion of a share of redeemable convertible preferred stock, calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into common stock, at a rate per share of redeemable convertible preferred stock determined by (a) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (b) multiplying such fraction by an amount equal to the applicable original issue price. If the Company declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Company, the dividend payable to the holders of redeemable convertible preferred stock will be calculated based upon the dividend on the class or series of capital stock that would result in the highest redeemable convertible preferred stock dividend. No dividends were declared and paid or payable for the for the six months ended June 30, 2024 and year ended December 31, 2023.

Voting Rights

Each holder of outstanding shares of redeemable convertible preferred stock is entitled to cast the number of votes equal to the number of whole shares of common stock into which the shares of redeemable convertible preferred stock held by such holder are convertible. Holders of redeemable convertible preferred stock vote together with the holders of common stock as a single class and on an as-converted to common stock basis. Holders of Series B-2A redeemable convertible preferred stock have no voting rights for election of directors or for the size of the board.

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8. Redeemable Convertible Preferred Stock (Continued)

Election of Directors

At any time when at least 1,875,000 shares of Series A redeemable convertible preferred stock are outstanding, the holders of the shares of Series A redeemable convertible preferred stock, voting as a separate class on an as-converted to common stock basis, are entitled to elect one director of the Company.

Election of Directors (Continued)

At any time when at least 10,050,000 shares of the voting Series B, Series B-1, Series B-2 are outstanding, the holders of the shares of the Series B, Series B-1, Series B-2, voting as a separate class on an as-converted to common stock basis, are entitled to elect two directors of the Company.

At any time when at least 10,316,222 shares of Series C and Series C-1 redeemable convertible preferred stock are outstanding, the holders of the shares of Series C and Series C-1 redeemable convertible preferred stock, voting as a separate class on an as-converted to common stock basis, are entitled to elect two directors of the Company.

The holders of the shares of common stock, voting as a separate class, are entitled to elect one director of the Company.

The holders of common stock and redeemable convertible preferred stock, voting together as a single class on an as-converted basis, are entitled to elect all remaining members of the board of directors, if any.

Redemption

The redeemable convertible preferred stock is recorded in mezzanine equity because while it is not mandatorily redeemable, it will become redeemable at the option of the preferred stockholders upon the occurrence of certain deemed liquidation events that are considered not solely within the Company's control.

9. Common Stock

As of June 30, 2024, the Company was authorized to issue 225,000,000 shares of Class A common stock and 168,489,897 shares of Class B common stock, both with par values of \$0.0001 per share (Class A common stock and Class B common stock, collectively referred to as "common stock"). As of June 30, 2024 and December 31, 2023, there were no shares of Class B common stock outstanding.

The holders of Class A and Class B common stock have the same rights except that Class B common stock do not have voting rights, except as may be required by law. Each holder of Class B common stock has a right to convert each share of Class B common stock to one share of Class A common stock. The Company cannot issue shares of Class B common stock other than upon conversion of redeemable convertible preferred stock. At any time following the Company's registration of any class of equity securities under the Exchange Act, the holders of shares of Class B common stock may not convert a number of shares of Class B common stock into shares of Class A common stock in excess of that number of shares of Class B common stock which would cause the holder thereof to beneficially own (for purposes of Section 13(d) of the Exchange Act), in excess of 4.99% of the total number of issued and outstanding shares of Class A common stock (including shares of Class A common stock issuable upon conversion of the redeemable convertible preferred stock). Such maximum percentage may be increased or decreased to such other percentage as any holder of outstanding shares of Class B common stock may designate in writing upon 61 days' prior written notice.

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9. Common Stock (Continued)

Common stock reserved for issuance, on an as-converted basis, consisted of the following as of June 30, 2024 and December 31, 2023:

	June 30, 2024	December 31, 2023
Redeemable convertible preferred stock issued and outstanding	36,040,564	18,387,168
Outstanding and issued common stock options	8,725,148	5,096,086
Shares available for grant under 2024 Equity Incentive Plan	7,693,365	—
Shares available for grant under 2024 Employee Stock Purchase Plan	650,000	—
Shares available for grant under 2021 Stock Plan	—	296,189
Shares available for grant under 2024 Performance Option Plan	33,274	—
Total	<u>53,142,351</u>	<u>23,779,443</u>

Common Stock Issued to Executives

In February 2021, the Company issued 100,532 shares of common stock to two executives at a purchase price of \$0.94 per share. The shares vest over a four-year period with a one-year cliff. The holders have voting and dividends rights. The Company has the right to repurchase unvested shares at the price paid by the holder in the event of termination of the holder's continuous status as a service provider. The Company estimated the fair value of the restricted stock awards based on the fair value of common stock at the grant dates. The expense is recognized ratably over the vesting terms. The Company recognized less than \$0.1 million of stock-based compensation expense for the three and six months ended June 30, 2024 and 2023.

The following table summarizes the activity for the Company's restricted common stock for the six months ended June 30, 2024:

	Number of Shares	Weighted- Average Grant Date Fair Value
Unvested as of December 31, 2023	29,322	\$ 2.90
Vested	(12,567)	\$ 2.90
Unvested as of June 30, 2024	<u>16,755</u>	\$ 2.90

As of June 30, 2024, the remaining unamortized stock-based compensation expense of less than \$0.1 million will be recognized over the remaining vesting period of 0.6 years.

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10. Stock Compensation

2024 Equity Incentive Plan

On June 27, 2024, the Company's board of directors adopted, and its stockholders approved, the 2024 Equity Incentive Plan (the "2024 EIP"), which became effective on June 28, 2024, upon execution of the underwriting agreement related to the Company's IPO. The Company reserved 7,800,000 new shares of common stock for issuance under the 2024 EIP. In addition, up to 6,829,339 shares subject to awards under the 2021 Stock Plan (the "2021 Plan") that terminate, expire, or lapse for any reason without the delivery of shares, or are reacquired or withheld (or not issued) to satisfy a tax withholding obligation or the purchase or exercise price, were authorized to be added to the 2024 EIP. The 2024 EIP is a successor to the 2021 Plan and no further grants will be made under the 2021 Plan. The 2024 EIP also provides that the number of shares initially reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2025 and ending in January 1, 2034, by an amount equal to 5% of the outstanding number of shares of the Company's common stock as of the last day of the immediately preceding fiscal year, or such lesser number of shares as determined by the board of directors. No more than 43,888,017 shares of stock may be issued upon the exercise of incentive stock options under the 2024 EIP.

The 2024 EIP allows the Company to make equity-based awards to its officers, employees, directors and consultants. The 2024 EIP provides for the grant of incentive stock options ("ISOs"), non-statutory stock options ("NSOs"), restricted stock awards, restricted stock units ("RSUs"), stock appreciation rights, performance awards and other stock-based awards. Options under the 2024 EIP may be granted for periods of up to 10 years at exercise prices no less than the fair market value of common stock on the date of grant; provided, however, that the exercise price of an incentive stock option granted to a 10% stockholder may not be less than 110% of the fair market value of the shares on the date of grant and such option may not be exercisable after the expiration of five years from the date of grant. Stock option grants under the 2024 EIP generally vest over four years. The grant date fair market value of all awards made under the 2024 EIP and all cash compensation paid by the Company to any non-employee director for services as a director in any fiscal year may not exceed \$750,000, increased to \$1,000,000 in the fiscal year of their initial service as a non-employee director.

In June 2024, the Company issued to certain directors and employees, including its executive officers, stock options to purchase an aggregate of 163,131 shares of its common stock with an exercise price equal to the IPO's price of \$16.00 per share, under the 2024 EIP. As of June 30, 2024, there were 7,693,365 shares authorized and available for issuance under the 2024 EIP.

2024 Employee Stock Purchase Plan

In June 2024, the board of directors adopted, and its stockholders approved, the 2024 Employee Stock Purchase Plan (the "2024 ESPP"), which became effective on June 28, 2024, upon execution of the underwriting agreement related to the Company's IPO. The Company reserved 650,000 shares of common stock for issuance under the 2024 ESPP. The number of shares of common stock reserved for issuance under the 2024 ESPP will be automatically increased each year for ten calendar years beginning on January 1, 2025 through January 1, 2034, by the lesser of (i) 1% of the total number of shares of our capital stock outstanding on the last day of the calendar month before the date of the automatic increase, and (ii) 1,950,000 shares; provided that before the date of any such increase, the board of directors may determine that such increase will be less than the amount in (i) and (ii) above. The 2024 ESPP allows an eligible employee to purchase shares of common stock at a discount through payroll deductions of up to 15% of the employee's eligible compensation. At the end of each offering period, employees are able to purchase shares at 85% of the lower of the fair market value of our common stock at the beginning of the offering period or at the end of each applicable offering period.

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10. Stock Compensation (Continued)

2024 Performance Option Plan

In May 2024, the Company's board of directors adopted and the shareholders approved the 2024 Performance Option Plan (the "2024 POP"). The Company reserved 1,880,680 shares of common stock issuable under the 2024 POP. The 2024 POP permits grants of ISOs, NSOs and restricted stock awards to the Company's employees, directors and consultants.

In May 2024, the Company granted NSOs to employees to purchase 1,880,680 shares of common stock at an exercise price of \$10.19 under the 2024 POP. Options generally vest on the date when the Company meets certain common stock public market price specified targets after the end of the lock-up period, subject to continuous service through each respective vest date. The price targets are calculated based on the volume weighted average price per share over 30 consecutive trading dates, in accordance with the grant terms. The unvested awards will expire if it is determined that the vesting conditions have not been met during the applicable six-year performance period. The service condition includes monthly vesting over 36 months from the vesting commencement date and the employee's continuous service with the Company through each such monthly vesting date.

2021 Stock Plan

Prior to the IPO, the Company granted stock awards under the 2021 Plan, adopted in February 2021.

Subsequent to the adoption of the 2024 EIP in June 2024, no additional shares were available for issuance under the 2021 Plan and any stock options granted under the 2021 Plan that were subsequently forfeited would be made available for issuance under the 2024 EIP.

The terms of the 2021 Plan permit option holders to exercise options before their options are vested. The shares of common stock granted upon early exercise that have not yet vested are subject to repurchase by the Company in the event of termination of the holder's continuous status as a service provider, at the price paid by the holder.

Stock Option Repricing

In March 2024, the Company's board of directors approved the repricing of all outstanding options as of March 29, 2024, which have an exercise price exceeding \$8.84 per share. The exercise price of outstanding options with a weighted average exercise price of \$10.23 for 4,603,443 common stock shares was reduced to the estimated common stock fair value of \$8.84 per share at the date of the repricing. The vesting terms and expiration dates remain unchanged from the original grant dates.

The stock option repricing was treated as an option modification for accounting purposes and resulted in total incremental expense of \$0.7 million, of which \$0.1 million incremental expense associated with the vested options was recognized on the modification date. The remaining \$0.6 million incremental expense associated with the unvested options as of the modification date will be recognized over the remainder of the original requisite service period.

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10. Stock Compensation (Continued)

Stock Option Activity

The following table summarizes the Company's option activity under the 2021 Plan and the 2024 EIP for the six months ended June 30, 2024. The table includes early exercised shares as part of options exercised.

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2023	5,096,086	\$ 9.68	8.50	\$ 15,033
Options granted	1,959,928	\$ 12.25		
Options exercised	(65,519)	\$ 8.20		\$ 343
Options forfeited or expired	(112,753)	\$ 10.01		
Outstanding and expected to vest as of June 30, 2024	<u>6,877,742</u>	\$ 9.49	8.53	\$ 26,690
Exercisable as of June 30, 2024	<u>6,714,611</u>	\$ 9.33	8.49	\$ 26,690

The total fair value of shares vested for the six months ended June 30, 2024 and 2023 was \$5.5 million and \$4.6 million, respectively. The weighted-average grant date fair value of options granted was \$10.47 and \$9.36 for the six months ended June 30, 2024 and 2023, respectively. During the six months ended June 30, 2024 and 2023, 65,519 options and 18,395 options were exercised with intrinsic values of \$0.3 million and less than \$0.1 million, respectively, and the Company received \$0.5 million and \$0.2 million, respectively, in proceeds from issuance of common stock upon exercise of stock options, respectively.

The following table summarizes the Company's option activity under the 2024 POP for the six months ended June 30, 2024.

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2023	—	\$ —	—	\$ —
Options granted	1,880,680	\$ 10.19		
Options exercised	—	\$ —		\$ —
Options forfeited or expired	(33,274)	\$ 10.19		
Outstanding and expected to vest as of June 30, 2024	<u>1,847,406</u>	\$ 10.19	9.85	\$ 5,743
Exercisable as of June 30, 2024	<u>—</u>	\$ —	—	\$ —

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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10. Stock Compensation (Continued)*Stock Option Valuation*

The fair value of stock options granted under the 2024 EIP and the 2021 Plan for the six months ended June 30, 2024 and 2023 was estimated using the Black-Scholes option pricing model with the following assumptions:

	Six Months Ended June 30,	
	2024	2023
Expected term (in years)	5.92 – 6.08	5.95 – 6.63
Volatility	103.65% – 105.69%	98.08% – 102.54%
Risk-free interest rate	4.20% – 4.48%	3.66% – 3.98%
Dividend yield	0%	0%

Expected Term

The expected term represents the weighted-average period the stock options are expected to remain outstanding and is based on the options' vesting terms and contractual terms, as the Company did not have sufficient historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior.

Expected Volatility

The expected stock price volatility assumption was determined by examining the historical volatilities for industry peers, as the Company did not have any trading history for the Company's common stock. The Company will continue to analyze the historical stock price volatility and expected term assumption as more historical data for the Company's common stock becomes available.

Risk-Free Interest Rate

The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of the Company's stock options.

Dividends

The Company has not paid any cash dividends on common stock since inception and does not anticipate paying any dividends in the foreseeable future. Consequently, an expected dividend yield of zero was used.

Common Stock Fair Value

The fair market value of the Company's common stock is determined by the board of directors with assistance from management and external valuation experts. The approach to estimating the fair market value of common stock is consistent with the methods outlined in the Practice Aid.

ALUMIS INC.
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(unaudited)

10. Stock Compensation (Continued)

Common Stock Fair Value (Continued)

Prior to May 2023, the Company utilized an Option Pricing Method (“OPM”) based analysis, primarily the OPM backsolve methodology, to determine the estimated fair value of the common stock. Within the OPM framework, the backsolve method, for inferring the total equity value implied by a recent financing transaction or by an estimated equity value of the Company’s pipeline product candidates, involves the construction of an allocation model that takes into account the Company’s capital structure and the rights, preferences and privileges of each class of stock, then assumes reasonable inputs for the other OPM variables (expected time to liquidity, volatility, and risk-free rate). The total equity value is then iterated in the model until the model output value for the equity class sold in a recent financing round equals the price paid in that round. The OPM is generally utilized when specific future liquidity events are difficult to forecast (i.e., the enterprise has many choices and options available), and the enterprise’s value depends on how well it follows an uncharted path through the various possible opportunities and challenges. In determining the estimated fair value of the common stock, the board of directors also considered the fact that the stockholders could not freely trade the common stock in the public markets. Accordingly, the Company applied discounts to reflect the lack of marketability of its common stock based on the weighted-average expected time to liquidity. The estimated fair value of the common stock at each grant date reflected a non-marketability discount partially based on the anticipated likelihood and timing of a future liquidity event.

For valuations performed on and after May 2023, the Company utilized a hybrid method that combines the Probability-Weighted Expected Return Method (“PWERM”), an accepted valuation method described in the Practice Aid, and the OPM. The Company determined this was the most appropriate method for determining the fair value of its common stock based on the stage of development and other relevant factors. The PWERM is a scenario-based analysis that estimates the value per share of common stock based on the probability-weighted present value of expected future equity values for the common stock, under various possible future liquidity event scenarios, considering the rights and preferences of each class of shares, discounted for a lack of marketability. Under the hybrid method, an option pricing model was utilized to determine the fair value of the Company’s common stock in certain of the PWERM scenarios (capturing situations where its development path and future liquidity events were difficult to forecast), potential exit events were explicitly modeled in the other PWERM scenarios. A discount for lack of marketability was applied to the value derived under each scenario to account for a lack of access to an active public market to estimate the common stock fair value. The assumptions underlying these valuations represented management’s best estimates, which involved inherent uncertainties and the application of management’s judgment. As a result, if the Company had used significantly different assumptions or estimates, the fair value of the common stock and the stock-based compensation expense could have been materially different.

The Company also considers the amount of time between the independent third-party valuation dates and the grant dates and performs an interpolation of the fair value between the two valuation dates to estimate common stock fair value at each grant date. This determination includes an evaluation of whether the subsequent valuation indicated that any significant change in valuation had occurred between the previous valuation and the grant date.

Stock Options Granted Under the 2024 POP

Stock options granted under the 2024 POP are classified as equity financial instruments. At the grant date, the fair value of stock options granted under the 2024 POP was estimated using a Monte Carlo simulation model, which uses a distribution of potential outcomes on a monthly basis over the vesting period prioritizing the most reliable information available. The assumptions utilized in the calculation are based on the achievement of certain stock price thresholds, including the Company’s expected common stock price, expected volatility, risk-free rate and expected term. The Company used the following assumptions to estimate the fair value at the grant date in May 2024: common stock fair value of \$12.06, vesting term of 6.00 years, volatility of 122.00%, and risk free rate of 4.38%. The estimates of fair value are uncertain and changes in any of the estimated inputs could have resulted in significant adjustments to the fair value.

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10. Stock Compensation (Continued)

Stock Options Granted Under the 2024 POP (Continued)

The Company estimated fair value of stock options issued under the 2024 POP of \$18.0 million will be recognized after the performance condition is probable over the longer of (i) the explicit service period of the service condition of 3.0 years or (ii) the derived service period between 1.4 years to 2.1 years. As the IPO was not considered probable until it closed on July 1, 2024, no stock-based compensation expense is recognized for the three and six months ended June 30, 2024.

Early Exercise of Employee Options

Proceeds from the early exercise of stock options are recorded as share repurchase liability, and as shares vest are recognized to additional paid-in capital in the condensed consolidated balance sheets. As of June 30, 2024 and December 31, 2023, there was \$1.2 million and \$1.8 million share repurchase liability related to the unvested shares, respectively.

The following table summarizes the activity for the Company's early exercised shares for the six months ended June 30, 2024:

	Number of Shares	Weighted- Average Exercise Price Per Share
Unvested as of December 31, 2023	327,100	\$ 5.33
Early exercised	25,034	\$ 8.84
Vested	(122,373)	\$ 6.10
Unvested as of June 30, 2024	<u>229,761</u>	\$ 5.30

Stock-Based Compensation Expense

The following table summarizes the stock-based compensation expense granted to employees and non-employees for the three and six months ended June 30, 2024 and 2023 (in thousands):

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	2024	2023	2024	2023
Research and development	\$ 1,641	\$ 1,065	\$ 3,085	\$ 2,067
General and administrative	1,492	844	2,705	1,673
Total stock-based compensation expense	<u>\$ 3,133</u>	<u>\$ 1,909</u>	<u>\$ 5,790</u>	<u>\$ 3,740</u>

The following table summarizes the stock-based compensation expense related to the following equity-based awards for the three and six months ended June 30, 2024 and 2023 (in thousands):

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	2024	2023	2024	2023
Stock options	\$ 3,115	\$ 1,891	\$ 5,754	\$ 3,704
Restricted stock awards	18	18	36	36
Total stock-based compensation expense	<u>\$ 3,133</u>	<u>\$ 1,909</u>	<u>\$ 5,790</u>	<u>\$ 3,740</u>

Stock-based compensation expense related to non-employee awards was immaterial for all periods presented.

As of June 30, 2024, there was unrecognized stock-based compensation expense of \$61.7 million related to issued stock-based award which the Company expects to recognize over a weighted-average period of 3.12 years.

ALUMIS INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(unaudited)

11. Net Loss Per Share Attributable to Class A Common Stockholders

The following table sets forth the computation of the basic and diluted net loss per share attributable to Class A common stockholders for the three and six months ended June 30, 2024 and 2023 (in thousands, except share and per share amounts):

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2024</u>	<u>2023</u>	<u>2024</u>	<u>2023</u>
Numerator:				
Net loss	\$ (56,508)	\$ (36,289)	\$ (106,357)	\$ (72,316)
Denominator:				
Weighted average Class A common shares outstanding	2,700,082	2,636,985	2,689,624	2,635,952
Less: Weighted-average Class A common shares subject to repurchase	(254,060)	(519,124)	(281,587)	(577,774)
Weighted-average Class A common shares outstanding, basic and diluted	<u>2,446,022</u>	<u>2,117,861</u>	<u>2,408,037</u>	<u>2,058,178</u>
Net loss per share attributable to Class A common stockholders, basic and diluted	<u>\$ (23.10)</u>	<u>\$ (17.13)</u>	<u>\$ (44.17)</u>	<u>\$ (35.14)</u>

The following outstanding potentially dilutive shares were excluded from the computation of diluted net loss per share attributable to Class A common stockholders for the periods presented, because including them would have been anti-dilutive (on an as-converted basis):

	<u>June 30, 2024</u>	<u>June 30, 2023</u>
Redeemable convertible preferred stock issued and outstanding	36,040,564	17,103,749
Common stock options issued and outstanding	8,725,148	4,640,139
Unvested restricted common stock and early exercised stock options	246,516	483,544
Total	<u>45,012,228</u>	<u>22,227,432</u>

12. Employee Benefit Plans

The Company sponsors a qualified 401(k) defined contribution plan covering eligible employees. Participants may contribute a portion of their annual compensation limited to a maximum annual amount set by the Internal Revenue Service. There were no employer contributions under this plan during the three and six months ended June 30, 2024 and 2023.

13. Subsequent Events

In July 2024, the Company closed its IPO and Concurrent Private Placement and received aggregate net proceeds of \$233.2 million. In connection with the closing of the Company's IPO, the Company increased the authorized number of shares to 500,000,000 shares of common stock and 50,000,000 shares of preferred stock. Refer to Note 1 for details.

In July 2024, the Company met a clinical milestone under the FronThera Acquisition and is obligated to pay \$23.0 million. Refer to Note 7 for details.

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 and the unaudited interim condensed consolidated financial statements and related notes included in this Quarterly Report on Form 10-Q should be read in conjunction with the financial statements and related notes thereto as of and for the year ended December 31, 2023 and the related Management’s Discussion and Analysis of Financial Condition and Results of Operations, both of which are contained in the Prospectus dated June 27, 2024, filed pursuant to Rule 424(b) under the Securities Act of 1933, as amended (Securities Act), with the Securities and Exchange Commission (SEC) on June 28, 2024 (Prospectus). This discussion and analysis and other parts of this Quarterly Report on Form 10-Q contain forward-looking statements based upon current beliefs, plans and expectations related to future events and our future financial performance that involve risks, uncertainties and assumptions, such as statements regarding our intentions, plans, objectives and expectations for our business. Our actual results and the timing of selected events could differ materially from those described in or implied by these forward-looking statements as a result of several factors, including those set forth under “Risk Factors” in Part II, Item 1A of this Quarterly Report on Form 10-Q. See also the section titled “Special Note Regarding Forward-Looking Statements.”

Overview

Our mission is to significantly improve the lives of patients by replacing broad immunosuppression with targeted therapies. Our name, Alumis, captures our mission to enlighten immunology, and is inspired by the words “allumer”—French for illuminate—and “immunis”—Latin for the immune system.

We are a clinical stage biopharmaceutical company with an initial focus on developing our two Tyrosine Kinase 2 (TYK2) inhibitors: ESK-001, a second-generation inhibitor that we are developing to maximize target inhibition and optimize tolerability, and A-005, a central nervous system (CNS) penetrant molecule. ESK-001 has demonstrated significant therapeutic effect in our Phase 2 program in patients with PsO, which we define as moderate-to-severe plaque psoriasis (PsO), and is currently being evaluated in an additional Phase 2 clinical trial in patients with systemic lupus erythematosus (SLE), for which we expect to report results in 2026. With the favorable results in our Phase 2 clinical trial in PsO, we intend to initiate multiple Phase 3 clinical trials of ESK-001 in the second half of 2024 in this indication, and announced in July 2024, that patient dosing has commenced in the ONWARD Phase 3 clinical program. TYK2 genetic mutations are associated with a strong protective effect in multiple sclerosis, motivating us to develop our second product candidate, A-005, as a CNS-penetrant, allosteric TYK2 inhibitor for neuroinflammatory and neurodegenerative diseases. In April 2024, we initiated our Phase 1 program of A-005 in healthy volunteers and expect to report initial results by the end of 2024.

Alumis was incubated by Foresite Labs and incorporated on January 29, 2021, as a Delaware corporation under the name FL2021-001, Inc. FL2021-001, Inc.’s name was changed to Esker Therapeutics, Inc. in March 2021 and to Alumis Inc. in January 2022.

Since our inception, we have devoted substantially all of our efforts to organizing our company, hiring personnel, business planning, acquiring and developing our product candidates, performing research and development, conducting preclinical studies and clinical trials, establishing and protecting our intellectual property portfolio, raising capital and providing general and administrative support for these activities. We do not have any products approved for sale and have not generated any revenue from product sales. We expect to continue to incur significant and increasing expenses and increasing substantial losses for the foreseeable future as we continue our development of and seek regulatory approvals for our product candidates and commercialize any approved products, seek to expand our product pipeline and invest in our organization. Our ability to achieve and sustain profitability will depend on our ability to successfully develop, obtain regulatory approval for and commercialize our product candidates. There can be no assurance that we will ever earn revenue or achieve profitability, or if achieved, that the revenue or profitability will be sustained on a continuing basis.

To date, we have primarily funded our operations with proceeds from sales of shares of our common stock and redeemable convertible preferred stock and the issuance of convertible promissory notes in private placements. In July 2024, we closed our initial public offering (IPO) and a Concurrent Private Placement (defined below) and received 233.2 million in net

proceeds, after deducting underwriting discounts and commissions and offering expenses payable by the Company. As of June 30, 2024, we had \$209.5 million in cash, cash equivalents and marketable securities.

We have incurred significant operating losses and negative cash flows since our inception. Our net loss for the three months ended June 30, 2024 and 2023 was \$56.5 million and \$36.3 million, respectively. Our net loss for the six months ended June 30, 2024 and 2023 was \$106.4 million and \$72.3 million, respectively. As of June 30, 2024, we had an accumulated deficit of \$470.7 million. Substantially all of our net losses have resulted from costs incurred in connection with our research and development efforts, including acquisitions of in-process research and development assets, and, to a lesser extent, from general and administrative costs associated with our operations. Our net losses and operating losses may fluctuate from quarter to quarter and year to year depending primarily on the timing of acquisition of any new product candidates, the timing of our preclinical studies and clinical trials, our other research and development expenses, and the timing and amount of any milestone or royalty payments due under our existing or future license agreements. In addition, we have incurred and will continue to incur additional costs associated with operating as a public company, including significant legal, audit, accounting, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer liability insurance costs, investor and public relations costs, and other expenses that we did not incur as a private company.

We anticipate that our expense will increase significantly in connection with our ongoing activities, particularly if and as we:

- continue to progress the development of our product candidates in multiple clinical trials in parallel;
- explore additional indications for our existing product candidates;
- hire additional clinical and scientific personnel;
- obtain, maintain, expand and protect our intellectual property rights;
- make royalty, milestone or other payments under our existing acquisition agreements and any future license or collaboration agreements;
- seek to identify, acquire or in-license new technologies or product candidates;
- seek regulatory and marketing approvals for any of our product candidates that successfully complete clinical trials, if any;
- procure manufacturing and supply chain capacity for our product candidates, including commercial manufacturing readiness and scale-up;
- experience any delays, challenges or other issues associated with the clinical development and regulatory approvals of our product candidates;
- add operational, legal, financial and management information systems and personnel to support our product development, clinical execution and planned future commercialization efforts, as well as to support our transition to a public company;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we obtain marketing approval; and
- operate as a public company.

We do not have any products approved for sale and have not generated any revenue from product sales since our inception. We do not expect to generate revenue from any product candidates that we develop until we obtain regulatory approval

for one or more of such product candidates and commercialize our products or enter into collaboration agreements with third parties. Because of the numerous risks and uncertainties associated with biopharmaceutical product development, we may never achieve or sustain profitability and, unless and until we are able to develop and commercialize our product candidates, we will need to continue to raise additional capital. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through public or private equity or debt financings, or potentially other capital sources, such as collaboration or licensing arrangements with third parties or other strategic transactions. There are no assurances that we will be successful in obtaining an adequate level of financing to support our business plans when needed on acceptable 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 additional funds through collaboration or licensing arrangements with third parties or other strategic transactions, we may have to relinquish rights to our intellectual property, future revenue streams, research programs, or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise capital as and when needed, or on attractive terms, we may have to significantly delay, reduce, or discontinue the development and commercialization of our product candidates or scale back or terminate our pursuit of new in-licenses and acquisitions.

We do not currently own or operate any manufacturing facility. We rely on contract manufacturing organizations (CMOs) to produce our product candidates in accordance with the U.S. Food and Drug Administration's (the FDA) current Good Manufacturing Practices (cGMP) regulations for use in our clinical studies. We have entered into development and manufacturing agreements with various CMOs relating to process development, manufacturing of drug substance and drug product, and quality testing of our product candidates. We expect to rely on our CMOs in the future for the manufacturing of our product candidates in order to expedite readiness for future clinical trials. Most of these CMOs have demonstrated capability in preparation of materials for commercialization. Additionally, we may decide to build our own manufacturing facility in the future to provide us greater flexibility and control over our clinical or commercial manufacturing needs.

Given our stage of development, we do not yet have a marketing or sales organization or commercial infrastructure; however, we intend to build the necessary sales, marketing and commercialization capabilities and infrastructure over time as our product candidates advance through clinical development. We expect to spend a significant amount in commercial development and marketing costs prior to obtaining regulatory and marketing approval of one or more of our product candidates.

Initial Public Offering and Concurrent Private Placement

On June 28, 2024, our Registration Statement on Form S-1 for our IPO was declared effective and, on July 1, 2024, we completed our IPO, pursuant to which we issued and sold 13,125,000 shares of our common stock at \$16.00 price per share to the public. Net proceeds from the IPO were approximately \$193.2 million, after deducting underwriting discounts and commissions and other offering costs totaling approximately \$16.8 million.

In connection with the IPO, an existing investor and a holder of more than 5% of our capital stock, purchased an additional 2,500,000 shares of our common stock at the IPO price per share for a total of \$40.0 million in a private placement transaction (the "Concurrent Private Placement"). The closing of the Concurrent Private Placement was contingent on the closing of the IPO. The sale of such shares is not registered under the Securities Act, and as such, the shares may not be offered or sold absent registration or an applicable exemption from registration. The shares sold in connection with the Concurrent Private Placement are subject to existing resale registration rights and are subject to a 180-day lock-up agreement with the underwriters in the IPO. The Concurrent Private Placement closed on July 17, 2024.

Immediately prior to the closing of the IPO on July 1, 2024, all of the shares of our redeemable convertible preferred stock then outstanding converted into 28,855,656 shares of Class A common stock and 7,184,908 shares of Class B common stock at a 1-for-4.675 conversion ratio. All outstanding Class A common stock shares and all outstanding Class B common stock shares were redesignated immediately thereafter into the same number of shares of common stock and non-voting common stock, respectively.

Macroeconomic Trends

Unfavorable conditions in the economy in the United States and abroad may negatively affect the growth of our business and our results of operations. For example, macroeconomic events, including, rising inflation, tensions in U.S.-China relations, the U.S. Federal Reserve raising interest rates, recent and potential future disruptions in access to bank deposits and lending commitments due to bank failures and the effects of the ongoing geopolitical conflicts in Ukraine and Israel and the surrounding areas, have led to economic uncertainty and volatility globally. The effect of macroeconomic conditions may not be fully reflected in our results of operations until future periods. Moreover, negative macroeconomic conditions could adversely impact our ability to obtain financing in the future on terms acceptable to us, or at all. In addition, the geopolitical instability and related sanctions could continue to have significant ramifications on global financial markets, including volatility in the U.S. and global financial markets. To date, the macroeconomic trends discussed above have not had a material adverse impact on our business, financial condition or results of operations. If, however, economic uncertainty increases or the global economy worsens, our business, financial condition and results of operations may be harmed.

Components of Results of Operations

Operating Expenses

Our operating expenses consist of (i) research and development expenses and (ii) general and administrative expenses.

Research and Development Expenses

Research and development expenses consist of external and internal costs primarily related to acquiring and developing our research pipeline and technologies and clinical development of our product candidates.

External costs include:

- costs associated with acquiring technology and intellectual property licenses that have no alternative future uses and costs incurred under in-license or assignment agreements, including milestone payments;
- expenses incurred in connection with the discovery and preclinical development of our pipeline programs;
- costs incurred in connection with the clinical development of our product candidates, including under agreements with clinical research organizations (CROs), CMOs and other third parties that conduct clinical trials and manufacture clinical supplies, product candidates and components on our behalf; and
- costs for third-party professional research and development consulting services.

Internal costs include:

- research and development personnel-related costs, including salaries, annual bonuses, benefits, travel and meals expenses and stock-based compensation expense; and
- allocated facilities and other overhead costs, including software licenses, computer supplies and accessories and other miscellaneous expenses.

We have acquired and may continue to acquire the rights to develop and commercialize new product candidates. Upfront and milestone payments are accrued for and expensed as in process research and development (IPRD) assets expense when the achievement of the milestone is probable up to the point of regulatory approval and, absent obtaining such approval, have no alternative future use. Milestone payments made after a product's regulatory approval will be capitalized and amortized over the remaining useful life of the related product.

We expense research and development costs as incurred. Costs of certain activities are recognized based on an evaluation of the progress to completion of specific tasks. However, payments made prior to the receipt of goods or services that will be used or rendered for future research and development activities are deferred and capitalized as research and development prepaid expenses on our consolidated balance sheets. The capitalized amounts are recognized as expense as the goods are delivered or services are performed. Since our inception and through June 30, 2024, our external research and development expenses were primarily related to the discovery and advancement of programs under our TYK2 platform, including our two most advanced product candidates, ESK-001 and A-005. We use internal resources primarily for managing our research, process development, manufacturing and clinical development activities. In particular, with respect to internal costs, we deploy our personnel across all of our research and development activities as our employees work across multiple programs, and therefore the costs cannot be allocated to a particular product candidate or research program. In 2023, we began tracking external costs by program.

We expect our research and development expenses to increase substantially for the foreseeable future as we advance our product candidates into and through clinical trials, pursue regulatory approval of our product candidates, build our operational and commercial capabilities for marketing our products, if approved, and expand our pipeline of product candidates. The process of conducting the necessary clinical research to obtain regulatory approval is time-consuming, expensive and uncertain. The actual probability of success for our product candidates may be affected by a variety of factors, including the safety and efficacy of our product candidates, clinical data, investment in our clinical programs, competition, manufacturability and commercial viability. It is possible that we may never receive regulatory approval for any of our product candidates. As a result of the uncertainties discussed above, we are unable to determine the duration and completion of costs of our research and development projects or if, when and to what extent we will generate revenue from the commercialization and sale of our product candidates, if approved by the FDA and other comparable foreign regulatory authorities.

Our future research and development costs may vary significantly based on factors such as:

- the timing and progress of our preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs we decide to pursue;
- the costs and timing of manufacturing of our product candidates;
- the amount and timing of any milestone payment due under our existing asset acquisition agreements and any future license or collaboration agreements;
- the number of patients that participate in our clinical trials, and per participant clinical trial costs;
- the number and duration of clinical trials required for approval of our product candidates;
- the number of sites included in our clinical trials, and the locations of those sites;
- delays or difficulties in adding trial sites and enrolling participants;
- patient drop-out or discontinuation rates;
- additional safety monitoring if requested by regulatory authorities;
- the phase of development of our product candidates;
- the timing, receipt and terms of any approvals from applicable regulatory authorities including the FDA and comparable foreign regulatory authorities;

- maintaining a continued acceptable safety profile of our product candidates following approval, if any, of our product candidates;
- changes in the competitive outlook;
- the extent to which we establish additional strategic collaborations or other arrangements; and
- the impact of any business interruptions to our operations or to those of the third parties with whom we work.

A change in the outcome of any of these variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of that product candidate.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel-related costs, legal and consulting services, including those relating to intellectual property and corporate matters, marketing expenses and allocated facilities and other overhead costs, including software licenses, computer supplies, insurance and other miscellaneous expenses. Personnel-related costs include salaries, annual bonuses, benefits, travel and meal expenses and stock-based compensation expense for our general and administrative personnel.

We expect that our general and administrative expenses will increase substantially in the future as a result of expanding our operations, including hiring personnel, preparing for potential commercialization of our product candidates and facility occupancy costs. We also expect an increase in costs associated with being a public company, including costs related to accounting, audit, legal, consulting fees, regulatory and tax-related services associated with maintaining compliance with applicable Nasdaq and SEC requirements, additional director and officer insurance costs, and investor and public relations costs.

Other Income (Expense)

Other income (expense) consists primarily of interest income, including amortization of premiums and accretion of discounts on marketable securities and change in fair value of derivative liability.

In May 2023 and in March 2024, in connection with our redeemable convertible preferred stock financings, we issued options to purchase additional shares of redeemable convertible preferred stock at a specified price, which were accounted for as derivative liabilities. Changes in fair value of these derivative liabilities are included in the other income (loss) in the interim condensed consolidated statement of operations and comprehensive loss for each reporting period until the derivatives were exercised or expired.

Results of Operations and Comprehensive Loss

The following tables summarize our results of operations for the three and six months ended June 30, 2024 and 2023 (dollars in thousands):

	Three Months Ended		Change	
	June 30			
	2024	2023	\$	%
Operating expenses:				
Research and development expenses	\$ 48,565	\$ 32,848	\$ 15,717	48 %
General and administrative expenses	7,575	4,775	2,800	59 %
Total operating expenses	56,140	37,623	18,517	49 %
Loss from operations	(56,140)	(37,623)	(18,517)	49 %
Other income (expense):				
Interest income	1,977	913	1,064	117 %
Change in fair value of derivative liability	(2,311)	432	(2,743)	*
Other income (expense), net	(34)	(11)	(23)	209 %
Total other income (expense), net	(368)	1,334	(1,702)	(128)%
Net loss	<u>\$ (56,508)</u>	<u>\$ (36,289)</u>	<u>\$ (20,219)</u>	56 %

* not meaningful

	Six Months Ended		Change	
	June 30			
	2024	2023	\$	%
Operating expenses:				
Research and development expenses	\$ 90,526	\$ 65,283	\$ 25,243	39 %
General and administrative expenses	13,207	9,000	4,207	47 %
Total operating expenses	103,733	74,283	29,450	40 %
Loss from operations	(103,733)	(74,283)	(29,450)	40 %
Other income (expense):				
Interest income	2,831	1,558	1,273	82 %
Change in fair value of derivative liability	(5,406)	432	(5,838)	*
Other income (expense), net	(49)	(23)	(26)	113 %
Total other income (expense), net	(2,624)	1,967	(4,591)	(233)%
Net loss	<u>\$ (106,357)</u>	<u>\$ (72,316)</u>	<u>\$ (34,041)</u>	47 %

* not meaningful

Research and Development Expenses

The following tables summarize our external and internal research and development expenses for the three and six months ended June 30, 2024 and 2023 (dollars in thousands):

	Three Months Ended		Change	
	June 30, 2024	June 30, 2023	\$	%
External costs:				
CRO, CMO and clinical trials	26,849	16,937	9,912	59 %
Professional consulting services	4,765	3,063	1,702	56 %
Other research and development costs	3,597	2,695	902	33 %
Internal costs:				
Personnel-related costs	10,134	7,835	2,299	29 %
Facilities and overhead costs	3,220	2,318	902	39 %
Total research and development expense	<u>\$ 48,565</u>	<u>\$ 32,848</u>	<u>\$ 15,717</u>	48 %

	Six Months Ended		Change	
	June 30, 2024	June 30, 2023	\$	%
External costs:				
CRO, CMO and clinical trials	\$ 51,113	\$ 34,692	\$ 16,421	47 %
Professional consulting services	8,290	6,187	2,103	34 %
Other research and development costs	5,594	5,073	521	10 %
Internal costs:				
Personnel-related costs	19,229	14,923	4,306	29 %
Facilities and overhead costs	6,300	4,408	1,892	43 %
Total research and development expense	<u>\$ 90,526</u>	<u>\$ 65,283</u>	<u>\$ 25,243</u>	39 %

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

Research and development expenses increased by \$15.7 million, to \$48.6 million for the three months ended June 30, 2024, from \$32.8 million for the three months ended June 30, 2023.

CRO, CMO and clinical trials expenses increased by \$9.9 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to a \$6.3 million increase in CMC expenses associated with manufacturing of clinical supplies to support our trials and a \$3.6 million increase in CRO and clinical trial expenses due to the timing and progression of our clinical trials for ESK-001 and A-005.

Personnel-related costs increased by \$2.3 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023, primarily due to increased research and development headcount and an increase in stock-based compensation expense of \$0.6 million as a result of additional stock options granted.

Facilities and allocated overhead costs increased by \$0.9 million, primarily as a result of an increase in depreciation and facilities expenses allocated to the research and development activities.

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

Research and development expenses increased by \$25.2 million, to \$90.5 million for the six months ended June 30, 2024, from \$65.3 million for the six months ended June 30, 2023.

CRO, CMO and clinical trials expenses increased by \$16.4 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 due to a \$14.0 million increase in CMC expenses primarily associated with manufacturing of clinical supplies to support our trials and a \$2.4 million increase in CRO and clinical trial expenses due to the timing and progression of our clinical trials for ESK-001 and A-005.

Personnel-related costs increased by \$4.3 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023, primarily due to increased research and development headcount and an increase in stock-based compensation expense of \$1.0 million as a result of additional stock options granted.

Facilities and allocated overhead costs increased by \$1.9 million primarily as a result of an increase in depreciation, IT, and facilities expenses allocated to the research and development activities.

External Costs by Program

The following table summarizes our external costs by program for the three and six months ended June 30, 2024 and 2023 (dollars in thousands):

	Three Months Ended		Six Months Ended	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
ESK-001	\$ 27,982	\$ 18,154	\$ 52,653	\$ 36,901
A-005	4,342	931	7,370	1,212
Other programs and research and development activities	2,887	3,610	4,974	7,839
Total external research and development expense	<u>\$ 35,211</u>	<u>\$ 22,695</u>	<u>\$ 64,997</u>	<u>\$ 45,952</u>

General and Administrative Expenses

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

General and administrative expenses increased by \$2.8 million, to \$7.6 million for the three months ended June 30, 2024, from \$4.8 million for the three months ended June 30, 2023.

Personnel-related expenses increased by \$1.3 million, to \$3.9 million for the three months ended June 30, 2024, from \$2.6 million for the three months ended June 30, 2023, primarily due to increased headcount and included a stock-based compensation expense of \$0.6 million resulting from additional stock options granted.

Expenses related to professional consulting services increased by \$1.1 million, to \$2.8 million for the three months ended June 30, 2024, from \$1.7 million for the three months ended June 30, 2023, primarily due to an increase in consulting, accounting, audit and recruiting services to support our growth and business development.

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

General and administrative expenses increased by \$4.2 million, to \$13.2 million for the six months ended June 30, 2024, from \$9.0 million for the six months ended June 30, 2023.

Personnel-related expenses increased by \$2.3 million, to \$7.4 million for the six months ended June 30, 2024, from \$5.1 million for the six months ended June 30, 2023, primarily due to increased headcount and included an increase in stock-based compensation expense of \$1.7 million resulting from additional stock options granted.

Expenses related to professional consulting services increased by \$1.7 million, to \$4.8 million for the six months ended June 30, 2024, from \$3.1 million for the six months ended June 30, 2023, primarily due to an increase in consulting, accounting, audit and recruiting services to support our growth and business development.

Total Other Income (Expense), Net

Total other income (expense), net decreased by \$1.7 million, to \$0.4 million other expense, net for the three months ended June 30, 2024, from \$1.3 million other income, net for the three months ended June 30, 2023. Total other income (expense), net decreased by \$4.6 million, to \$2.6 million other expense, net for the six months ended June 30, 2024, from \$2.0 million other income, net for the six months ended June 30, 2023.

Interest income increased by \$1.1 million, to \$2.0 million for the three months ended June 30, 2024, from \$0.9 million for the three months ended June 30, 2023, primarily as a result of higher investments balances.

Interest income increased by \$1.3 million, to \$2.8 million for the six months ended June 30, 2024, from \$1.6 million for the six months ended June 30, 2023, primarily as a result of higher investments balances.

We recognized a change in fair value of a derivative liability loss of \$2.3 million and \$5.4 million for the three and six months ended June 30, 2024, respectively, related to the derivative liability recognized in connection with our Series C redeemable convertible preferred stock financing entered into in March 2024. The derivative liability was re-measured at fair value and settled in May 2024, when we closed the second tranche of the Series C financing.

We recognized a change in fair value of a derivative liability gain of \$0.4 million for each of the three and six months ended June 30, 2023 related to the derivative liability recognized in connection with our Series B-2 redeemable convertible preferred stock financing entered into in May 2023. The derivative liability was re-measured at fair value and settled in October 2023, when we closed the second tranche of the Series B-2 financing. See Note 3 to our unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information.

Liquidity, Capital Resources and Capital Requirements

Sources of Liquidity

Since our inception, we have not generated any revenue from product sales and have incurred significant operating losses and negative cash flows from our operations. To date, we have primarily funded our operations with proceeds from sales of shares of our common stock and redeemable convertible preferred stock and the issuance of convertible promissory notes in private placements and, more recently, from our IPO and Concurrent Private Placement.

In May 2024, we closed the second tranche of our Series C redeemable convertible preferred stock financing and received net cash proceeds of approximately \$129.3 million.

In July 2024, we closed our IPO and the Concurrent Private Placement and received net proceeds of approximately \$193.2 million and \$40.0 million, respectively.

We expect that our existing cash, cash equivalents and marketable securities of \$209.5 million as of June 30, 2024, together with aggregate net proceeds of approximately \$233.2 million from our IPO and the Concurrent Private Placement, will be sufficient to fund our operating expenses and capital expenditure requirements for at least the next 12 months from the issuance of this Quarterly Report on Form 10-Q. We have based this estimate on our current assumptions, which may prove to be wrong, and we may exhaust our available capital resources sooner than we expect.

Under our stock purchase agreement to acquire FronThera U.S. Holdings, Inc. and its wholly owned subsidiary, FronThera U.S. Pharmaceuticals LLC, we are obligated to pay contingent consideration of up to an aggregate of \$120.0 million based on the achievement of specified clinical and approval milestones, for up to an aggregate of \$70.0 million payable for clinical milestones, and for up to an aggregate of \$50.0 million payable for approval milestones, all related to technology acquired under the agreement. We incurred and made a \$37.0 million milestone payment in 2022 for the first administration of ESK-001 to a patient enrolled in a Phase 2 clinical trial of ESK-001, which was recorded as research and development expenses in the consolidated statement of operations and comprehensive loss for the year ended December 31, 2022. In July 2024, we met a milestone in connection with the first administration of ESK-001 to a patient enrolled in a Phase 3 clinical trial of ESK-001 and became obligated to pay \$23.0 million, which we expect to pay in the third quarter of 2024. No other milestones were achieved or probable as of June 30, 2024.

Future Funding Requirements

Our primary uses of cash are to fund our operations, which consist primarily of research and development expenditures related to our programs and, to a lesser extent, general and administrative expenditures. We anticipate that we will continue to incur significant and increasing expenses for the foreseeable future as we continue to advance our product candidates, expand our corporate infrastructure, including the costs associated with being a public company, further our research and development initiatives for our product candidates, and incur costs associated with potential commercialization. We are subject to all of the risks typically related to the development of new drug candidates, and we may encounter unforeseen

expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. We anticipate that we will need substantial additional funding in connection with our continuing operations.

We do not have any products approved for sale and have not generated any revenue from product sales since our inception. We do not expect to generate revenue from any product candidates that we develop until we obtain regulatory approval for one or more of such product candidates and commercialize our products or enter into collaboration agreements with third parties. Because of the numerous risks and uncertainties associated with biopharmaceutical product development, we may never achieve or sustain profitability and, unless and until we are able to develop and commercialize our product candidates, we will need to continue to raise additional capital. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through public or private equity or debt financings, or potentially other capital sources, such as collaboration or licensing arrangements with third parties or other strategic transactions. There are no assurances that we will be successful in obtaining an adequate level of financing to support our business plans when needed on acceptable 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 additional funds through collaboration or licensing arrangements with third parties or other strategic transactions, we may have to relinquish rights to our intellectual property, future revenue streams, research programs, or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise capital as and when needed, or on attractive terms, we may have to significantly delay, reduce, or discontinue the development and commercialization of our product candidates or scale back or terminate our pursuit of new in-licenses and acquisitions.

Because of the numerous risks and uncertainties associated with research, development and commercialization of our products, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including the following:

- the timing, scope, progress and results of our preclinical studies and clinical trials for our current and future product candidates;
- the number, scope and duration of clinical trials required for regulatory approval of our current and future product candidates;
- the outcome, timing and cost of seeking and obtaining regulatory approvals from the FDA and comparable foreign regulatory authorities for our product candidates;
- the cost of manufacturing clinical and commercial supplies as well as scale up of our current and future product candidates;
- the increase in the number of our employees and expansion of our physical facilities to support growth initiatives;
- our ability to establish new, strategic collaborations, licensing or other arrangements;
- the cost of filing and prosecuting our patent applications, and maintaining and enforcing our patents and other intellectual property rights;
- the extent to which we acquire or in-license other product candidates and technologies;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against our product candidates;
- the timing of when we pay our operating expenses;
- the effect of competing technological and market developments;

- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- our implementation of various computerized informational systems and efforts to enhance operational systems;
- the costs associated with being a public company; and
- other factors, including economic uncertainty and geopolitical tensions, which may exacerbate the magnitude of the factors discussed above.

Cash Flows

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

	Six Months Ended	
	June 30,	
	2024	2023
Net cash used in operating activities	\$ (96,548)	\$ (63,002)
Net cash (used in) provided by investing activities	(51,551)	57,040
Net cash provided by financing activities	257,211	59,911
Net increase in cash, cash equivalents and restricted cash	<u>\$ 109,112</u>	<u>\$ 53,949</u>

Operating Activities

Net cash used in operating activities was \$96.5 million and \$63.0 million for the six months ended June 30, 2024 and 2023, respectively.

Net cash used in operating activities for the six months ended June 30, 2024 was due to our net loss for the period of \$106.4 million and changes in operating assets and liabilities of \$2.4 million, partially offset by non-cash items totaling \$12.2 million. Non-cash items included \$5.8 million related to stock-based compensation expense, \$5.4 million related to the change in fair value of the derivative liability and \$1.5 million related to depreciation and amortization, partially offset by net accretion of discounts on marketable securities of \$0.5 million. The changes in operating assets and liabilities primarily include an increase of \$10.5 million in research and development prepaid expenses, a decrease of \$1.9 million in other accrued expenses and current liabilities, and a decrease of \$1.0 million in operating lease liabilities, partially offset by an increase of \$7.8 million in accounts payable and an increase of \$3.6 million in research and development accrued expenses.

Net cash used in operating activities for the six months ended June 30, 2023 was primarily due to our net loss for the period of \$72.3 million, partially offset by changes in operating assets and liabilities of \$4.7 million and non-cash items of \$4.6 million. Non-cash items primarily include \$3.7 million related to stock-based compensation expense and \$1.5 million related to non-cash lease expense. The changes in operating assets and liabilities primarily include an increase of \$2.3 million in research and development accrued expenses, a decrease of \$2.1 million in research and development prepaid expenses and an increase of \$0.7 million in accounts payable.

Investing Activities

Net cash used in investing activities for the six months ended June 30, 2024 of \$51.6 million was related to purchases of marketable securities of \$59.0 million and purchases of property and equipment of \$0.6 million, partially offset by proceeds from maturities of marketable securities of \$8.0 million.

Net cash provided by investing activities for the six months ended June 30, 2023 was related to proceeds from maturities of marketable securities of \$66.5 million, partially offset by purchases of marketable securities of \$8.3 million and purchases of property and equipment of \$1.2 million.

Financing Activities

Net cash provided by financing activities for the six months ended June 30, 2024 of \$257.2 million was related to net proceeds of \$258.5 million from the issuance of our Series C redeemable convertible preferred stock and related derivative liability, net of issuance costs, and proceeds from issuance of common stock upon exercise of stock options of \$0.5 million, partially offset by payments of deferred offering costs of \$1.8 million.

Net cash provided by financing activities for the six months ended June 30, 2023 of \$59.9 million was primarily related to net proceeds from the issuance of our Series B-2 and Series B-2A redeemable convertible preferred stock and related derivative liability, net of issuance costs.

Contractual Obligations and Commitments

We enter into contracts in the normal course of business with suppliers, CROs, CMOs and clinical trial sites. These agreements provide for termination at the request of either party generally with less than one-year notice and are therefore cancellable contracts. We do not currently expect any of these agreements to be terminated and did not have any non-cancelable obligations under these agreements as June 30, 2024.

On March 5, 2021, we entered into a stock purchase agreement to acquire FronThera U.S. Holdings, Inc. and its wholly owned subsidiary, FronThera U.S. Pharmaceuticals LLC. The transaction was accounted for as an asset acquisition. Under the agreement, we are obligated to pay contingent consideration of up to an aggregate of \$120.0 million based on the achievement of specified clinical and approval milestones, for up to an aggregate of \$70.0 million payable for clinical milestones, and for up to an aggregate of \$50.0 million payable for approval milestones, all related to technology acquired under the agreement. We incurred and paid a milestone of \$37.0 million during the year ended December 31, 2022. In July 2024, we met and became obligated to make a \$23.0 million milestone payment in the third quarter of 2024 in connection with the first administration of ESK-001 to a patient enrolled in a Phase 3 clinical trial of ESK-001. No other milestones were reached or probable as of June 30, 2024.

Leases

We have operating lease arrangements for office and laboratory space in South San Francisco, California. As of June 30, 2024, we had total lease payment obligations under non-cancelable leases of \$31.6 million, including \$2.6 million payable through December 31, 2024. See Note 7 to our unaudited condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position, results of operations or cash flows is disclosed in Note 2 to our unaudited condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported expenses during the reporting period. Our critical accounting policies are described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates" in the Prospectus. If actual results or events differ materially from the estimates and assumptions used by us in applying these policies, our reported financial condition and results of operations could be materially affected. There have been no significant changes to our critical accounting policies from those described in the Prospectus.

Emerging Growth Company and Smaller Reporting Company Status

We are an “emerging growth company” as defined in the JOBS Act. Under the JOBS Act, an emerging growth company can take advantage of the extended transition period for complying with new or revised accounting standards and delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption from complying with new or revised accounting standards and, therefore, will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, we may rely on certain of these exemptions, including without limitation exemptions to the requirements for (i) providing an auditor’s attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (ii) complying 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, known as the auditor discussion and analysis. We will remain an emerging growth company until the earlier to occur of (a) the last day of the fiscal year (A) following the fifth anniversary of the completion of our IPO, (B) in which we have total annual gross revenues of at least \$1.235 billion or (C) in 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 and non-voting common stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30th, or (b) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

We are also a “smaller reporting company,” meaning that the market value of our common stock and non-voting common stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700.0 million and our annual revenue is less than \$100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after our IPO if either (i) the market value of our common stock and non-voting common stock held by non-affiliates is less than \$250.0 million or (ii) our annual revenue is less than \$100.0 million during the most recently completed fiscal year and the market value of our common stock and non-voting common stock held by non-affiliates is less than \$700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

The primary objectives of our investment activities are to ensure liquidity and to preserve capital. We are exposed to market risks related to changes in interest rates of our cash equivalents and marketable securities. However, due to the nature of these cash equivalents and marketable securities, we do not believe that a hypothetical 10% increase or decrease in interest rates during any of the periods presented would have had a material effect on our unaudited condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Foreign Currency Exchange Risk

All of our employees and our operations are currently located in the United States, and our expenses are generally denominated in U.S. dollars. However, we do utilize certain CRO and CMO vendors outside of the United States for our clinical trials and product development and manufacturing. As such, our expenses are denominated in both U.S. dollars and foreign currencies. Therefore, our operations are and will continue to be subject to fluctuations in foreign currency exchange rates. To date, foreign currency transaction gains and losses have not been material to our consolidated financial statements, and we have not had a formal hedging program with respect to foreign currency. We do not believe that a hypothetical 10% increase or decrease in exchange rates during any of the periods presented would have had a material

effect on our unaudited condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Effects of Inflation

Inflation generally affects us by increasing our cost of labor and research and development costs. We do not believe that inflation had a material effect on our business, results of operations, or financial condition, or on our unaudited condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

As of June 30, 2024, management, with the participation and supervision of our Chief Executive Officer and our Chief Financial Officer, have evaluated our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded that, as of June 30, 2024, our disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended June 30, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

In designing and evaluating the disclosure controls and procedures, management recognizes that because of the inherent limitations in all control systems, any controls and procedures, no matter how well designed and operated, can provide only reasonable not absolute, assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and the benefits of controls and procedures must be considered relative to their costs.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may become involved in material legal proceedings or be subject to claims arising in the ordinary course of our business. We are currently not party to any legal proceedings material to our operations or of which any of our property is the subject, nor are we aware of any such proceedings that are contemplated by a government authority. Regardless of outcome, such proceedings or claims can have an adverse impact on us because of defense and settlement costs, diversion of resources, negative publicity, reputational harm and other factors, and there can be no assurances that favorable outcomes will be obtained.

Item 1A. Risk Factors

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before deciding to invest in shares of our common stock, you should carefully consider the risks described below, together with the other information contained in this Quarterly Report on Form 10-Q, including our financial statements and the related notes and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations." We cannot assure you that any of the events discussed below will not occur. These events could adversely impact our business, financial condition, results of operations and prospects. If that were to happen, the trading price of our common stock could decline, and you could lose all or part of your investment.

Summary of Risks

Below is a summary of material factors that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks that we face, follows this summary. This summary is qualified in its entirety by that more complete discussion of such risks and uncertainties.

- We are a clinical stage biopharmaceutical company with a limited operating history and no products approved for commercial sale, and have incurred substantial losses since our inception and anticipate incurring substantial and increasing losses for the foreseeable future.
- Enrollment and retention of participants in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control, including difficulties in identifying patients, the availability of competitive products and significant competition for recruiting participants in clinical trials.
- We will require substantial additional financing to achieve our goals, and failure to obtain additional capital when needed, or on acceptable terms to us, could cause us to delay, limit, reduce or terminate our product development or future commercialization efforts.
- Preclinical and clinical development involves a lengthy and expensive process, with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our current product candidates or any future product candidates.
- Our clinical trials may reveal significant adverse events not seen in our preclinical studies or prior clinical trials and may result in a safety or tolerability profile that could delay or prevent regulatory approval or market acceptance of ESK-001, A-005 or any future product candidates.

- We face competition from entities that have made substantial investments into the rapid development of competitor treatments for immunological indications, including large and specialty pharmaceutical and biotechnology companies, many of which already have approved therapies in our current indications.
- Our business is highly dependent on the success of our most advanced product candidate, ESK-001, and we cannot guarantee that ESK-001 will successfully complete development, receive regulatory approval or be successfully commercialized. If we are unable to develop, receive regulatory approval for and ultimately successfully commercialize our product candidates, or if we experience significant delays in doing so, our business will be materially harmed.
- The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.
- We are dependent on the services of our management team and other clinical and scientific personnel, and if we are not able to retain these individuals or recruit additional management or clinical and scientific personnel, our business will suffer.
- If we are unable to obtain and maintain sufficient intellectual property protection for our product candidates and any future product candidates we may develop, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors or other third parties could develop and commercialize products similar or identical to ours, and our ability to successfully develop and commercialize our product candidates may be adversely affected.
- We cannot ensure that patent rights relating to inventions described and claimed in our or any future licensors pending patent applications will issue or that patents based on our or any future licensors patent applications will not be challenged and rendered invalid and/or unenforceable.
- We may form or seek collaborations or strategic alliances or enter into licensing arrangements in the future, and we may neither enter into, nor realize the benefits of, such alliances or licensing arrangements.
- Even if we receive regulatory approval for our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal. We may also be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.
- We may have conflicts with any future licensors or collaborators that could delay or prevent the development or commercialization of our product candidates.

Risks Related to Our Financial Position and Need for Capital

We are a clinical stage biopharmaceutical company with a limited operating history and no products approved for commercial sale, and have incurred substantial losses since our inception and anticipate incurring substantial and increasing losses for the foreseeable future.

We are a clinical stage biopharmaceutical company with a limited operating history on which to base your investment decision. We have no product candidates approved for commercial sale and have not generated any revenue. Biopharmaceutical product development is a highly speculative undertaking. It entails substantial upfront capital expenditures and significant risk that any product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval or become commercially viable.

Our most advanced candidate is ESK-001, an oral, small molecule allosteric inhibitor of TYK2. We are currently conducting Phase 2 clinical trials of ESK-001 in each of moderate-to-severe PsO and SLE. We are commencing Phase 3 pivotal trials of ESK-001 in PsO in the second half of 2024. In addition, we are advancing A-005, an investigational CNS penetrant allosteric inhibitor of TYK2 that has a potential application in multiple sclerosis (MS) and other neuroinflammatory and neurodegenerative diseases, currently in clinical development. Our ability to achieve profitability in the future is dependent upon obtaining regulatory approval for and successfully commercializing our most advanced candidate, ESK-001, either alone or with third parties. However, our operations may not be profitable even if ESK-001 is successfully developed, approved and thereafter commercialized.

We have and will continue to incur significant development and other expenses related to our research and clinical development programs and ongoing operations. For the three and six months ended June 30, 2024, our net losses were \$56.5 million and \$106.4 million, respectively. As of June 30, 2024, we had an accumulated deficit of \$470.7 million. Substantially all of our losses have resulted from expenses incurred in connection with the acquisition and development of our pipeline and from general and administrative costs associated with our operations. We expect to incur significant losses for the foreseeable future, and we expect these losses to increase as we continue our development of our product candidates.

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

- conduct preclinical studies and clinical trials for ESK-001, A-005 and other programs;
- identify additional product candidates and acquire rights from third parties to those product candidates through licenses or other acquisitions, and conduct development activities, including preclinical studies and clinical trials;
- procure the manufacturing of preclinical, clinical and commercial supply of our current and future product candidates;
- seek regulatory approvals for our product candidates or any future product candidates;
- commercialize our current product candidates or any future product candidates, if approved;
- take steps toward our goal of being an integrated biopharma company capable of supporting commercial activities, including establishing sales, marketing and distribution infrastructure;
- attract, hire and retain qualified clinical, scientific, operations and management personnel;
- add and maintain operational, financial and information management systems;
- protect, maintain, enforce and defend our rights in our intellectual property portfolio;
- defend against third-party interference, infringement and other intellectual property claims, if any;
- address any competing therapies and market developments; and
- experience any delays in our preclinical studies or clinical trials and seeking regulatory approval for our product candidates due to public health concerns, macroeconomic conditions or geopolitical conflicts.

Even if we succeed in commercializing one or more product candidates, we expect to incur substantial development costs and other expenditures to develop and market additional product candidates. We may also encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to

generate revenue or raise additional capital. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity (deficit) and our working capital.

We could also encounter delays if a clinical trial is suspended, put on clinical hold or terminated by us, the investigational review boards (IRBs) or ethics committees of the institutions in which such trials are being conducted, the FDA or other comparable foreign regulatory authorities, or if a clinical trial is recommended for suspension or termination by the Data Safety Monitoring Board for such trial. A suspension, clinical hold or termination may be imposed due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, failure by our contract research organizations (CROs) or clinical trial sites to perform in accordance with good clinical practices (GCP) requirements, or applicable regulatory guidelines in other countries, inspection of the clinical trial operations or trial site by the FDA or other comparable foreign regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to establish or achieve clinically meaningful trial endpoints, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Clinical trials may also be delayed or terminated as a result of ambiguous or negative interim results. For example, we discontinued our proof-of-concept Phase 2a clinical trial of ESK-001 in patients with non-infectious uveitis in June 2024 based on the efficacy results of a data analysis prepared for a scheduled monitoring committee meeting, which efficacy results did not meet our clinical threshold for success despite safety results consistent with ESK-001's safety profile in psoriasis patients. 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 of our product candidates. Further, the FDA or other comparable foreign regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after they have reviewed and commented on the design for our clinical trials.

We may also, in the future, conduct preclinical and clinical research in collaboration with other academic, pharmaceutical and biotechnology entities in which we combine our research or development efforts with those of our collaborators. Such collaborations may be subject to additional delays because of the management of the trials, contract negotiations, the need to obtain agreement from multiple parties and may increase our future costs and expenses.

Our product development costs will increase if we experience delays in clinical testing or regulatory approvals. We do not know whether any of our clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates and may allow our competitors to bring products to market before we do, potentially impairing our ability to successfully commercialize our product candidates. Any delays or increase in costs in our clinical development programs may harm our business, financial condition, results of operations and prospects.

Enrollment and retention of participants in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control, including difficulties in identifying patients, the availability of competitive products and significant competition for recruiting participants in clinical trials.

Participant enrollment, a significant factor in the timing of clinical trials, is affected by many conditions, including the size and nature of the patient population, the number and location of clinical sites we enroll, the proximity of participants to clinical sites, the eligibility and exclusion criteria for the trial, the design of the clinical trial, the inability to obtain and maintain participant consents, the risk that enrolled participants will drop out before completion, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs or biologics that may be approved for the indications being investigated by us. Risks related to patient enrollment are heightened in longer clinical trials, including the 48-week trial period contemplated by our ongoing Phase 2b clinical trial of ESK-001 in SLE. In particular, this trial has been and may continue to be challenging to enroll due to the fact that patients must be experiencing active disease at the time of screening to be eligible for enrollment. In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same areas as our product candidates, and this competition will reduce the number and types of participants available to us, because some

participants who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors, or to use currently marketed therapies. Additionally, participants, including participants in any control groups, may withdraw from the clinical trial if they are not experiencing improvement in their underlying disease or condition or if they experience other difficulties or issues. Additionally, we could encounter delays if treating clinicians encounter unresolved ethical issues associated with enrolling participants in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles.

We have in the past and may in the future experience participant withdrawals or discontinuations from our trials. Withdrawal of participants from our clinical trials may compromise the quality of our data. Even if we are able to enroll a sufficient number of participants in our clinical trials, delays in enrollment or small population size may result in increased costs or may affect the timing or outcome of our clinical trials. Any of these conditions may negatively impact our ability to complete such trials or include results from such trials in regulatory submissions, which could adversely affect our ability to advance the development of our product candidates.

We will require substantial additional financing to achieve our goals, and failure to obtain additional capital when needed, or on acceptable terms to us, could cause us to delay, limit, reduce or terminate our product development or future commercialization efforts.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through equity offerings, debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common stock. Any future 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, selling or licensing our assets, making capital expenditures, declaring dividends or encumbering our assets to secure future indebtedness. Such restrictions could adversely impact our ability to conduct our operations and execute our business plan.

If we raise additional funds through future collaborations, licenses and other similar arrangements, we may have to relinquish valuable rights to our future revenue streams or product candidates, or grant licenses on terms that may not be favorable to us and/or that may reduce the value of our common stock. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed or on terms acceptable to us, we would be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Risks Related to Product Candidate Development and Commercialization

Preclinical and clinical development involves a lengthy and expensive process, with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our current product candidates or any future product candidates.

Our product candidates are either in clinical or preclinical development, and their risk of failure is high. It is impossible to predict when or if our product candidates will receive regulatory approval. To obtain the requisite regulatory approvals to commercialize any product candidates, we must demonstrate through extensive preclinical studies and lengthy, complex and expensive clinical trials that our product candidates are safe and effective in humans for their intended uses. Before obtaining approval from regulatory authorities for the commercialization of any of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidate in humans. Before we can initiate clinical trials for any product candidates, we must submit the results of preclinical studies to the FDA or comparable foreign regulatory authorities along with other information, including information about product candidate chemistry, manufacturing and controls and our proposed clinical trial protocol, as part of an Investigational New Drug application (IND) or similar regulatory submission. The FDA or comparable foreign regulatory authorities may require us to conduct additional preclinical studies for any product

candidate before allowing us to initiate clinical trials under any IND or similar regulatory submission, which may lead to delays and increase the costs of our preclinical development programs.

Once initiated, clinical testing can take many years to complete, and its outcome is inherently uncertain. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials and results in one indication may not be predictive of results to be expected for the same product candidate in another indication. For example, notwithstanding extensive preclinical testing demonstrating that A-005 can penetrate the CNS, our clinical trials of A-005 may show that it cannot penetrate the human CNS as fully as was observed in preclinical testing. Differences in trial design between early-stage clinical trials and later-stage clinical trials make it difficult to extrapolate the results of earlier clinical trials to later clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unfavorable safety profiles, notwithstanding promising results in earlier trials, and we have experienced and may experience setbacks in our programs in the future. For example, we discontinued our proof-of-concept Phase 2a clinical trial of ESK-001 in patients with non-infectious uveitis in June 2024 based on the efficacy results of a data analysis prepared for a scheduled monitoring committee meeting, which efficacy results did not meet our clinical threshold for success despite safety results consistent with ESK-001's safety profile in psoriasis patients. Moreover, clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in clinical trials have nonetheless failed to obtain regulatory approval of such product candidates.

Commencing any future clinical trials is subject to finalizing the trial design and submitting an application to the FDA or a comparable foreign regulatory authority. Even after we make our submission, the FDA or comparable foreign regulatory authorities could disagree that we have satisfied their requirements to commence our clinical trials or disagree with our study design, which may require us to complete additional trials or amend our protocols or impose stricter conditions on the commencement of clinical trials. There is typically a high rate of failure of product candidates proceeding through clinical trials, and failure can occur at any time during the clinical trial process. Most product candidates that commence clinical trials are never approved as products and there can be no assurance that any of our current or future clinical trials will ultimately be successful or support the approval of our current or any future product candidates.

We expect to continue to rely on our CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials, including the participant enrollment process, and we have limited influence over their performance. We or any future collaborators may experience delays in initiating or completing clinical trials due to unforeseen events or otherwise, that could delay or prevent our ability to receive regulatory approval or commercialize our current and any future product candidates, including:

- we may be unable to generate sufficient preclinical, toxicology or other *in vivo* or *in vitro* data to support the initiation or continuation of clinical trials;
- regulators, such as the FDA or comparable foreign regulatory authorities, may disagree with the design or implementation of our clinical trials;
- regulators, such as the FDA or comparable foreign regulatory authorities, IRBs or ethics committees may impose additional requirements before permitting us to initiate a clinical trial, may not allow us or our investigators to commence or conduct a clinical trial at a prospective trial site, may not allow us to amend trial protocols or may require that we modify or amend our clinical trial protocols;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with trial sites and CROs, the terms of which can be subject to extensive negotiation and may vary significantly;
- we may be unable to identify, recruit or train suitable clinical investigators;
- clinical trial sites may deviate from trial protocol or drop out of a trial;

- the number of participants required for clinical trials may be larger than we anticipate, enrollment in clinical trials may be slower than we anticipate or participants may drop out or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- the cost of clinical trials may be greater than we anticipate, or we may have insufficient funds to initiate or complete a clinical trial or to pay the substantial user fees required by the FDA upon the submission of a New Drug Application (NDA) or comparable marketing authorization application in another jurisdiction;
- the quality or quantity of data relating to our product candidates or other materials necessary to conduct our clinical trials may be inadequate to initiate or complete a given clinical trial;
- reports from clinical testing of other therapies may raise safety, tolerability or efficacy concerns about our product candidates;
- clinical trials of our product candidates may fail to show appropriate safety, tolerability or efficacy, may produce negative or inconclusive results or may otherwise fail to improve on the existing standard of care, and we may decide, or regulators may require us, to conduct additional clinical trials or we may decide to abandon product development programs;
- our CROs or clinical trial sites may fail to perform in accordance with GCP requirements or other applicable regulations, rules or guidelines;
- we may be unable to manufacture our product candidates from our CMOs in accordance with cGMP regulations or other applicable requirements in sufficient quantities for use in our clinical trials;
- serious adverse events (SAEs) may occur in trials of the same class of agents conducted by other companies that could be considered similar to our product candidates;
- we may select clinical endpoints that require prolonged periods of clinical observation or extended analysis of the resulting data;
- we may be required to transfer our manufacturing processes to larger-scale facilities operated by a different CMO, or may experience delays or failure by our CMOs or us to make any necessary changes to such manufacturing process; and
- third parties may be unwilling or unable to satisfy their contractual obligations to us in a timely manner.

In addition, we have historically leveraged our extensive analyses of immune-relevant genome-wide association study (GWAS) results from both the public domain and the UK Biobank biomedical resource to identify the right therapeutic target on which to focus our preclinical and clinical development efforts. If our access to GWAS results from the public domain or the UK Biobank biomedical resource were to be restricted, including as a result of any potential future legislative policies or regulations that may seek to restrict the sharing of genetic data, our ability to efficiently identify additional therapeutic targets may be limited.

In addition, the FDA's and other regulatory authorities' policies with respect to clinical trials may change and additional government regulations may be enacted. In the EU, the EU Clinical Trials Regulation (CTR) became applicable on January 31, 2022, repealing and replacing the Clinical Trials Directive (CTD). The CTR permits trial sponsors to make a single submission to both the competent authority and an ethics committee in each EU Member State, leading to a single decision for each EU member state. The assessment procedure for the authorization of clinical trials has been harmonized as well, including a joint assessment of some elements of the application by all EU member states in which the trial is to be conducted, and a separate assessment by each EU member state with

respect to specific requirements related to its own territory, including ethics rules. Each EU member state's decision is communicated to the sponsor through a centralized EU portal, the Clinical Trial Information System. The CTR provides a three-year transition period. The extent to which ongoing clinical trials will be governed by the CTR varies. Clinical trials for which an application for approval was made on the basis of the CTD (i) before January 31, 2022, or (ii) between January 31, 2022 and January 31, 2023 and for which the sponsor has opted for the application of the CTD, remain governed by the CTD until January 31, 2025. By that date, all ongoing trials will become subject to the provisions of the CTR. The CTR will apply to clinical trials from an earlier date if the related clinical trial application was made on the basis of the CTR or if the clinical trial has already transitioned to the CTR framework before January 31, 2025.

It is currently unclear to what extent the UK, will seek to align its regulations with the EU. The UK regulatory framework in relation to clinical trials is derived from the CTD (as implemented into UK law, through secondary legislation). On January 17, 2022, the UK Medicines and Healthcare products Regulatory Agency (MHRA) launched an eight-week consultation on reframing the UK legislation for clinical trials with specific aims to streamline clinical trials approvals, enable innovation, enhance clinical trials transparency, enable greater risk proportionality, and promote patient and public involvement in clinical trials. The MHRA published its consultation outcome on March 21, 2023 in which it confirmed that it would update the existing legislation. The resulting legislative changes will ultimately determine the extent to which the UK regulations align with the CTR. A decision by the UK Government not to closely align its regulations with the new approach that has been adopted in the EU may have an effect on the cost of conducting clinical trials in the UK as opposed to other countries.

Our clinical trials may reveal significant adverse events not seen in our preclinical studies or prior clinical trials and may result in a safety or tolerability profile that could delay or prevent regulatory approval or market acceptance of ESK-001, A-005 or any future product candidates.

Undesirable or clinically unmanageable side effects observed in our clinical trials for our product candidates could occur and cause us or regulatory authorities to interrupt, delay or halt our clinical trials and could result in a more restrictive labeling or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities.

We have observed SAEs and adverse events (AEs) in our trials of ESK-001, and as more patients become exposed to ESK-001 over longer periods of time, we expect to see additional SAEs and AEs emerge. Further, long term treatment with ESK-001 continues to be evaluated in open label extension (OLE) and long term extension trials, and additional AEs and SAEs are expected to accumulate. Certain conditions occur more frequently in patients with psoriasis compared to the general population. Examples include obesity, cardiovascular disease, psoriatic arthritis and depression. Immune modulating treatments including ESK-001 may result in increasing susceptibility to various infections, including serious or life-threatening infections, and there is a theoretical risk with immune-modulating agents that dampening immune responses could increase the risk of malignancies. However, no increase in malignancy risk has been demonstrated to date with approved therapies targeting similar immunological pathways, including TYK-2, IL-23 and type I IFN. Furthermore, a naturally occurring TYK-2 loss-of-function-mutation (P1104A) that is present in 3-5% of Caucasian populations has not been associated with increased cancer risk in rigorous analyses of large genetic data sets.

Other TYK2 inhibitors, such as deucravacitinib (marketed as Sotyktu), which is approved for the treatment of adults with PsO, have shown AEs such as hypersensitivity reactions, infections, tuberculosis, malignancy, rhabdomyolysis, elevated PK and potential SAEs related to JAK inhibition, such as cardiovascular and thrombotic events. There can be no assurance that we will not observe such AEs in our ongoing and planned clinical trials of ESK-001.

As of June 30, 2024, there have been six SAEs in the OLE trial. Two SAEs were considered potentially related: a case of wrist arthritis in a patient with a history of gout and osteoarthritis; and a case of peritonsillar abscess (40mg BID) following COVID-19 infection that required treatment with antibiotics. Four additional SAEs were considered unrelated by the investigator, by us, or by both; a case of sepsis in a patient with diabetic leg ulcers (40mg BID); a case of dyspnea (40mg QD); a case of EGFR-positive, adenocarcinoma of the lung (40mg QD) in a patient with a strong familial history of lung cancer; and a case of advanced renal cell carcinoma (40mg BID) which, due to its

large size and the slow-growing nature of renal cell carcinomas, very likely preceded exposure to ESK-001. In both cases of malignancy, the investigator could not definitively rule out relationship to ESK-001 but in our assessment, both cases were unrelated to ESK-001 treatment. Additionally, the adenocarcinoma of the lung (NSCLC) occurred after four weeks from the last dose and therefore is considered non-treatment-emergent.

The most commonly reported AEs in our PsO trials include upper respiratory infections, nasopharyngitis and headaches.

If AEs, SAEs or other side effects are observed in any of our ongoing or future clinical trials that are atypical of, or more severe than, the known side effects of the respective class of agents that each of our product candidates are a part of, we may have difficulty recruiting participants to our clinical trials, participants may drop out of our trials, or we may be required to abandon those trials or our development efforts of one or more product candidates altogether. If such effects are more severe or less reversible than we expect, or not reversible at all, we may decide or be required to perform additional studies or to halt or delay further clinical development of ESK-001, A-005 or any future product candidates, which could result in the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities.

In addition, we believe that one of the potential benefits of ESK-001 includes the potential to improve on the safety and side-effect profile of the only currently approved allosteric TYK2 inhibitor in the United States. If ESK-001 is shown to have similar AEs, side effects or other safety or tolerability concerns, then our opportunity to disrupt the current standard of care may be limited. AEs and SAEs that emerge during clinical investigation of or treatment with ESK-001, A-005, or any future product candidates may be deemed to be related to our product candidates. This may require longer and more extensive clinical development, or regulatory authorities may increase the amount of data and information required to approve, market, or maintain ESK-001, A-005 or any future product candidates and could result in warnings and precautions in our product labeling or a restrictive risk evaluation and mitigation strategy (REMS) or comparable foreign strategies. This may also result in an inability to obtain approval of ESK-001, A-005 or any future product candidates. We, the FDA or other comparable foreign regulatory authorities, or an IRB or ethics committee, may suspend clinical trials of a product candidate at any time for various reasons, including a belief that participants in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential product candidates developed in the biotechnology industry that initially showed promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude the product candidate from obtaining or maintaining regulatory approval, undesirable side effects, like those mentioned above, may inhibit market acceptance of the approved product due to its tolerability versus other therapies. Any of these developments could materially harm our business, financial condition, results of operations and prospects.

Additionally, if any of our product candidates receives regulatory approval, and we or others later identify undesirable side effects caused by such product, a number of potentially significant negative consequences could result. For example, the FDA could require us to adopt a REMS, to ensure that the benefits of treatment with such product candidate outweigh the risks for each potential patient, which may include, among other things, a communication plan to health care practitioners, patient education, extensive patient monitoring or distribution systems and processes that are highly controlled, restrictive and more costly than what is typical for the industry. We or our collaborators may also be required to adopt a REMS or comparable foreign strategies or engage in similar actions, such as patient education, certification of health care professionals or specific monitoring, if we or others later identify undesirable side effects caused by any product that we develop alone or with collaborators. Other potentially significant negative consequences associated with AEs include:

- we may be required to suspend marketing of a product, or we may decide to remove such product from the marketplace;
- regulatory authorities may withdraw, suspend or change their approvals of a product;

- regulatory authorities may require additional warnings on the label or limit access of a product to selective specialized centers with additional safety reporting and with requirements that patients be geographically close to these centers for all or part of their treatment; and
- we may be required to create a medication guide outlining the risks of a product for patients, or to conduct post-marketing studies.

Any of these events could diminish the usage or otherwise limit the commercial success of our product candidates and prevent us from achieving or maintaining market acceptance of our product candidates, if approved by the FDA or comparable foreign regulatory authorities.

Preliminary, “top-line” and interim data from our clinical trials that we announce or publish from time to time may change as more patient data become available or 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 or top-line data from our preclinical studies and clinical trials, which are based on preliminary analyses 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 preclinical study or clinical 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 top-line or preliminary 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. Top-line and preliminary 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, top-line and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose data from interim analyses from our clinical trials. Interim analyses from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as participants enrollment continues and more participant data become available or as participants from our clinical trials continue other treatments for their disease. Adverse differences between interim data, topline data, or preliminary data and final data could significantly harm our business prospects.

Further, others, including regulatory authorities, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate and could adversely affect the success of our business. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If the interim, top-line or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, financial condition, results of operations and prospects. Further, disclosure of interim, top-line or preliminary data by us or by our competitors could result in volatility in the price of our common stock.

We have conducted, are currently conducting, and may in the future conduct, clinical trials for current or future product candidates outside the United States, and the FDA and comparable foreign regulatory authorities may not accept data from such trials.

We have conducted, are currently conducting, and may in the future conduct, clinical trials outside the United States, including in Argentina, Austria, Australia, Belgium, Bulgaria, Canada, Chile, Colombia, Croatia, Czech Republic, Denmark, Estonia, France, Georgia, Germany, Hungary, India, Israel, Japan, Latvia, Mexico, Netherlands, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, South Korea, Spain, Taiwan and the UK. We expect to continue

to conduct trials internationally in the future. The acceptance of data from clinical trials conducted outside the United States or another jurisdiction by the FDA or comparable foreign regulatory authorities may be subject to certain conditions or may not be accepted at all. In cases where data from foreign clinical trials are intended to serve as the sole basis for regulatory 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 U.S. population and U.S. medical practice and (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 inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. In addition, even where the foreign study data are not intended to serve as the sole basis for approval, the FDA will not accept the data as support for an application for regulatory approval unless the study is well-designed and well-conducted in accordance with GCP requirements and the FDA is able to validate the data from the study through an onsite inspection if deemed necessary. Many foreign regulatory authorities have similar requirements for clinical data gathered outside of their respective jurisdictions. In addition, such foreign trials are subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA or any comparable foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA or any comparable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which could be costly and time-consuming, and which may result in current or future product candidates that we may develop being delayed or not receiving approval for commercialization in the applicable jurisdiction.

Even if we receive regulatory approval for our current or future product candidates in the United States, we may never receive regulatory approval to market outside of the United States.

We plan to seek regulatory approval for our current and future product candidates outside of the United States and are currently conducting certain clinical trials internationally, including in the European Union (EU) and Japan. In order to market any product outside of the United States, however, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of other applicable countries. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ substantially from that required to obtain FDA approval. The regulatory approval processes in other countries generally implicate all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. 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 and would impair our ability to market our current or future product candidates in such foreign markets. Any such impairment would reduce the size of our potential market, which could adversely affect our business, financial condition, results of operations and prospects.

The successful commercialization of our product candidates, if approved, will depend in part on the extent to which governmental authorities and health payors and insurers establish coverage, adequate reimbursement levels and favorable pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates could limit our ability to market those products and decrease our ability to generate revenue.

The availability of coverage and the adequacy of reimbursement by governmental healthcare programs, such as Medicare and Medicaid, private health insurers and other third-party payors are essential for most patients to be able to afford prescription medications such as our product candidates, if approved. Our ability to achieve coverage and acceptable levels of reimbursement for our products by third-party payors will have an effect on our ability to successfully commercialize those products. Even if we obtain coverage for a given product 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 EU, Japan or elsewhere will be available for any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future.

Third-party payors increasingly are challenging prices charged for biopharmaceutical products and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs when equivalent generic drugs, biosimilars or less expensive therapies are available. It is possible that a third-party payor may consider our product candidates, if approved, as substitutable and only be willing to cover the cost of the alternative product. Even if we show improved efficacy, safety or improved convenience of administration with ESK-001, A-005 or any of our future product candidates, if approved, pricing of competitive products may limit the amount we will be able to charge for our product candidates, if approved. Third-party payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates. In some cases, when new competitor generic and biosimilar products enter the market, there are mandatory price reductions for the innovator compound. In other cases, payors employ “therapeutic category” price referencing and seek to lower the reimbursement levels for all treatments in the respective therapeutic category. Additionally, new competitor brand drugs can trigger therapeutic category reviews in the interest of modifying coverage and/or reimbursement levels. The potential of third-party payors to introduce more challenging price negotiation methodologies could have a negative impact on our ability to successfully commercialize our product candidates, if approved.

There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs will be covered. Some third-party payors may require pre-approval of coverage for new or innovative devices or therapies before they will reimburse healthcare providers who use such therapies. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our products, if approved.

Obtaining and maintaining reimbursement status is time consuming, costly and uncertain. The Medicare and Medicaid programs increasingly are used as models for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs. However, 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. As a result, the coverage determination process is often a time consuming and costly process that will require us to provide scientific and clinical support for the use of our products 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.

Outside the United States, biopharmaceutical products and services 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 continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Some countries provide that products may be marketed only after an agreement on reimbursement price has been reached. Such pricing negotiations with governmental authorities can take considerable time after receipt of regulatory approval for a product. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Other countries allow companies to establish their own prices for medical products but monitor and control company profits or control prescription volumes and issue guidance to physicians to limit prescriptions. In addition, some EU member states may require the completion of additional studies that compare the cost-effectiveness of a particular medicinal product candidate to currently available therapies. This Health Technology Assessment (HTA), process is the procedure according to which the assessment of the public health impact, therapeutic impact and the economic and societal impact of use of a given medicinal product in the national healthcare systems of the individual country is conducted. The outcome of HTA regarding specific medicinal products will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU member states.

Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates, if approved. In December 2021, Regulation No 2021/2282 on Health Technology Assessment (HTA Regulation) was adopted. The HTA Regulation intends to boost cooperation among EU member

states in assessing health technologies, including new medicinal products, and provide the basis for cooperation at EU level for joint clinical assessments in these areas. While the HTA Regulation entered into force in January 2022, it will only begin to apply from January 2025 onwards, with preparatory and implementation-related steps to take place in the interim. Once applicable, it will have a phased implementation depending on the concerned products. The HTA Regulation will be intended to harmonize the clinical benefit assessment of HTA across the EU. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our products. We expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. There can be no assurance that any country that has reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products, if approved in those countries.

We face competition from entities that have made substantial investments into the rapid development of competitor treatments for immunological indications, including large and specialty pharmaceutical and biotechnology companies, many of which already have approved therapies in our current indications.

The development and commercialization of therapies is highly competitive. Our product candidates, if approved, will face significant competition, including from well-established, currently marketed therapies, and our failure to demonstrate a meaningful improvement to the existing standard of care may prevent us from achieving significant market penetration. Many of our competitors have significantly greater resources and experience than we do, and we may not be able to successfully compete. We face substantial competition from multiple sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions and governmental agencies and public and private research institutions. Our competitors compete with us on the level of the technologies employed, or on the level of development of their products as compared to our product candidates. In addition, many small biotechnology companies have formed collaborations with large, established companies to (i) obtain support for their research, development and commercialization of products or (ii) combine several treatment approaches to develop longer lasting or more efficacious treatments that may potentially directly compete with our current or any future product candidates. We anticipate that we will continue to face increasing competition as new therapies and combinations thereof, and related data, emerge.

Our current product candidates, initially under development for treatment of patients with immune-mediated diseases, if approved, would face competition from existing approved immunological treatments, many of which have achieved commercial success. For example, we are currently developing ESK-001 for the treatment of PsO and SLE. Other emerging and established life sciences companies have been focused on similar therapeutics. If approved, ESK-001 would compete with several currently approved or late-stage oral clinical therapeutics, including Otezla (marketed by Amgen Inc.), Sotyktu (marketed by Bristol Myers Squibb Company (BMS)), TAK-279 (in development by Takeda Pharmaceutical Company), VTX-958 (in development by Ventyx Biosciences, Inc.), JNJ-2113 (in development by Johnson & Johnson), DC-806 (in development by Lilly), as well as new early-stage therapeutic companies that may develop competing molecules. Other TYK2 agents are also under development in SLE by BMS, as well as other TYK2 clinical development programs at Galapagos NV, Innocare, and Priovant Therapeutics, Inc.

We are also developing A-005, which has potential applications in MS and other neuroinflammatory and neurodegenerative diseases. There are several therapies available for the treatment of relapsing forms of MS, including interferon beta regulators, monoclonal antibodies, synthetic immunomodulatory drugs and S1P receptor modulators. Ocrevus, a CD20 antibody marketed by Genentech, Inc., is approved for primary progressive multiple sclerosis (PPMS).

To compete successfully, we need to disrupt these currently marketed drugs, meaning that we will have to demonstrate that the relative cost, method of administration, safety, tolerability and efficacy of our product candidates provide a better alternative to existing and new therapies. Our commercial opportunity and likelihood of success will be reduced or eliminated if our product candidates are not ultimately demonstrated to be safer, more effective, more conveniently administered, or less expensive than the current standard of care. Furthermore, even if our product candidates are able to achieve these attributes, acceptance of our products may be inhibited by the reluctance of physicians to switch from existing therapies to our products, or if physicians choose to reserve our products for use in limited circumstances.

Many of our competitors have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we have. If we obtain regulatory approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our current or any future product candidates, the ease with which our current or any future product candidates can be administered and the extent to which participants accept relatively new routes of administration, the timing and scope of regulatory approvals for these product candidates, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, less expensive or marketed and sold more effectively than any products we may develop. Competitive products may make any products we develop obsolete or noncompetitive before we recover the expense of developing and commercializing our current or any future product candidates. Such competitors could also recruit our employees, which could negatively impact our level of expertise and our ability to execute our business plan.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified management and other personnel in establishing clinical trial sites and enrolling patients in clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Risks Related to Our Business and Operations

Our business is highly dependent on the success of our most advanced product candidate, ESK-001, and we cannot guarantee that ESK-001 will successfully complete development, receive regulatory approval or be successfully commercialized. If we are unable to develop, receive regulatory approval for and ultimately successfully commercialize our product candidates, or if we experience significant delays in doing so, our business will be materially harmed.

We currently have no products approved for commercial sale or for which regulatory approval to market has been sought. We have invested a significant portion of our efforts and financial resources in the development of our most advanced product candidate, ESK-001, which is still in clinical development, and expect that we will continue to invest heavily in ESK-001, as well as our second product candidate, A-005, and any future product candidates we may develop. Our business and our ability to generate revenue, which we do not expect will occur for many years, if ever, are substantially dependent on our ability to develop, obtain regulatory approval for, and then successfully commercialize our product candidates, which may never occur.

Our product candidates will require substantial additional preclinical and clinical development time, regulatory approval, commercial manufacturing arrangements, establishment of a commercial organization, significant marketing efforts and further investment before we can generate any revenue from product sales. We currently generate no revenue, and we may never be able to develop or commercialize any products. We cannot assure you that we will meet our timelines for our current or future clinical trials, which may be delayed or not completed for a number of reasons. Our product candidates are susceptible to the risks of failure inherent at any stage of product development, including the appearance of unexpected AEs or failure to achieve primary endpoints in clinical trials. For example, we discontinued our proof-of-concept Phase 2a clinical trial of ESK-001 in patients with non-infectious uveitis in June 2024 based on the efficacy results of a data analysis prepared for a scheduled monitoring committee meeting, which efficacy results did not meet our clinical threshold for success despite safety results consistent with

ESK-001's safety profile in psoriasis patients. Additionally, we may in the future advance ESK-001, A-005 or future product candidates into clinical trials and terminate such trials prior to their completion.

Even if our product candidates are successful in clinical trials, we are not permitted to market or promote our product candidates before we receive regulatory approval from the FDA or comparable foreign regulatory authorities, and we may never receive sufficient regulatory approval that will allow us to successfully commercialize any product candidates. If we do not receive FDA or comparable foreign regulatory approval with the necessary conditions to allow commercialization, we will not be able to generate revenue from those product candidates in the United States or elsewhere in the foreseeable future, or at all. Any significant delays in obtaining approval for and commercializing our product candidates could adversely affect our business, financial condition, results of operations and prospects.

We have not previously submitted an NDA or similar marketing application to the FDA or comparable foreign regulatory authorities for any product candidate, and we cannot be certain that our current or any future product candidates will be successful in clinical trials or receive regulatory approval. The FDA may also consider its approvals of competing products, which may alter the treatment landscape concurrently with their review of any NDA we may submit, and which may lead to changes in the FDA's review requirements that have been previously communicated to us and our interpretation thereof, including changes to requirements for clinical data or clinical study design. Such changes could delay approval or necessitate withdrawal of any such NDA submission. Similar risks may exist in foreign jurisdictions.

If approved for marketing by applicable regulatory authorities, our ability to generate revenue from our product candidates will depend on our ability to:

- price our products competitively such that third-party and government reimbursement permits broad product adoption;
- demonstrate the superiority of our products compared to the standard of care, as well as to other therapies in development;
- create market demand for our product candidates through our own marketing and sales activities, and any other arrangements to promote these product candidates that we may otherwise establish;
- receive regulatory approval for the targeted patient populations and claims that are necessary or desirable for successful marketing;
- effectively commercialize any of our products that receive regulatory approval;
- manufacture product candidates through CMOs in sufficient quantities and at acceptable quality and manufacturing cost to meet commercial demand at launch and thereafter;
- establish and maintain agreements with wholesalers, distributors, pharmacies and group purchasing organizations on commercially reasonable terms;
- obtain, maintain, protect and enforce patent and other intellectual property protection and regulatory exclusivity for our products;
- achieve market acceptance of our products by patients, the medical community and third-party payors;
- maintain a distribution and logistics network capable of product storage within our specifications and regulatory guidelines, and further capable of timely product delivery to commercial clinical sites; and
- assure that our product will be used as directed and that additional unexpected safety risks will not arise.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

The clinical development, manufacturing, labeling, storage, record-keeping, advertising, promotion, import, export, marketing and distribution of our product candidates are subject to extensive regulation by the FDA in the United States and by comparable foreign regulatory authorities in foreign markets. In the United States, we are not permitted to market our product candidates in the U.S. until we receive regulatory approval of an NDA from the FDA. Similar approvals are required in order to market product candidates in foreign countries. The process of obtaining such regulatory approval is expensive, often takes many years following the commencement of clinical trials and can vary substantially based upon the type, complexity and novelty of the product candidates involved, as well as the target indications and patient population. Approval policies or regulations may change, and the FDA and comparable foreign regulatory authorities have substantial discretion in the approval process, including the ability to delay, limit or deny approval of a product candidate for many reasons.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we must demonstrate with substantial evidence from adequate and well-controlled clinical trials, and to the satisfaction of the FDA or comparable foreign regulatory authorities, that such product candidates are safe and effective for their intended uses. Clinical testing is expensive, time consuming and subject to uncertainty. We cannot guarantee that any current or future clinical trials will be conducted as planned or completed on schedule, if at all, or that our product candidates will receive regulatory approval. Our Phase 3 pivotal trials of ESK-001 in PsO, even if successfully completed, may not be sufficient for approval of ESK-001 in that disease. Although we have discussed and intend to further discuss our Phase 3 clinical trial design and overall development plan with the FDA to align on its sufficiency to support an NDA submission, the feedback is typically non-binding and dependent on the strength of the ultimate clinical data and the FDA's perspective on the benefit-risk profile of the treatment in the intended population. For example, the Committee for Medicinal Products for Human Use in the EU provided comments on the length of our two pivotal 24-week Phase 3 trials, and we plan to address their feedback with our comparator trials. These modifications could delay our development timelines for EU regulatory approval and require substantially more resources. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete. In addition to our Phase 3 program in PsO, which we announced, in July 2024, had commenced patient dosing, we plan to initiate an additional trial of ESK-001 in SLE. Even as these trials progress, issues may arise that could require us to suspend or terminate such clinical trials or could cause the results of one cohort to differ from a prior cohort. For example, we may experience slower than anticipated enrollment in our clinical trials, which may consequently delay our development timelines or permit competitors to obtain approvals that may alter our strategy. A failure of one or more clinical trials can occur at any stage of testing, and our future clinical trials may not be successful.

In addition, even if such clinical trials are successfully completed, we cannot guarantee that the FDA or comparable foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our product candidates for approval. To the extent that the results of the clinical trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional clinical trials in support of potential approval of our product candidates.

In addition, if the FDA or comparable foreign regulatory authorities grant approval for our product candidates, then, as a condition for approval, the FDA or comparable foreign regulatory authorities may require us to perform costly post-marketing testing, including Phase 4 clinical trials or surveillance to monitor the effects of the marketed product.

Our clinical trial results may also not support approval. In addition, our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;

- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our product candidates are safe and effective for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval, including due to the heterogeneity of patient populations, or apparent improvement in trial participants receiving placebo;
- we may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- The data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of an NDA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- such authorities may disagree with us regarding the formulation, labeling and/or the product specifications of our product candidates;
- approval may be granted only for indications that are significantly more limited than those sought by us, and/or may include significant restrictions on distribution and use;
- the FDA or comparable foreign regulatory authorities will review CMOs' manufacturing process and inspect our CMOs' commercial manufacturing facilities and may not approve our CMOs' manufacturing process or facilities with respect to our product candidates; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Even if we eventually complete clinical trials and receive approval of an NDA or comparable foreign marketing application for our product candidates, the FDA or comparable foreign regulatory authority may grant approval contingent on the performance of costly additional clinical trials and/or the implementation of a REMS or comparable foreign strategies, which may be required because the FDA or comparable foreign regulatory authority believes it is necessary to ensure safe use of the product after approval. Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of that product candidate and would materially adversely impact our business and prospects.

In addition, FDA and foreign regulatory authorities may change their policies and new regulations may be enacted. For instance, on April 26, 2023, the European Commission adopted a proposal for a new Directive and Regulation to revise the existing pharmaceutical legislation in the EU. If adopted in the form proposed, the proposals may result in a decrease in data and market exclusivity opportunities for our product candidates in the EU and make them open to generic or biosimilar competition earlier than is currently the case with a related reduction in reimbursement status.

Disruptions at the FDA and other government agencies or comparable foreign regulatory authorities caused by funding shortages or global health concerns could hinder their ability to hire, retain or deploy key leadership and other personnel, prevent new or modified products from being developed, review, approved or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA and comparable foreign regulatory authorities to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's or comparable foreign regulatory authorities' ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's or comparable foreign regulatory authorities' ability to perform routine functions. In addition, government funding of other government agencies 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 or comparable foreign authorities may also slow the time necessary for new drugs or modifications to approved drugs to be reviewed and/or approved by necessary government agencies or regulatory authorities, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times and certain regulatory authorities, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the global COVID-19 pandemic, the FDA postponed most inspections of domestic and foreign manufacturing facilities at various points. Even though the FDA has since resumed standard inspection operations, any resurgence of the virus or emergence of new variants may lead to inspectional or administrative delays. If a prolonged government shutdown occurs, or if global health concerns prevent the FDA or other comparable foreign regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other comparable foreign regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

If our product candidates, if approved, do not achieve broad market acceptance, the revenue that we generate from their sales will be limited.

We have never commercialized a product candidate for any indication. Even if our product candidates are approved by the appropriate regulatory authorities for marketing and sale, they may not gain acceptance among physicians, patients, third-party payors and others in the medical community. If any product candidate for which we obtain regulatory approval does not gain an adequate level of market acceptance, we may not generate sufficient product revenue or become profitable.

The degree of market acceptance of our product candidates, if approved, will depend on a number of factors, some of which are beyond our control, including:

- the safety, efficacy, tolerability and ease of administration of our product candidates;
- the clinical indications for which the products are approved and the approved claims that we may make for the products;
- limitations or warnings contained in the product's approved labeling, including potential limitations on the use of the product or warnings for such products that may be more restrictive than other competitive products;
- distribution and use restrictions imposed by the FDA or comparable foreign regulatory authorities with respect to such product candidates or to which we agree as part of a mandatory REMS or risk management plan;
- changes in the standard of care for the targeted indications for such product candidates;

- the relative difficulty of administration or compliance with administration instructions of such product candidates;
- cost of treatment as compared to the clinical benefit in relation to alternative treatments or therapies;
- the availability of adequate coverage and reimbursement by third parties, such as insurance companies and other healthcare payors, and by government healthcare programs, including Medicare and Medicaid or comparable foreign programs;
- the extent and strength of our marketing and distribution of such product candidates;
- the safety, efficacy and other potential advantages of, and availability of, alternative treatments already used or that may later be approved for any of our intended indications;
- the timing of market introduction of such product candidates, as well as competitive products;
- the reluctance of physicians to switch their patients' current standard of care;
- the reluctance of patients to switch from their existing therapy regardless of the safety and efficacy of newer products;
- our ability to offer such product candidates for sale at competitive prices;
- the extent and strength of our third-party manufacturer and supplier support;
- adverse publicity about our product or favorable publicity about competitive products; and
- potential product liability claims.

Our efforts to educate the medical community and third-party payors as to the benefits of our product candidates may require significant resources and may never be successful. Even if the medical community accepts that our product candidates are safe and effective for their approved indications, physicians and patients may not immediately be receptive to such product candidates and may be slow to adopt them as an accepted treatment of the approved indications. If our current or future product candidates are approved, but do not achieve an adequate level of acceptance among physicians, patients, and third-party payors, we may not generate meaningful revenue from our product candidates and may never become profitable.

We may expend our limited resources to pursue a particular product candidate in specific indications and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus our development efforts on certain selected product candidates in certain selected indications. For example, we are initially focused on our most advanced product candidate, ESK-001, currently in development for the treatment of PsO and SLE, and our second product candidate, A-005, currently in development for the treatment of neuroinflammatory and neurodegenerative diseases. As a result, we may forgo or delay pursuit of opportunities with other product candidates, or other indications for our existing product candidates that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future development programs and product candidates for specific indications may not yield any commercially viable product candidates. For example, we discontinued our proof-of-concept Phase 2a clinical trial of ESK-001 in patients with non-infectious uveitis in June 2024 based on the efficacy results of a data analysis prepared for a scheduled monitoring committee meeting, which efficacy results did not meet our clinical threshold

for success despite safety results consistent with ESK-001's safety profile in psoriasis patients. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

We will need to grow our organization, and we may experience difficulties in managing our growth and expanding our operations, which could adversely affect our business.

As of June 30, 2024, we had 128 full-time employees and 2 part-time employees. As our development and commercialization plans and strategies develop, we expect to expand our employee base for managerial, operational, financial and other resources. In addition, we have limited experience in manufacturing and commercialization. As our product candidates enter and advance through preclinical studies and clinical trials, we will need to expand our development and regulatory capabilities and contract with other organizations to provide manufacturing and other capabilities for us. In the future, we expect to have to manage additional relationships with future collaborators or partners, suppliers and other organizations. Our ability to manage our operations and future growth will require us to continue to improve our operational, financial and management controls, reporting systems and procedures. We may not be able to implement improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems and controls. Our inability to successfully manage our growth and expand our operations could adversely affect our business, financial condition, results of operations and prospects.

We are dependent on the services of our management team and other clinical and scientific personnel, and if we are not able to retain these individuals or recruit additional management or clinical and scientific personnel, our business will suffer.

Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel. We are highly dependent upon the members of our senior management team. The loss of services of any of these individuals could delay or prevent the successful development of our product pipeline, initiation or completion of our preclinical studies and clinical trials or the commercialization of our product candidates. Although we have executed employment agreements or offer letters with each member of our senior management team, these agreements are terminable at will with or without notice and, therefore, we may not be able to retain their services as expected. We do not currently maintain "key person" life insurance on the lives of our executives or any of our employees. This lack of insurance means that we may not have adequate compensation for the loss of the services of these individuals.

We will need to continue to expand and effectively manage our managerial, operational, financial and other resources in order to successfully pursue our clinical development and commercialization efforts. We may not be successful in maintaining our unique company culture and continuing to attract or retain qualified management and scientific and clinical personnel in the future due to the intense competition for qualified personnel among biopharmaceutical, biotechnology and other businesses, particularly in the greater San Francisco Bay Area. If we are not able to attract, integrate, retain and motivate necessary personnel to accomplish our business objectives, we may experience constraints that will significantly impede the achievement of our development objectives, our ability to raise additional capital and our ability to implement our business strategy.

Our employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other illegal activity by our employees, independent contractors, consultants, commercial partners, CROs, CMOs and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to comply with FDA or other regulations, provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies, respect our confidentiality and intellectual property rights, comply with manufacturing standards we may establish, comply with healthcare fraud and abuse laws and regulations, report financial information or data accurately or disclose unauthorized activities to us. If we obtain FDA approval for our product candidates and begin commercializing those products in the United

States, our potential exposure under these laws will increase significantly, and our costs associated with compliance with these laws are likely to increase. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Similar requirements apply in foreign countries. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. It is not always possible to identify and deter employee misconduct, 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 comply with such laws or regulations. 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 material and adverse effect on our business, financial condition, results of operations and prospects, including the imposition of significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, the curtailment or restructuring of our operations, loss of eligibility to obtain approvals from the FDA or comparable foreign regulatory authorities, exclusion from participation in government contracting, healthcare reimbursement or other government programs, including Medicare and Medicaid or comparable foreign programs, integrity oversight and reporting obligations, or reputational harm.

Our future growth may depend, in part, on our ability to operate in foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future growth may depend, in part, on our ability to develop and commercialize our product candidates in foreign markets, including in the EU, the UK and Japan, for which we may rely on collaboration with third parties. We are not permitted to market or promote our product candidates before we receive regulatory approval from the applicable regulatory authority in that foreign market and may never receive such regulatory approval for our product candidates. To obtain separate regulatory approval in many other countries, we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of our product candidates, and we cannot predict success in these jurisdictions. If we fail to comply with the regulatory requirements in international markets and receive applicable regulatory approvals, our target market will be reduced, our ability to realize the full market potential of our product candidates will be harmed and our business will be adversely affected. We may not obtain foreign regulatory approvals on a timely basis, if at all. Our failure to obtain approval for our product candidates by regulatory authorities in another country may significantly diminish the commercial prospects of that product candidate and our business, financial condition, results of operations and prospects could be adversely affected. Moreover, even if we obtain approval of our product candidates and ultimately commercialize our product candidates in foreign markets, we would be subject to these risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and reduced protection of intellectual property rights in some foreign countries.

Our business entails a significant risk of product liability and our ability to obtain sufficient insurance coverage could adversely affect our business, financial condition, results of operations and prospects.

As we conduct clinical trials of our current or future product candidates, we are exposed to significant product liability risks inherent in the development, testing, manufacturing and marketing of new treatments. Product liability claims could delay or prevent completion of our development programs. If we succeed in marketing products, such claims could result in FDA or other regulatory authority investigation of the safety and effectiveness of our future product candidates, our manufacturing processes and facilities or our marketing programs and potentially a recall of our products or more serious enforcement action, limitations on the approved indications for which they may be used or suspension, variation or withdrawal of approvals. Regardless of the merits or eventual outcome, liability claims may also result in decreased demand for our product candidates, termination of clinical trial sites or entire trial programs, withdrawal of clinical trial participants, injury to our reputation and significant negative media attention, significant costs to defend the related litigation, a diversion of management's time and our resources from our

business operations, substantial monetary awards to trial participants or patients, loss of revenue, the inability to commercialize and products that we may develop, and a decline in our stock price. We may need to obtain higher levels of product liability insurance for later stages of clinical development or marketing of our product candidates. Any insurance we may obtain may not provide sufficient coverage against potential liabilities. Furthermore, clinical trial and product liability insurance is becoming increasingly expensive. As a result, we may be unable to obtain sufficient insurance at a reasonable cost to protect us against losses caused by product liability claims that could adversely affect our business, financial condition, results of operations and prospects.

Our insurance policies are expensive and only protect us from some business risks, which will leave us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include commercial general liability, general liability, cyber liability, workers' compensation, clinical trials and directors' and officers' liability insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our business, financial condition, results of operations and prospects.

We may engage in strategic transactions in the future, which could impact our liquidity, increase our expenses and present significant distractions to our management.

We may enter into strategic transactions in the future, including acquisitions of companies, asset purchases and in-licensing of intellectual property with the potential to acquire and advance new assets or product candidates where we believe we are well qualified to optimize the development of promising therapies. For example, we were founded in January 2021, and subsequently acquired ESK-001 via a stock purchase of FronThera U.S. Holdings, Inc. and its wholly owned subsidiary, FronThera U.S. Pharmaceuticals LLC (the FronThera Acquisition). Additional potential transactions that we may consider in the future include a variety of business arrangements, including strategic partnerships, in-licensing of product candidates, strategic collaborations, joint ventures, restructurings, divestitures, business combinations and investments. Any future transactions could increase our near and long-term expenditures, result in potentially dilutive issuances of our equity securities, including our common stock, or the incurrence of debt, contingent liabilities, amortization expenses or acquired in-process research and development expenses, any of which could affect our financial condition, liquidity and results of operations.

Future acquisitions may also require us to obtain additional financing, which may not be available on favorable terms or at all. These transactions may never be successful and may require significant time and attention of our management. In addition, the integration of any business that we may acquire in the future may disrupt our existing business and may be a complex, risky and costly endeavor for which we may never realize the full benefits of the acquisition. Accordingly, although there can be no assurance that we will undertake or successfully complete any additional transactions of the nature described above, any additional transactions that we do complete could adversely affect our business, financial condition, results of operations and prospects.

Our ability to use our net operating loss (NOL) carryforwards and certain other tax attributes to offset taxable income or taxes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. As of December 31, 2023, we had federal NOL carryforwards of \$48.6 million and state NOL carryforwards of \$4.4 million. Under the Internal Revenue Code of 1986, as amended (the Code), our U.S. federal net operating losses generated post tax years beginning after December 31, 2017 will not expire and may be carried forward indefinitely, but the deductibility of such federal net operating losses is limited to no more than 80% of current year taxable income.

In addition, under Sections 382 and 383 of the Code, if a corporation undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. We have not completed a Section 382 study to

assess whether an ownership change has occurred or whether there have been multiple ownership changes since our formation date, and there may be ownership changes in the future, some of which may be outside of our control. If we undergo an ownership change, and our ability to use our pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset our post-change income or taxes (if any) is limited, such limitation could harm our future results of operations by effectively increasing our future tax obligations. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. In addition, at the state level, there may be periods during which the use of net operating losses is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. As a result, even if we attain profitability, we may be unable to use all or a material portion of our net operating losses and other tax attributes, which could adversely affect our future cash flows.

Recent and future changes to tax laws could materially adversely affect our company.

The tax regimes we are subject to or operate under, including with respect to income and non-income taxes, are unsettled and may be subject to significant change. Changes in tax laws, regulations or rulings, or changes in interpretations of existing laws and regulations, could materially adversely affect our company. For example, the Tax Cuts and Jobs Act, the Coronavirus Aid, Relief, and Economic Security Act, and the Inflation Reduction Act enacted many significant changes to the U.S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to such legislation may affect us, and certain aspects thereof could be repealed or modified in future legislation. For example, the Inflation Reduction Act (IRA) includes provisions that will impact the U.S. federal income taxation of certain corporations, including imposing a 15% minimum tax on the book income of certain large corporations and an excise tax on certain corporate stock repurchases that would be imposed on the corporation repurchasing such stock. In addition, many countries in Europe, as well as a number of other countries and organizations (including the Organization for Economic Cooperation and Development and the European Commission), have proposed, recommended, or (in the case of countries) enacted or otherwise become subject to changes to existing tax laws or new tax laws that could significantly increase our tax obligations in the countries where we do business or require us to change the manner in which we operate our business.

If our information technology systems, or those used by our CROs, CMOs, clinical sites or other third parties upon which we rely, are or were compromised, become unavailable or suffer security breaches, loss or leakage of data or other disruptions, we could suffer material adverse consequences resulting from such compromise, including but not limited to, operational or service interruption, harm to our reputation, regulatory investigations or actions, litigation, fines, penalties and liability, and other adverse consequences to our business, results of operations and financial condition.

In the ordinary course of our business, we, and the third parties upon which we rely, process personal information and other sensitive data, including intellectual property, trade secrets, proprietary or confidential business information, preclinical and clinical trial data, personal information related to relevant stakeholders, third-party data, and other sensitive data (collectively, sensitive information) and as a result, we and the third parties upon which we rely face a variety of evolving threats which could cause security incidents affecting or interruptions to our information technology systems and sensitive information.

Our information technology systems and those of our CROs, CMOs, clinical sites and other third parties upon which we rely are vulnerable to attack, damage and interruption from a variety of evolving threats, including but not limited to computer viruses, misconfigurations, software bugs, worms, or other vulnerabilities and malicious codes, malware (including ransomware and as a result of advanced persistent threat intrusions), application security attacks, social engineering (including through phishing attacks and deep fakes, which may be increasingly more difficult to identify as fake), supply chain attacks and vulnerabilities through our third-party service providers, denial or degradation-of-service attacks (such as credential stuffing), credential harvesting, personnel misconduct or error, fraud, server malfunctions, software or hardware failures, loss of data or other information technology assets, attacks enhanced or facilitated by AI, adware, telecommunications and electrical failures, terrorism, war, earthquakes, fires, floods, and other similar threats. Such threats are prevalent, are occurring more often, are increasingly difficult to detect, and come from a variety of sources, including traditional computer “hackers,” threat actors, “hacktivists,” organized criminal threat actors, personnel (such as through theft or misuse), sophisticated nation states, and nation-state-supported actors. In particular, ransomware attacks, including those from organized criminal threat actors, nation-

states and nation-state supported actors, are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, loss of data (including sensitive information), loss of income, significant extra expenses to restore data or systems, reputational loss, the diversion of funds and other consequences. To alleviate the negative impact of a ransomware attack, it may be preferable to make extortion payments, but we may be unwilling or unable to do so (including, for example, if applicable laws or regulations prohibit such payments).

Some actors also now engage and are expected to continue to engage in cyberattacks, including without limitation nation-state actors, for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we, and the third parties upon which we rely, may be vulnerable to a heightened risk of these attacks, including retaliatory cyberattacks, that could materially disrupt our systems, operations and supply chain. In addition to experiencing a security incident, third parties may gather, collect or infer sensitive data about us from public sources, data brokers or other means that reveals competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position.

Additionally, remote work has become more common and has increased risks to our information technology systems and data, as more of our personnel utilize network connections, computers and devices outside our premises or network, including working at home, while in transit and in public locations.

Furthermore, future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Additionally, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate acquired entities into our information technology environment and security program.

We may expend significant resources or modify our business activities to try to protect against security incidents. While we take steps designed to anticipate, detect and remediate threats and vulnerabilities, because the threats and techniques used to exploit such vulnerabilities and gain unauthorized access to, to sabotage or otherwise compromise systems change frequently, are often sophisticated in nature, and are often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement and maintain adequate preventative measures. Therefore, such vulnerabilities have and could be exploited but may not be detected until after a security incident has occurred. We may also experience security breaches that may remain undetected for an extended period. Even if identified, we may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities and we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. There can be no assurance that our information security policies, controls or procedures, will be fully implemented, complied with or effective in protecting our systems and sensitive information.

Our reliance on third-party service providers could introduce additional cybersecurity risks and vulnerabilities, including supply-chain attacks and other threats to our business operations. We rely on third-party service providers and technologies to operate critical business systems and to process sensitive information in a variety of contexts, including, without limitation, cloud-based infrastructure, data hosting, encryption and authentication technology, personnel email, human resource management, training and other functions. We also rely on third-party service providers to assist with our clinical trials or otherwise to operate our business, including to manage and store sensitive patient data from our clinical trials. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. Our third-party service providers have and may in the future experience a security incident or other interruption. While we may be entitled to damages if our third-party service providers fail to satisfy their privacy or security-related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award. In addition, supply-chain attacks have increased in frequency and severity, and we cannot guarantee that third parties and infrastructure in our supply chain or our third-party partners' supply chains have not been compromised or that they do not contain exploitable defects or bugs that could result in a breach of or disruption to our information technology systems or the third-party information technology systems that support our operations.

We and certain of our service providers have been and are from time to time subject to cyberattacks and security incidents. Any of the previously identified or similar threats have or could cause a security incident or other interruption that could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure, or other processing of, or access to our sensitive information or our information technology systems, or those of the third parties upon whom we rely. A security incident or other interruption could disrupt our ability (and that of third parties upon whom we rely) to conduct clinical trials. Additionally, sensitive information of the company could be leaked, disclosed, or revealed as a result of or in connection with our employees', personnel's or vendors' use of generative AI technologies.

The costs related to significant security breaches or disruptions could be material and cause us to incur significant expenses. If the information technology systems of our CROs, CMOs, clinical sites and other third parties become subject to disruptions or security incidents, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring. Further, our cyber liability insurance coverage may not be sufficient to cover the financial, legal, business reputational or other losses that may result from an interruption or breach.

If any such incidents were to occur and cause interruptions in our operations, it could result in a disruption of our business and development programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for a product candidate could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data, or may limit our ability to effectively execute a product recall, if required in the future. To the extent that any disruption or security incident were to result in the loss of or damage to our data or applications, or inappropriate disclosure of sensitive information, we could incur liability and the further development of any product candidates could be delayed.

Applicable data privacy and security obligations may require us to notify relevant stakeholders of security incidents. Such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences.

If we or a third party upon whom we rely experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences such as legal claims or proceedings, liability including litigation exposure, penalties and fines under relevant legal obligations, enforcement actions and investigations by regulatory authorities, additional reporting requirements or oversight, restrictions on processing sensitive information (including personal information), indemnification obligations, monetary fund diversions, diversion of management attention, other financial loss, and damage to our reputation and a loss of confidence in us and our ability to conduct clinical trials, which could delay the clinical development of our product candidates, and of which may adversely affect our business, results of operations or financial condition.

Our operations are concentrated in one location, and we or the third parties upon whom we depend may be adversely affected by a wildfire, earthquake or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our current operations are predominantly located in California. Any unplanned event, such as flood, wildfire, explosion, earthquake, extreme weather condition, medical epidemic including the COVID-19 pandemic, power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Any similar impacts of natural or manmade disasters on our third-party service providers, such as our CMOs and CROs located globally, could cause delays in our clinical trials and may have a material and adverse effect on our ability to operate our business and have significant negative consequences on our financial and operating conditions. If a natural disaster, power outage or other event occurred that prevented us from using our clinical trial sites, impacted clinical supply or the conduct of our clinical trials, that damaged critical infrastructure, such as the manufacturing facilities of our third-party CMOs, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans

that we and third parties upon whom we rely have or may have in place may prove inadequate in the event of a serious disaster or similar event. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, we cannot assure you that the amounts of insurance will be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our CMOs, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our development programs may be harmed. Any business interruption could adversely affect our business, financial condition, results of operations and prospects.

Our projections regarding the market opportunities for our product candidates may not be accurate, and the actual market for our products may be smaller than we estimate.

The precise incidence and prevalence for all the conditions we aim to address with our product candidates are unknown. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including sales of our competitors, scientific literature, surveys of clinics, patient foundations or market research, and may prove to be incorrect in general, or as to their applicability to our company. Further, new trials may change the estimated incidence or prevalence of these diseases. The total addressable market across all of our product candidates will ultimately depend upon, among other things, the diagnosis criteria included in the final labeling for each of our product candidates approved for sale for these indications, the ability of our product candidates to improve on the safety, convenience, cost and efficacy of competing therapies or therapies in development, acceptance by the medical community and patients, drug pricing and reimbursement. The number of patients in the United States and other major markets and elsewhere may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our product candidates or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our business, financial condition, results of operations and prospects. Further, even if we obtain significant market share for our product candidates, because some of our potential target populations are very small, we may never achieve profitability despite obtaining such significant market share.

Our cash and cash equivalents may be exposed to failure of our banking institutions.

While we seek to minimize our exposure to third-party losses of our cash and cash equivalents, we hold our balances in a number of large financial institutions. Notwithstanding, those institutions are subject to risk of failure. For example, on March 10, 2023, Silicon Valley Bank (SVB) was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation (the FDIC) as receiver. Similarly, on March 12, 2023, Signature Bank was also swept into receivership. The U.S. Department of Treasury, the Federal Reserve Board (the Federal Reserve), and the FDIC released a statement that indicated that all depositors of SVB would have access to all of their funds, including funds held in uninsured deposit accounts, after only one business day of closure. The U.S. Department of Treasury, the FDIC and the Federal Reserve have announced a program to provide up to \$25 billion of loans to financial institutions secured by certain of such government securities held by financial institutions to mitigate the risk of potential losses on the sale of such instruments, widespread demands for customer withdrawals or other liquidity needs of financial institutions for immediately liquidity may exceed the capacity of such program. There is no guarantee, however, that the U.S. Department of Treasury, the FDIC and the Federal Reserve will provide access to uninsured funds in the future in the event of the closure of other banks or financial institutions, or that they would do so in a timely fashion.

Although we expect to assess our banking relationships as we believe necessary or appropriate, our access to cash in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect the financial institutions with which we have banking relationships, and in turn, us.

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 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, delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets; or termination of cash management arrangements and/or delays in accessing or actual loss of funds subject to cash management arrangements.

In addition, widespread investor concerns regarding the U.S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. 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, one or more of our critical vendors, third party manufacturers, or other business partners could be adversely affected by any of the liquidity or other risks that are described above, which in turn, could have a material adverse effect on our current and/or projected business operations and results of operations and financial condition. Any business partner bankruptcy or insolvency, or any breach or default by a business partner, or the loss of any significant supplier relationships, could result in material adverse impacts on our current and/or projected business operations and financial condition.

Public opinion and scrutiny of immunology treatments may impact public perception of our company and product candidates, or may adversely affect our ability to conduct our business and our business plans.

Public perception may be influenced by claims, such as claims that our product candidates are unsafe, unethical or immoral and, consequently, our approach may not gain the acceptance of the public or the medical community. Adverse public attitudes may also adversely impact our ability to enroll clinical trials. Moreover, our success will depend upon physicians specializing in the treatment of those diseases that our product candidates target prescribing, and their patients being willing to receive, treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments they are already familiar with and for which greater clinical data may be available. AEs in our clinical trials, even if not ultimately attributable to our product candidates, and the resulting publicity could result in withdrawal of clinical trial participants, increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidates. In addition, side effects generally associated with TYK2 or JAK inhibitors may negatively impact public perception of us or ESK-001 and A-005. More restrictive government regulations or negative public opinion could have an adverse effect on our business, financial condition, results of operations and prospects, and may delay or impair the development and, if approved, commercialization of our product candidates or demand for any products we may develop.

Risks Related to Intellectual Property

If we are unable to obtain and maintain sufficient intellectual property protection for our product candidates and any future product candidates we may develop, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors or other third parties could develop and commercialize products similar or identical to ours, and our ability to successfully develop and commercialize our product candidates may be adversely affected.

We rely upon a combination of patents, know-how and confidentiality agreements to protect the intellectual property related to our product candidates and technologies and to prevent third parties from copying and surpassing our achievements, thus eroding our competitive position in our market. Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries for our product candidates and their uses, as well as our ability to operate without infringing, misappropriating or otherwise violating the proprietary

rights of others. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our product candidates and novel discoveries that are important to our business. Our pending and future patent applications may not result in patents being issued. We cannot assure you that issued patents will afford sufficient protection of our product candidates or their intended uses against competitors, nor can there be any assurance that the patents issued will not be infringed, designed around, invalidated by third parties, or effectively prevent others from commercializing competitive products or product candidates.

Obtaining and enforcing patents is expensive and time-consuming, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications or maintain and/or enforce patents that may issue based on our patent applications, at a reasonable cost or in a timely manner. We may not be able to obtain or maintain patent applications and patents due to the subject matter claimed in such patent applications and patents being in disclosures in the public domain. It is also possible that we will fail to identify patentable aspects of our research and development results before it is too late to obtain patent protection. Although we have in the past and will continue to enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, CROs, CMOs, consultants, advisors and other third parties, any of these parties may breach these agreements and disclose such results before a patent application is filed, thereby jeopardizing our ability to seek patent protection. Consequently, we may not be able to prevent any third parties from using any of our technology that is in the public domain to compete with our product candidates.

Composition of matter patents for pharmaceutical product candidates often provide a strong form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. However, we cannot be certain that the claims in our pending patent applications directed to composition of matter of our product candidates will be considered patentable by the United States Patent and Trademark Office (USPTO) or by patent offices in foreign countries, or that the claims in any of our issued patents will be considered valid and enforceable by courts in the United States or foreign countries. 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 candidates 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, clinicians 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 or prosecute.

The patent position of biopharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation, resulting in court decisions, including Supreme Court decisions, which have increased uncertainties as to the ability to enforce patent rights in the future. As a result, the issuance, scope, validity, enforceability and commercial value of any patent rights are highly uncertain. Our pending and future owned or in-licensed patent applications may not result in issued patents that protect our product candidates effectively to prevent others from commercializing our product candidates or otherwise provide any competitive advantage. In fact, patent applications may not issue as patents at all. The coverage claimed in a patent application can also be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. 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.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability and our pending patent applications may be challenged in patent offices in the United States and abroad. Even issued patents may later be found invalid or unenforceable or may be modified or revoked in proceedings instituted by third parties before various patent offices or in courts. For example, our pending patent applications may be subject to third-party pre-issuance submissions of prior art to the USPTO, or our issued patents may be subject to post-grant review proceedings, oppositions, derivations, reexaminations, interferences, inter partes review proceedings or other similar proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. Such submissions may also be made prior to a patent’s issuance, precluding the granting of a patent based on one or more of our owned pending patent applications. An adverse determination in any such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated, or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical product candidates, or limit the

duration of the patent protection of our product candidates. Such challenges also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. Any of the foregoing could adversely affect our business, financial condition, results of operations and prospects.

A third party may also claim that our patent rights are invalid or unenforceable in a litigation. An adverse result in any legal proceeding could put one or more of our owned or patents at risk of being invalidated or interpreted narrowly and could allow third parties to commercialize our products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize our technology, products or product candidates without infringing third-party patent rights.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such candidates are commercialized. The degree of future protection for our proprietary rights is uncertain. Only limited protection may be available and may not adequately protect our rights or permit us to gain or keep any competitive advantage. Any failure to obtain or maintain patent protection with respect to our product candidates or their uses could adversely affect our business, financial condition, results of operations and prospects.

We cannot ensure that patent rights relating to inventions described and claimed in our or any future licensors pending patent applications will issue or that patents based on our or any future licensors patent applications will not be challenged and rendered invalid and/or unenforceable.

The patent application process is subject to numerous risks and uncertainties, and there can be no assurance that we or any potential future licensors or collaborators will be successful in protecting our product candidates by obtaining and defending patents. We have several pending United States and foreign patent applications in our portfolio. We cannot predict:

- if and when patents may issue based on our patent applications;
- the scope of protection of any patent issuing based on our patent applications;
- whether the claims of any patent issuing based on our patent applications will provide protection against competitors;
- whether or not third parties will find ways to invalidate or circumvent our patent rights;
- whether or not others will obtain patents claiming aspects similar to those covered by our patents and patent applications;
- whether we will need to initiate litigation or administrative proceedings to enforce and/or defend our patent rights which will be costly whether we win or lose;
- whether the patent applications that we own will result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries; or
- whether, if the COVID-19 pandemic continues to spread around the globe, we may experience patent office interruption or delays to our ability to timely secure patent coverage to our product candidates.

We cannot be certain that the claims in our or any future licensors' pending patent applications directed to our product candidates will be considered patentable by the USPTO or by patent offices in foreign countries. There can be no assurance that any such patent applications will issue as granted patents. One aspect of the determination of patentability of our or any future licensors' inventions depends on the scope and content of the "prior art," information that was or is deemed available to a person of skill in the relevant art prior to the priority date of the

claimed invention. There may be prior art of which we are not aware that may affect the patentability of our or any future licensors' patent claims or, if issued, affect the validity or enforceability of a patent claim. Even if the patents do issue based on our or any future licensors' patent applications, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, patents in our or any future licensors' portfolio may not adequately exclude third parties from practicing relevant technology or prevent others from designing around our claims. If the breadth or strength of our intellectual property position with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop and threaten our ability to commercialize our product candidates. In the event of litigation or administrative proceedings, we cannot be certain that the claims in any of our issued patents will be considered valid by courts in the United States or foreign countries.

We may not be able to protect our intellectual property rights throughout the world.

Patents are of national or regional effect, and filing, prosecuting and defending patents on all of our research programs and product candidates in all countries throughout the world would be prohibitively expensive. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States, even in jurisdictions where we do pursue patent protection. Consequently, we may not be able to prevent third parties from practicing our or any future licensors' inventions in all countries outside the United States, even in jurisdictions where we or any future licensors do pursue patent protection, or from selling or importing products made using our or any future licensors' inventions in and into the United States or other jurisdictions. Competitors may use our or any future licensors' technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we or any future licensors have patent protection, but enforcement is not as strong as that in the United States. These competitor products may compete with our product candidates, and our or any future licensors' patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Various companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of many countries do not favor the enforcement of patents and other intellectual property protection, particularly those relating to pharmaceuticals, which could make it difficult for us to stop the infringement of our or any future licensors' patents or marketing of competing products in violation of our proprietary rights.

Certain countries outside the United States have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. As a result, a patent owner may have limited remedies in certain circumstances, which could materially diminish the value of such patent. If we or any future licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be adversely affected. 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 or license in the future.

Further, the standards applied by the USPTO and foreign patent offices in granting patents are not always applied uniformly or predictably. As such, we do not know the degree of future protection that we will have on our product candidates. While we will endeavor to try to protect our product candidates with intellectual property rights, such as patents, as appropriate, the process of obtaining patents is time consuming, expensive and unpredictable.

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. For example:

- others may be able to make product candidates that are similar to ours but that are not covered by the pending patent applications that we own or any patents or patent applications that we may in-license in the future;

- we or any future licensors or collaborators might not have been the first to make the inventions covered by the pending patent application that we own or may in-license in the future;
- we or any future licensors or collaborators might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing or otherwise violating our owned intellectual property rights or any patent applications that we may license in the future;
- it is possible that noncompliance with the USPTO and foreign governmental patent agencies requirement for a number of procedural, documentary, fee payment and other provisions during the patent process can result in abandonment or lapse of a patent or patent application, and partial or complete loss of patent rights in the relevant jurisdiction;
- it is possible that our pending owned patent applications or those that we may own or license in the future will not lead to issued patents;
- issued patents, if any arise in the future, that we either own or that we may license in the future may be revoked, modified, or held invalid or unenforceable, as a result of legal challenges by our competitors;
- others may have access to the same intellectual property rights licensed to us in the future on a non-exclusive basis;
- 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;
- we cannot predict the scope of protection of any patent issuing based on our or any future licensors' patent applications, including whether the patent applications that we own, or, in the future, in-license will result in issued patents with claims directed to our product candidates or uses thereof in the United States or in other foreign countries;
- there may be significant pressure on the United States 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;
- countries other than the United States may have patent laws less favorable to patentees than those upheld by United States courts, allowing foreign competitors a better opportunity to create, develop and market competing product candidates; the claims of any patent issuing based on our patent applications may not provide protection against competitors or any competitive advantages, or may be challenged by third parties;
- if enforced, a court may not hold that our patents, if they issue in the future, are valid, enforceable and infringed;
- we may need to initiate litigation or administrative proceedings to enforce and/or defend our patent rights which will be costly whether we win or lose;

- we may choose not to file a patent application in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent application covering such intellectual property;
- we may fail to adequately protect and police our trademarks and trade secrets; and
- the patents of others may have an adverse effect on our business, including if others obtain patents claiming subject matter similar to or improving that covered by our patent applications.

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

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 and market our product candidates.

As the biopharmaceutical industry expands and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties. There can be no assurance that our operations do not, or will not in the future, infringe, misappropriate or otherwise violate existing or future third-party patents or other intellectual property rights. Identification of third-party patent rights that may be relevant to our operations is difficult because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or 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 and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction.

Numerous United States and foreign patents and pending patent applications exist in our market that are owned by third parties. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for and obtain, patents that will prevent, limit or otherwise interfere with our ability to make, use and sell our product candidates. We do not always conduct independent reviews of pending patent applications and patents issued to third parties. Patent applications in the United States and elsewhere are typically 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. Certain United States applications that will not be filed outside the United States can remain confidential until patents issue. In addition, patent applications in the United States and elsewhere can be pending for many years before issuance, or unintentionally abandoned patents or applications can be revived. Furthermore, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. As such, there may be applications of others now pending or recently revived patents of which we are unaware. These patent applications may later result in issued patents, or the revival of previously abandoned patents, that may be infringed by the manufacture, use or sale of our product candidates or will prevent, limit or otherwise interfere with our ability to make, use or sell our product candidates.

The scope of a patent claim is 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. For example, we may incorrectly determine that our product candidates are 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 or abroad that we consider relevant may be incorrect. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our product candidates.

We cannot provide any assurances that third-party patents and other intellectual property rights do not exist which might be enforced against our current technology, including our research programs, product candidates, their respective methods of use, manufacture and formulations thereof, and could result in either an injunction prohibiting

our manufacture or future sales, or, with respect to our future sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant.

We may be involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time-consuming and unsuccessful.

Competitors or other third parties may infringe our patents, trademarks or other intellectual property. To counter infringement or unauthorized use, we or any future licensors may be required to file infringement claims, which can be expensive and time consuming and divert the time and attention of our management and scientific personnel. Our or any future licensors' pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents, in addition to counterclaims asserting that our patents or any future licensors' patents are invalid or unenforceable, or both. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement, insufficient written description or failure to claim patent-eligible subject matter. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. The outcome following legal assertions of invalidity and unenforceability is unpredictable. In any patent infringement proceeding, there is a risk that a court will decide that a patent of ours or any future licensors is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our or any future licensors' patent claims do not cover the invention, or decide that the other party's use of our or any future licensors' patented technology falls under the safe harbor to patent infringement under 35 U.S.C. §271I(1). An adverse outcome in a litigation or proceeding involving our or any future licensors' patents could limit our ability to assert our or any future licensors' patents against those parties or other competitors and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Any of these occurrences could adversely affect our competitive position, and our business, financial condition, results of operations and prospects. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could adversely affect the price of shares of our common stock. Moreover, we cannot assure you that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings.

We may become involved in third-party claims of intellectual property infringement, which may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving the infringement of patents and other intellectual property rights in the biotechnology and pharmaceutical industries. We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights and who allege that our product candidates, uses and/or other proprietary technologies infringe their intellectual property rights. Numerous United States and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields

in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk that our product candidates may give rise to claims of infringement of the patent rights of others increases. Moreover, it is not always clear to industry participants, including us, which patents exist which may be found to cover various types of drugs, products or their methods of use or manufacture. Thus, because of the large number of patents issued and patent applications currently pending in our fields, there may be a risk that third parties may allege they have patent rights which are infringed by our product candidates, technologies or methods.

If a third party alleges that we infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property misappropriation which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement or misappropriation, which we may have to pay if a court decides that the product candidate or technology at issue infringes on or violates the third-party's rights, and, if the court finds we have willfully infringed intellectual property rights, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- an injunction prohibiting us from manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third party agrees to license its patent rights to us;
- even if a license is available from a third party, we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights protecting our products; and
- we may be forced to try to redesign our product candidates or processes so they do not infringe third-party intellectual property rights, an undertaking which may not be possible or which may require substantial monetary expenditures and time.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Third parties may assert that we are employing their proprietary technology without authorization. Generally, conducting preclinical and clinical trials and other development activities in the United States is not considered an act of infringement. While we may believe that patent claims or other intellectual property rights of a third party would not have a materially adverse effect on the commercialization of our product candidates, we may be incorrect in this belief, or we may not be able to prove it in litigation. In this regard, patents issued in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing," a heightened standard of proof. There may be issued third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Patent applications can take many years to issue. There may be currently pending patent applications which may later result in issued patents that may be infringed by our product candidates. Moreover, we may fail to identify relevant patents or incorrectly conclude that a patent is invalid, not enforceable, exhausted, or not infringed by our activities. If any third-party patents, held now or obtained in the future by a third party, were found by a court of competent jurisdiction to cover the manufacturing process of our product candidates, the holders of any such patents may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover any aspect of our formulations, any combination therapies or patient selection methods, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until

such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates, if approved, may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

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. Defense of these claims, regardless of their merit, could involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need or may choose to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

Because our development programs may in the future require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license, or use these third-party proprietary rights. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates on commercially reasonable terms or at all. Even if we are able to in-license any such necessary intellectual property, it could be on nonexclusive terms, thereby giving our competitors and other third parties access to the same intellectual property licensed to us, and it could require us to make substantial licensing and royalty payments. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have obtained, we may have to abandon development of the relevant program or product candidate, which could adversely affect our business, financial condition, results of operations and prospects.

We may enter into license agreements in the future with others to advance our existing or future research or allow commercialization of our existing or future product candidates, if approved. These licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and product candidates in the future. In that event, we may be required to expend significant time and resources to redesign our product candidates, or the methods for manufacturing them, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, if approved, which could harm our business, financial condition, results of operations, and prospects significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current manufacturing methods, product candidates, or future methods or product candidates resulting in either an injunction prohibiting our manufacture or

future sales, or, with respect to our future sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant.

We may become subject to claims challenging the inventorship or ownership of our or any future licensors' patents and other intellectual property.

We may be subject to claims that former employees, collaborators or other third parties have an interest in our or any future licensors' patents or other intellectual property as an inventor or co-inventor. The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing our product candidates or as a result of questions regarding co-ownership of potential joint inventions. Litigation may be necessary to resolve these and other claims challenging inventorship or ownership. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could adversely affect our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Any future licensors may have relied on third-party consultants or collaborators or on funds from third parties, such as the United States government, such that these licensors are not the sole and exclusive owners of the patents we in-licensed. If other third parties have ownership rights or other rights to our in-licensed patents, they may be able to license such patents to our competitors, and our competitors could market competing products and technology. This could adversely affect our competitive position, business, financial condition, results of operations and prospects.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could adversely affect our business, financial condition, results of operations and prospects.

We may form or seek collaborations or strategic alliances or enter into licensing arrangements in the future, and we may neither enter into, nor realize the benefits of, such alliances or licensing arrangements.

Any future collaborations that we enter into may not be successful and we may not enter into such collaborations at all. The success of our collaboration arrangements will depend heavily on the efforts and activities of any future collaborators. Collaborations are subject to numerous risks, which may include that:

- collaborators have significant discretion in determining the efforts and resources that they will apply to collaborations;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on trial or test results, changes in their strategic focus due to the acquisition of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities, or the ongoing COVID-19 pandemic;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates;

- a collaborator with marketing, manufacturing and distribution rights to one or more products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our collaborators that would prevent us from collaborating with others;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that causes the delay or termination of the research, development or commercialization of our future product candidates or that results in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated, and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable future product candidates;
- collaborators may own or co-own intellectual property covering our product candidates that results from our collaborating with them, and in such cases, we would not have the exclusive right to develop or commercialize such intellectual property; and
- a collaborator's sales and marketing activities or other operations may not be in compliance with applicable laws, resulting in civil or criminal proceedings.

If we fail to comply with our obligations in agreements under which we in-license or acquire development or commercialization rights to product candidates, or data from third parties, we could lose such rights that are important to our business.

We may in the future in-license or otherwise acquire development or commercialization rights to product candidates or data from third parties, and any future licensors may rely upon third-party companies, consultants or collaborators, or on funds from third parties such that licensors are not the sole and exclusive owners of the patents we in-license. If any future licensors fail to prosecute, maintain, enforce, and defend such patents, or lose rights to those patents, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize future product candidates that may be subject of such licensed rights could be adversely affected. In spite of our efforts, any future licensors might conclude that we are in material breach of obligations under our license agreements and may therefore have the right to terminate the license agreements, thereby removing our ability to develop and commercialize product candidates and technology covered by such license agreements. If such in-licenses are terminated, or if the underlying patents fail to provide the intended exclusivity, our competitors will have the freedom to seek regulatory approval of, and to market, products identical to our product candidates and the licensors to such in-licenses could prevent us from developing or commercializing product candidates that rely upon the patents or other intellectual property rights which were the subject matter of such terminated agreements. Any of these events could adversely affect our business, financial condition, results of operations, and prospects.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our financial or other obligations under the license agreement;
- the extent to which our processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;

- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those obligations;
- the inventorship or ownership of inventions and know-how resulting from the joint creation or use of intellectual property by any future licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, any future license agreements are likely to be complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could adversely affect our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we may license in the future prevent or impair our ability to maintain future licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could adversely affect our business, financial condition, results of operations, and prospects.

Any license agreements we enter into in the future may be subject to certain rights retained by third parties.

Any future licensors may retain certain rights under the relevant agreements with us, including the right to use the underlying product candidates for academic and research use, to publish general scientific findings from research related to the product candidates, to make customary scientific and scholarly disclosures of information relating to the product candidates, or to develop or commercialize the licensed product candidates in certain regions.

In addition, the United States federal government retains certain rights in inventions produced with its financial assistance under the Patent and Trademark Law Amendments Act (Bayh-Dole Act). The federal government retains a “nonexclusive, nontransferable, irrevocable, paid-up license” for its own benefit. The Bayh-Dole Act also provides federal agencies with “march-in rights.” March-in rights allow the government, in specified circumstances, to require the contractor or successors in title to the patent to grant a “nonexclusive, partially exclusive, or exclusive license” to a “responsible applicant or applicants.” If the patent owner refuses to do so, the government may grant the license itself. We may at times choose to collaborate with academic institutions to accelerate our preclinical research or development. While we do not currently engage, and it is our policy to avoid engaging, university partners in projects in which there is a risk that federal funds may be commingled, we cannot be sure that any co-developed intellectual property will be free from government rights pursuant to the Bayh-Dole Act. Although none of our licenses to date are subject to march-in rights, if, in the future, we co-own or license in technology which is critical to our business that is developed in whole or in part with federal funds subject to the Bayh-Dole Act, our ability to enforce or otherwise exploit patents covering such technology may be adversely affected.

Changes in patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining, defending, maintaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity and is therefore costly, time consuming and inherently uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents, and may diminish our ability to protect our inventions, obtain, maintain, enforce and protect our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our future owned and licensed patents. Patent reform legislation in the United States and other countries, including the Leahy-Smith America Invents Act (Leahy-Smith Act), signed into law on September 16, 2011, could increase those uncertainties and costs surrounding the prosecution of patent applications filed after March 2013 and the enforcement or defense of our future issued patents or claiming priority to patent applications filed after March 2023. The Leahy-

Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, inter partes review, and derivation proceedings.

Further, because of a lower evidentiary standard in these USPTO post-grant proceedings compared to the evidentiary standard in United States 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 or any future licensors' patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Thus, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or any future licensors' patent applications and the enforcement or defense of our or any future licensors' future issued patents, all of which could adversely affect our business, financial condition, results of operations and prospects.

After March 2013, under the Leahy-Smith Act, the United States transitioned to a first inventor to file system in which, assuming that the other statutory requirements are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third-party was the first to invent the claimed invention. A third party that files a patent application in the USPTO after March 2013, but before we file an application covering the same invention, could therefore be awarded a patent covering an invention of ours or any future licensors even if we had made the invention before it was made by such third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or any future licensors were the first to either (i) file any patent application related to our product candidates and other proprietary technologies we may develop or (ii) invent any of the inventions claimed in our or any future licensors' patents or patent applications. Even where we have a valid and enforceable patent, we may not be able to exclude others from practicing the claimed invention where the other party can show that they used the invention in commerce before our filing date or the other party benefits from a compulsory license. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our future issued patents, all of which could adversely affect our business, financial condition, results of operations and prospects.

In addition, the patent positions of companies in the development and commercialization of pharmaceuticals are particularly uncertain. The United States Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. Depending on future actions by the United States Congress, the United States courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our or any future licensors' ability to obtain new patents and patents that we or any future licensors might obtain in the future. We cannot predict how future decisions by the courts, the United States Congress or the USPTO may impact the value of our patents. Any similar adverse change in the patent laws of other jurisdictions could also adversely affect our business, financial condition, results of operations and prospects.

In 2012, the European Union Patent Package (EU Patent Package) regulations were passed with the goal of providing a single pan-European Unitary Patent and a new European Unified Patent Court (UPC) for litigation involving European patents. The EU Patent Package was implemented on June 1, 2023. As a result, all European patents, including those issued prior to ratification of the EU Patent Package, now by default automatically fall under the jurisdiction of the UPC. It is uncertain how the UPC will impact granted European patents in the biotechnology and pharmaceutical industries. Our European patent applications, if issued, could be challenged in the UPC. During the first seven years of the UPC's existence, the UPC legislation allows a patent owner to opt its European patents out of the jurisdiction of the UPC. We may decide to opt out our future European patents from the UPC, but doing so may preclude us from realizing the benefits of the UPC. Moreover, if we do not meet all of the formalities and requirements for opt-out under the UPC, our future European could remain under the jurisdiction of the UPC. The UPC will provide our competitors with a new forum to centrally revoke our European patents, and allow for the

possibility of a competitor to obtain pan-European injunction. Such a loss of patent protection could have a material adverse impact on our business and our ability to commercialize our technology and product candidates and, resultantly, on our business, financial condition, prospects and results of operations.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated as a result of noncompliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and/or applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our patents and patent applications. We rely on our outside patent counsel to pay these fees due to United States and non-United States patent agencies. The USPTO and various non-United States government patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market and this circumstance could adversely affect our business, financial condition, results of operations and prospects.

Patent terms may be inadequate to protect our competitive position on products or product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest United States non-provisional or international patent application filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our products or product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including generics or biosimilars. Given the amount of time required for the development, testing and regulatory review of products or new product candidates, patents protecting such products or candidates might expire before or shortly after such products or candidates are commercialized. As a result, our patent portfolio may not provide us with sufficient and continuing rights to exclude others from commercializing products similar or identical to ours.

If we do not obtain patent term extension for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA regulatory approval of our product candidates, one or more of our issued United States patents or issued United States patents that we may own in the future may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Action of 1984 (Hatch-Waxman Amendments). The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it or a method for manufacturing it may be extended. Similar patent term restoration provisions to compensate for commercialization delay caused by regulatory review are also available in certain foreign jurisdictions, such as in Europe under Supplemental Protection Certificate. However, we may not be granted any extensions for which we apply because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. In addition, to the extent we wish to pursue patent term extension based on a patent that we in-license from a third party, we would need the cooperation of that third party. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension, or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations and prospects could be materially harmed.

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

In addition to the protection afforded by patents, we seek to rely on trade secret protection to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and any other elements of our product discovery and development processes that involve proprietary know-how, information, or technology that is not covered by our patents. We may not be able to meaningfully protect our trade secrets. Although we require all of our employees to assign their inventions to us, and require all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information, or technology to enter into confidentiality agreements, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed to our competitors or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws within the United States. We may need to share our trade secrets and proprietary know-how with current or future partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors, and those affiliated with or controlled by state actors. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

Monitoring and detecting unauthorized disclosure or other compromise of trade secrets is difficult, and we do not know whether the steps we have taken to prevent such compromise are, or will be, adequate. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, it would be expensive and time-consuming, and the outcome would be unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. If we choose to go to court to stop a third party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful. For example, significant elements of our business, including confidential aspects of sample preparation, methods of manufacturing, proprietary assays, computational-biological algorithms, data analytics and machine learning related to genetics, genomics, proteomics, biomarkers and samples, and related processes and software, are based on unpatented trade secrets, including those of our collaborators. For example, our collaborator, Foresite Labs, utilizes extensive trade secret algorithms, machine learning and AI analysis techniques, and we rely on their maintenance of these trade secrets. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology.

We may be subject to claims asserting that our employees, consultants or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.

Certain of our employees, consultants or advisors have in the past and may in the future be employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. An inability to incorporate such technologies or features would harm our business and may prevent us from successfully commercializing our technologies or product candidates. In addition, we may lose personnel as a result of such claims and any such litigation, or the threat thereof, may adversely affect our ability to hire employees or contract with independent contractors. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our technologies, or product candidates, which could adversely affect our business, financial condition, results of operations and prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, we may in the future be subject to claims by former employees, consultants or other third parties asserting an ownership right in our patents or patent applications. An adverse determination in any such submission or proceeding may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar technology and therapeutics, without payment to us, or could limit the duration of the patent protection covering our technologies and product candidates. Such challenges may also result in our inability to develop, manufacture or commercialize our technologies and product candidates without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future technologies and product candidates. Any of the foregoing could adversely affect our business, financial condition, results of operations and prospects.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our unregistered trademarks, trade names or future registered trademarks may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in other foreign jurisdictions. Although we are given an opportunity to respond to such rejections, we may be unable to overcome them. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, which may not survive such proceedings. Moreover, any name we have proposed to use with our product candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. Similar requirements exist in Europe. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA or an equivalent administrative body in a foreign jurisdiction objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark.

We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively, and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, domain name or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations and prospects.

Risks Related to Government Regulation

Even if we receive regulatory approval for our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal. We may also be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

Any regulatory approvals that we or our future collaborators obtain for our product candidates may also be subject to limitations on the approved indicated uses for which a product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing and surveillance to monitor the safety and efficacy of the product candidate.

In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, the manufacturing processes, labeling, packaging, distribution, post-approval monitoring and AE reporting, storage, import, export, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. The FDA has significant post-market authority, including the authority to require labeling changes based on new safety information and to require post-market studies or clinical trials to evaluate safety risks related to the use of a product or to require withdrawal of the product from the market. The FDA also has the authority to require a REMS after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug. Comparable foreign regulatory authorities may have similar authority. The manufacturing facilities we use to make a future product, if any, will also be subject to periodic review and inspection by the FDA and other regulatory authorities, including for continued compliance with cGMP requirements. The discovery of any new or previously unknown problems with our third-party manufacturers, manufacturing processes or facilities may result in restrictions on the product, manufacturer or facility, including withdrawal of the product from the market. As we expect to rely on third-party manufacturers, we will have limited control over compliance with applicable rules and regulations by such manufacturers.

In addition, any product promotion and advertising will also be subject to regulatory requirements and continuing regulatory review. For example, the FDA and comparable foreign regulatory authorities impose stringent restrictions on manufacturers' communications regarding use of their products. Although clinicians may prescribe products for off-label uses, as the FDA and comparable foreign regulatory authorities do not regulate a physician's choice of drug treatment made in the physician's independent medical judgment, the FDA and such comparable foreign regulatory authorities do restrict promotional communications from companies or their sales force with respect to off-label uses of products. Specifically, any regulatory approval that the FDA grants is limited to those specific diseases and indications for which a product is deemed to be safe and effective by FDA, and our ability to promote any products will be narrowly limited to those indications that are specifically approved by the FDA. Similar restrictions apply in other countries. In the EU, applicable laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristics (SmPC) which may require approval by the competent national authorities in connection with a marketing authorization. The SmPC is the document that provides information to physicians concerning the safe and effective use of the product. Promotional activity that does not comply with the SmPC is considered off-label and is prohibited in the EU. If we are found to have promoted such off-label uses, we may become subject to significant liability. In addition, if we do not conduct head-to-head comparative clinical trials for our product candidates, we will be unable to make comparative claims regarding any other products in the promotional materials for our product candidates. If we promote our products, if approved, in a manner inconsistent with FDA-approved labeling, or the label approved by another comparable foreign regulatory authority, or otherwise not in compliance with FDA regulations or comparable foreign rules, we may be subject to enforcement action. The U.S. 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 FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

Subsequent discovery of previously unknown problems with a product, including AEs of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure by us, our contract manufacturers or service providers, or collaborators to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- restrictions on product distribution or use, or requirements to conduct post-marketing studies or clinical trials;
- operating restrictions;
- fines, warning or untitled letters or holds on clinical trials;

- refusal by the FDA or comparable foreign regulatory authorities to approve, or delays in the approval of, pending applications or supplements to approved applications;
- suspension, variation or revocation of product approvals;
- product seizure or detention or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates and generate revenue and could require us to expend significant time and resources in response and could generate negative publicity.

The FDA's and comparable foreign regulatory authorities' policies may change, and additional government regulations may be promulgated that could prevent, limit or delay marketing authorization of any product candidates we develop. We also 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. 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.

Recently enacted legislation, future legislation and other healthcare reform measures may increase the difficulty and cost for us to obtain regulatory approval for and commercialize our product candidates and may affect the prices we may set.

In the United States and some foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system, including cost-containment measures that may reduce or limit coverage and reimbursement for newly approved drugs and affect our ability to profitably sell any product candidates for which we obtain regulatory approval. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA) was enacted in the United States, which made a number of substantial changes in the way healthcare is financed by both governmental and private insurers. The ACA included a number of provisions that may reduce the profitability of drug products, including provisions intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. For example, the American Taxpayer Relief Act of 2021, effective January 1, 2024, eliminated the statutory cap on rebate amounts owed by drug manufacturers under the Medicaid Drug Rebate Program, which was previously capped at 100% of the Average Manufacturer Price for a covered outpatient drug.

Further, there has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs. Healthcare reform initiatives recently culminated in the enactment of the IRA in August 2022, which, among other things, allows the Department of Health and Human Services (HHS) to directly negotiate the selling price of a statutorily specified number of drugs and biologics each year that the Centers for Medicare & Medicaid Services (CMS) reimburses under Medicare Part B and Part D. Only high-expenditure single-source drugs that have been approved for at least 7 years for single-source drugs (11 years for biologics) are eligible to be selected by CMS for negotiation, with the negotiated price taking effect two years after the selection year. Negotiations for Medicare Part D products take place in 2024 with the negotiated price taking effect in 2026, and negotiations for Medicare Part B products will begin in 2026 with the negotiated price taking

effect in 2028. In August 2023, HHS announced the ten Medicare Part D drugs and biologics that it selected for negotiations. HHS will announce the negotiated maximum fair prices by September 1, 2024, and this price cap, which cannot exceed a statutory ceiling price, will go into effect on January 1, 2026. A drug or biological product that has an orphan drug designation for only one rare disease or condition will be excluded from the IRA's price negotiation requirements, but will lose that exclusion if it receives designations for more than one rare disease or condition, or if is approved for an indication that is not within that single designated rare disease or condition, unless such additional designation or such disqualifying approvals are withdrawn by the time CMS evaluates the drug for selection for negotiation. The negotiated prices will represent a significant discount from average prices to wholesalers and direct purchasers. The law also imposes rebates on Medicare Part D and Part B drugs whose prices have increased at a rate greater than the rate of inflation. The IRA also extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. These provisions may be subject to legal challenges. For example, the provisions related to the negotiation of selling prices of high-expenditure single-source drugs and biologics have been challenged in multiple lawsuits brought by pharmaceutical manufacturers. Thus, while it is unclear how the IRA will be implemented, it will likely have a significant impact on the pharmaceutical industry.

At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, restrictions on certain product access, reporting on price increases and the introduction of high-cost drugs. In some states, laws have been enacted to encourage importation of lower cost drugs from other countries and bulk purchasing. For example, the FDA released a final rule in September 2020 providing guidance for states to build and submit plans for importing drugs from Canada, and FDA authorized the first such plan in Florida in January 2024. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our drug products that we successfully commercialize or put pressure on our product pricing.

We expect that the ACA, the IRA, and any other healthcare reform measures that may be adopted in the future may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our product candidates, if approved.

Moreover, in order to obtain reimbursement for our products in some European countries, including some EU member states, we may be required to compile additional data comparing the cost-effectiveness of our products to other available therapies. This of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures in some EU member states, including those representing the larger markets. The HTA process is the procedure to assess therapeutic, economic and societal impact of a given medicinal product in the national healthcare systems of the individual country. The outcome of an HTA will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU member states. The extent to which pricing and reimbursement decisions are influenced by the HTA of the specific medicinal product currently varies between EU member states. In December 2021, Regulation No 2021/2282 on HTA amending Directive 2011/24/EU, was adopted in the EU. While the HTA Regulation entered into force in January 2022, it will only begin to apply from January 2025 onwards, with preparatory and implementation-related steps to take place in the interim. Once applicable, it will have a phased implementation depending on the concerned products. The Regulation intends to boost cooperation among EU member states in assessing health technologies, including new medicinal products, and provide the basis for cooperation at EU level for joint clinical assessments in these areas. It will permit EU member states to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities,

identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU member states will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technologies, and making decisions on pricing and reimbursement. If we are unable to maintain favorable pricing and reimbursement status in EU member states for product candidates that we may successfully develop and for which we may obtain regulatory approval, any anticipated revenue from and growth prospects for those products in the EU could be negatively affected.

Our operations and relationships with healthcare providers, healthcare organizations, customers and third-party payors will be subject to applicable anti-bribery, anti-kickback, fraud and abuse, transparency and other healthcare laws and regulations, which could expose us to, among other things, enforcement actions, criminal sanctions, civil penalties, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.

Our future arrangements with healthcare providers, healthcare organizations, third-party payors and customers will expose us to broadly applicable anti-bribery, fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we research, market, sell and distribute our product candidates, if approved. Restrictions under applicable federal, state and foreign anti-bribery and healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, individuals and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal and state healthcare program such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the federal criminal and civil false claims laws, including the federal False Claims Act, which can be enforced through civil whistleblower or qui tam actions against individuals or entities, and the Federal Civil Monetary Penalties Laws, which prohibit, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent, knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, certain marketing practices, including off-label promotion, may also violate false claims laws. Moreover, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act;
- Health Insurance Portability and Accountability Act (HIPAA), which imposes criminal and civil liability, prohibits, among other things, knowingly and willfully executing, or attempting to execute a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the federal legislation commonly referred to as the Physician Payments Sunshine Act, enacted as part of the ACA, and its implementing regulations, which requires certain manufacturers of covered drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program, with certain exceptions, to report annually to CMS information on certain payments and other transfers of value to clinicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), teaching hospitals, and certain other health care providers (such as physician assistants and

nurse practitioners), as well as ownership and investment interests held by the clinicians described above and their immediate family members;

- the U.S. Foreign Corrupt Practices Act of 1977, as amended, which prohibits, among other things, U.S. companies and their employees and agents from authorizing, promising, offering, or providing, directly or indirectly, corrupt or improper payments or anything else of value to foreign government officials, employees of public international organizations and foreign government owned or affiliated entities, candidates for foreign political office, and foreign political parties or officials thereof;
- analogous state and foreign laws and regulations, such as state and foreign anti-kickback and false claims laws, that may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; and
- certain state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the government in addition to requiring drug manufacturers to report information related to payments to clinicians and other healthcare providers or marketing expenditures and drug pricing information, and state and local laws that require the registration of pharmaceutical sales representatives.

In the EU, interactions between pharmaceutical companies and healthcare professionals and healthcare organizations are governed by strict laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct both at EU level and in the individual EU member states. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of pharmaceutical products is prohibited in the EU. Relationships with healthcare professionals and associations are subject to stringent anti-gift statutes and anti-bribery laws, the scope of which differs across the EU. In addition, national transparency and reporting rules may require pharmaceutical companies to report/publish transfers of value provided to healthcare professionals and associations on a regular (e.g., annual) basis.

If we or our future collaborators, manufacturers or service providers fail to comply with applicable federal, state or foreign laws or regulations, we could be subject to enforcement actions, which could affect our ability to develop, market and sell our product candidates successfully and could harm our reputation and lead to reduced acceptance of our products, if approved by the market.

Efforts to ensure that our current and future business arrangements with third parties comply with applicable healthcare laws and regulations could 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 and regulations. If our operations are found to be in violation of any such requirements, we may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, the curtailment or restructuring of our operations, loss of eligibility to obtain approvals from the FDA or comparable foreign regulatory authorities, exclusion from participation in government contracting, healthcare reimbursement or other government programs, including Medicare and Medicaid or comparable foreign programs, integrity oversight and reporting obligations, or reputational harm, any of which could adversely affect our financial results. These risks cannot be entirely eliminated. Any action against us for an alleged or suspected violation could cause us to incur significant legal expenses and could divert our management's attention from the operation of our business, even if our defense is successful. In addition, achieving and sustaining compliance with applicable laws and regulations may be costly to us in terms of money, time and resources.

Governments outside the United States tend to impose strict price controls, which may adversely affect our revenue, if any.

In some countries, particularly in the EU, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of regulatory approval for a drug. To obtain coverage and reimbursement or pricing approval in some

countries, we may be required to conduct a study that compares the cost-effectiveness of our product candidate to other available therapies. In addition, many countries outside the United States have limited government support programs that provide for reimbursement of drugs such as our product candidates, with an emphasis on private payors for access to commercial products. If reimbursement of our products, if approved is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

We are subject to stringent and evolving U.S. and foreign laws, regulations, rules; contractual obligations; policies; and other obligations related to data privacy and security. Our actual or perceived failure to comply with such obligations could lead to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; and other adverse consequences for our business, results of operations and financial condition.

In the ordinary course of business, we collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit and share (collectively, process or processing) personal data and other sensitive information, including proprietary and confidential business data, trade secrets, employee data, intellectual property, data we collect about trial participants in connection with clinical trials, and other sensitive third-party data (collectively, sensitive data). Our data processing activities may subject us to numerous data privacy and security obligations, such as various laws, regulations, guidance, industry standards, external and internal privacy and security policies, contractual requirements, and other obligations relating to data privacy and security.

Various federal, state, local and foreign legislative and regulatory bodies, or self-regulatory organizations, may expand current laws, rules or regulations, enact new laws, rules or regulations or issue revised rules or guidance regarding data privacy and security. Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet determine the impact future laws, regulations, standards, or perception of their requirements may have on our business.

In the United States, federal, state, and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal information privacy laws, and consumer protection laws. For example, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and their respective implementing regulations (collectively, HIPAA) imposes specific requirements relating to the privacy, security, and transmission of individually identifiable health information. We may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under HIPAA. Depending on the facts and circumstances, we could be subject to significant penalties if we violate HIPAA.

Additionally, the California Consumer Privacy Act (CCPA) applies to personal information of California consumers, business representatives, and employees, and among other things requires regulated businesses to provide specific disclosures in privacy notices and honor requests of California residents to exercise certain privacy rights, including the right to opt out of certain disclosures of their information. The CCPA provides for civil penalties as well as a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. The CCPA does not currently apply to us because we do not generate the requisite annual revenue, but it may apply to us in the future. In addition, although the CCPA includes limited exceptions, including for certain information collected as part of clinical trials, the CCPA may impact our processing of personal information and increases our compliance costs depending on how it is interpreted. Additionally, amendments to the CCPA expanded the CCPA's requirements, including by granting additional rights to California residents, such as the right to correct personal information and additional opt-out rights, and establishing a regulatory authority dedicated to enforcing the CCPA. Other states, such as Virginia, Connecticut, Utah and Colorado, have also passed comprehensive privacy laws, and similar laws are being considered or have been enacted in several other states, as well as at the federal and local levels. While U.S. state privacy laws, like the CCPA, may also exempt some data processed in the context of clinical trials, these developments further complicate compliance efforts, and increase legal risk and compliance costs for us and the third parties upon whom we rely. In addition to government activity, privacy advocacy groups and technology and other industries are considering various new, additional or different self-regulatory standards that may place additional burdens on us.

There are also various laws, regulations and industry standards in other jurisdictions outside the United States relating to data privacy and security, with which we may need to comply. For example, the European Union's General Data Protection Regulation (EU GDPR) and the United Kingdom's equivalent (UK GDPR), collectively, GDPR, impose strict requirements for processing personal data. Notably, under the GDPR, companies may face temporary or definitive bans on data processing and other corrective actions; fines of up to €20 million under the EU GDPR / £17.5 million under the UK GDPR, or, in each case, 4% of the annual global revenue of the noncompliant undertaking, whichever is greater. The GDPR also provides for private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests. Additionally, EU member states may introduce further conditions, including limitations, and make their own laws and regulations further limiting the processing of "special categories of personal data", including personal data related to health, biometric data used for unique identification purposes and genetic information, which could limit our ability to process such special categories of personal data, and could cause our compliance costs to increase, ultimately adversely affecting our business, financial condition, results of operations and prospects.

In addition, we may be unable to transfer personal data from Europe and other jurisdictions to the United States or other countries due to data localization requirements or limitations on cross-border data flows. Europe and other jurisdictions have enacted laws requiring data to be localized or limiting the transfer of personal data to other countries. In particular, the European Economic Area (the EEA) and the UK have significantly restricted the transfer of personal data to the United States and other countries whose privacy laws it generally believes are inadequate. Although there are currently various mechanisms that may be used to transfer personal data from the EEA and UK to the United States in compliance with law, such as the EEA standard contractual clauses, the UK's International Data Transfer Agreement / Addendum, the EU-US Data Privacy Framework, and the UK extension thereto (which allows for transfers to relevant U.S.-based organizations who self-certify compliance and participate in the Framework), these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the United States.

Other jurisdictions may adopt similarly stringent interpretations of their data localization and cross-border data transfer laws. If there is no lawful manner for us to transfer personal data from the EEA, the UK or other jurisdictions to the United States, or if the requirements for a legally-compliant transfer are too onerous, we could face significant adverse consequences, including the interruption or degradation of our operations, the need to relocate part of or all of our business or data processing activities to other jurisdictions at significant expense, increased exposure to regulatory actions, substantial fines and penalties, the inability to transfer data and work with partners, vendors and other third parties, and injunctions against our processing or transferring of personal data necessary to operate our business. Additionally, companies that transfer personal data out of the EEA and UK to other jurisdictions, particularly to the United States, are subject to increased scrutiny from regulators, individual litigants, and activist groups. Some European regulators have ordered certain companies to suspend or permanently cease certain transfers out of Europe for allegedly violating the GDPR's cross-border data transfer limitations.

In addition to data privacy and security laws, we are also bound by other contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful.

Each of these laws, rules, regulations and contractual obligations relating to data privacy and security, and any other such changes or new laws, rules, regulations or contractual obligations could impose significant limitations, require changes to our business, or restrict our collection, use, storage or processing of personal information, which may increase our compliance expenses and make our business more costly or less efficient to conduct. In addition, any such changes could compromise our ability to develop an adequate marketing strategy and pursue our growth strategy effectively or even prevent us from providing certain products in jurisdictions in which we currently operate and in which we may operate in the future or incur potential liability in an effort to comply with such legislation, which, in turn, could adversely affect our business, financial condition, results of operations and prospects. Complying with these numerous, complex and often changing regulations is expensive and difficult, and failure to comply with any data privacy or security laws, whether by us, one of our CROs, CMOs or another third party, could adversely affect our business, financial condition, results of operations and prospects, including but not limited to: regulatory investigation costs; material fines and penalties; compensatory, special, punitive and statutory damages; litigation (including class claims); consent orders regarding our data privacy and security practices; requirements that we

provide notices, bans on processing personal data (including clinical trial data), orders to destroy or not use personal data, credit monitoring services and/or credit restoration services or other relevant services to impacted individuals in the event of an information security incident impacting personal information; adverse actions against our licenses to do business; reputational damage; and injunctive relief. The implementation of the GDPR have increased our responsibility and liability in relation to sensitive data that we process, including in clinical trials, and we may be required to put in place additional mechanisms to comply with the GDPR and other applicable laws and regulations, which could divert management's attention and increase our cost of doing business. In addition, new regulation or legislative actions regarding data privacy and security (together with applicable industry standards) may increase our costs of doing business. In this regard, we expect that there will continue to be new proposed laws, regulations and industry standards relating to privacy and data protection in the United States, the EEA, the UK and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business.

We may at times fail (or be perceived to have failed) in our efforts to comply with our data privacy and security obligations. Any actual or perceived failure by us or our third-party service providers to comply with any federal, state or foreign laws, rules, regulations, industry self-regulatory principles, industry standards or codes of conduct, regulatory guidance, orders to which we may be subject or other legal obligations relating to privacy, data protection, data security or consumer protection could adversely affect our reputation, brand and business. We may also be contractually required to indemnify and hold harmless third parties from the costs or consequences of non-compliance with any laws, rules and regulations or other legal obligations relating to privacy or any inadvertent or unauthorized use or disclosure, or other compromise of data that we store or handle as part of operating our business. Any of these events could adversely affect our reputation, business, or financial condition, including but not limited to: interruptions or stoppages in our business operations (including clinical trials and the development of product candidates); inability to process personal information or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or substantial changes to our business model or operations.

We cannot assure you that our CROs, CMOs or other third-party service providers with access to our or our suppliers', manufacturers', trial participants', employees' and others' sensitive data in relation to which we are responsible will not breach contractual obligations imposed by us, or that they will not experience data security incidents, which could have a corresponding effect on our business, including putting us in breach of our obligations including under privacy laws and regulations and/or which could in turn adversely affect our business, financial condition, results of operations and prospects. We cannot assure you that our contractual measures and our own privacy and security-related safeguards will protect us from the risks associated with the third-party processing of such information. Any of the foregoing could adversely affect our business, financial condition, results of operations and prospects.

We also publicly post our privacy policies and practices concerning our collection, use, disclosure and other processing of the personal information provided to us or that we collect. Although we endeavor to comply with our public statements and documentation, we may at times fail to do so or be perceived to have failed to do so. Our publication of our privacy policies and other statements we publish that provide promises and assurances about data privacy and security can subject us to potential claims if they are found to be deceptive, unfair or misrepresentative of our actual practices. Any actual or perceived failure by us to comply with federal, state or foreign laws, rules or regulations, industry standards, contractual or other legal obligations, or any actual, perceived or suspected cybersecurity incident, whether or not resulting in unauthorized access to, or acquisition, release, transfer or other compromise of personal information or other sensitive data, may result in enforcement actions and prosecutions, private litigation (including class claims), significant fines, penalties (including bans on processing personal data or orders to destroy or not use personal data) and censure, claims for damages by affected individuals, regulatory inquiries and investigations or adverse publicity and could cause reputational harm, any of which could adversely affect our business, financial condition, results of operations and prospects. The successful assertion of one or more large data privacy or security claims against us that exceeds our available insurance coverage, or results in changes to our insurance policies (including premium increases or the imposition of large deductible or co-insurance requirements), could have an adverse effect on our business. In addition, we cannot be sure that our existing insurance

coverage will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim.

Risks Related to Our Reliance on Third Parties

We may have conflicts with any future licensors or collaborators that could delay or prevent the development or commercialization of our product candidates.

We may enter into strategic transactions in the future, and we may have conflicts with any potential licensors or collaborators, such as conflicts concerning the interpretation of preclinical or clinical data, the achievement of milestones, the interpretation of contractual obligations, payments for services, development obligations or the ownership of intellectual property developed during our collaboration. If any conflicts arise with any of our future collaborators, such collaborator may act in a manner that is adverse to our best interests. Any such disagreement could result in one or more of the following, each of which could delay or prevent the development or commercialization of our product candidates, and in turn prevent us from generating revenue: disputes regarding milestone payments or royalties; uncertainty regarding ownership of intellectual property rights arising from our collaborative activities, which could prevent us from entering into future additional collaborations; unwillingness by such collaborator to cooperate in the development or manufacture of a product candidate, including providing us with data or materials; unwillingness on the part of a collaborator to keep us informed regarding the progress of its development and commercialization activities or to permit public disclosure of the results of those activities; initiating of litigation or alternative dispute resolution options by either party to resolve the dispute; or attempts by either party to terminate the agreement.

We have relied and expect to continue to rely on third parties to conduct our preclinical studies and clinical trials. If those third parties do not perform as contractually required, fail to satisfy legal or regulatory requirements, miss expected deadlines or terminate the relationship, our development programs could be delayed, more costly or unsuccessful, and we may never be able to seek or obtain regulatory approval for or commercialize our product candidates.

We rely and intend to rely in the future on third-party clinical investigators, CROs and clinical data management organizations to conduct, supervise and monitor preclinical studies and clinical trials of our current or future product candidates. Because we currently rely and intend to continue to rely on these third parties, we will have less control over the timing, quality and other aspects of preclinical studies and clinical trials than we would have had we conducted them independently. These parties are not, and will not be, our employees and we will have limited control over the amount of time and resources that they dedicate to our programs. Additionally, such parties may have contractual relationships with other entities, some of which may be our competitors, which may draw time and resources from our programs.

We have no experience as a company in submitting and supporting the applications necessary to gain regulatory approvals. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each indication to establish the product candidate's safety or efficacy for that indication. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities and clinical trial sites by, applicable regulatory authorities.

Large-scale clinical trials require significant financial and management resources, and reliance on third-party clinical investigators, CROs, partners or consultants. Relying on third-party clinical investigators or CROs may force us to encounter delays and challenges that are outside of our control. We may not be able to demonstrate sufficient comparability between products manufactured at different facilities to allow for inclusion of the clinical results from participants treated with products from these different facilities, in our product registrations. Further, our third-party clinical manufacturers may not be able to manufacture our product candidates or otherwise fulfill their obligations to us because of interruptions to their business, including the loss of their key staff or interruptions to their raw material supply.

Our reliance on these third parties for development activities will reduce our control over these activities. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable trial protocol and legal, regulatory and scientific standards, and our reliance on the CROs, clinical trial sites, and other third parties does not relieve us of these responsibilities. For example, we will remain responsible for ensuring that each of our preclinical studies are conducted in accordance with good laboratory practices, where applicable, and clinical trials are conducted in accordance with GCPs and applicable rules. Moreover, the FDA and comparable foreign regulatory authorities require us to comply with GCP for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Regulatory authorities enforce these requirements through periodic inspections (including through inspections that may be conducted once we submit an NDA to the FDA) of trial sponsors, clinical investigators, trial sites and certain third parties including CROs. If we, our CROs, clinical trial sites, or other third parties fail to comply with applicable GCP or other regulatory requirements, we or they may be subject to enforcement or other legal actions, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations. Moreover, our business may be significantly impacted if our CROs, clinical investigators or other third parties violate federal or state healthcare fraud and abuse or false claims laws and regulations or healthcare privacy and security laws, and foreign equivalents.

In the event we need to repeat, extend, delay or terminate our clinical trials because these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, our clinical trials may need to be repeated, extended, delayed or terminated and we may not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates, and we will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates or we or they may be subject to regulatory enforcement actions. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed. To the extent we are unable to successfully identify and manage the performance of third-party service providers in the future, our business may be materially and adversely affected.

If any of our relationships with these third parties terminate, we may not be able to enter into alternative arrangements or do so on commercially reasonable terms. Switching or adding additional contractors involves additional cost and time and requires management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays could occur, which could compromise our ability to meet our desired development timelines. In addition, if an agreement with any of our future collaborators terminates, our access to technology and intellectual property licensed to us by that collaborator may be restricted or terminate entirely, which may delay our continued development of our product candidates utilizing the collaborator's technology or intellectual property or require us to stop development of those product candidates completely.

In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authorities may conclude that a financial relationship between us and/or a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. The FDA or comparable foreign regulatory authorities may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authorities and may ultimately lead to the denial of regulatory approval of one or more of our product candidates.

We rely on third-party manufacturers and suppliers to supply our product candidates. The loss of our third-party manufacturers or suppliers, or their failure to comply with applicable regulatory requirements or to supply sufficient quantities at acceptable quality levels or prices, within acceptable timeframes, or at all, would materially and adversely affect our business.

We do not own or operate, and currently have no plans to establish, any manufacturing facilities for drug manufacturing, storage, distribution or quality testing. We currently rely, and expect to continue to rely, on third parties for the manufacture of active pharmaceutical ingredients (API), bulk drug substances, raw materials, samples, components and other materials for our product candidates for clinical testing, as well as for the manufacture of any products candidates that we commercialize, if approved. Reliance on third-party manufacturers may expose us to different risks than if we were to manufacture product candidates ourselves. There can be no assurance that our preclinical and clinical development product supplies will not be limited, interrupted, terminated or will be of satisfactory quality or be available at acceptable prices. In addition, any replacement of our manufacturer could require significant effort and time because there may be a limited number of qualified replacements.

We obtain our preclinical and clinical supplies from our manufacturers on a purchase order basis, and currently do not have long-term supply arrangements in place. The manufacturing process for our product candidates is subject to the FDA and foreign regulatory authority review. We, and our suppliers and manufacturers, must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as cGMPs. If our CMOs cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or comparable foreign regulatory authorities, we may not be able to rely on their facilities for the manufacture of elements of our product candidates. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the FDA, and comparable foreign regulatory authorities. If the FDA or any comparable foreign regulatory authority determines that our third-party manufacturers' facilities are not in compliance with applicable laws and regulations, including those governing cGMPs, they may deny any NDA or marketing application we submit until the deficiencies are corrected or we replace the manufacturer in our application with a manufacturer that is able to demonstrate a compliance status acceptable to the FDA or foreign regulatory authority. Moreover, we are dependent on our CMOs for manufacturing in compliance with cGMPs and other regulatory requirements. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations in relation to quality, timing or otherwise, or if our projected manufacturing capacity or supply of materials becomes limited, interrupted, or more costly than anticipated, we may be forced to enter into an agreement with another third party, which we may not be able to do timely or on reasonable terms, if at all. In some cases, the technical skills or technology required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such to another third party. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to enable us, or to have another third party, manufacture our product candidates. We will be required to verify that the new manufacturer maintains facilities and procedures that comply with applicable quality standards and regulations and guidelines; and we may be required to repeat some of the development program. If we are required to change manufacturers, the delays and costs associated with the verification of a new manufacturer, whether due to failure to comply with regulatory requirements, or quality, timing and supply issues, or other reason, could negatively affect our ability to develop product candidates in a timely manner or within budget.

For example, as part of our process development efforts, we also may make changes to the manufacturing processes at various points during development, for various reasons, such as controlling costs, achieving scale, decreasing processing time, improving product formulations, increasing manufacturing success rate or other reasons. For example, we plan to implement certain manufacturing process changes for ESK-001 to increase scalability with respect to our planned Phase 3 clinical trials. Such changes carry the risk that they will not achieve their intended objectives, and any of these changes could cause our current or future product candidates to perform differently and affect the results of our future clinical trials. In some circumstances, changes in the manufacturing process may require us to perform *ex vivo* comparability studies or clinical bridging studies, and we may be required to collect additional data from participants prior to undertaking more advanced clinical trials. For instance, changes in our process during the course of clinical development may require us to show the comparability of the product used in

earlier clinical phases or at earlier portions of a trial to the product used in later clinical phases or later portions of the trial.

We expect to continue to rely on third-party manufacturers if we receive regulatory approval for any product candidate. To the extent that we enter into future long-term manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. Any manufacturing facilities used to produce our product candidates will be subject to periodic review and inspection by the FDA and comparable foreign regulatory authorities, including for continued compliance with cGMP requirements, quality control, quality assurance and corresponding maintenance of records and documents. If we are unable to obtain or maintain third-party manufacturing for product candidates, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our product candidates successfully. Our or a third party's failure to execute on our manufacturing requirements, comply with cGMPs or maintain a compliance status acceptable to the FDA or comparable foreign regulatory authorities could adversely affect our business in a number of ways, including:

- an inability to initiate or continue preclinical studies or clinical trials of product candidates;
- delay in submitting regulatory applications, or receiving regulatory approvals, for product candidates;
- loss of the cooperation of future collaborators;
- sanctions being imposed on us, including shutdown of the third-party vendor or invalidation of drug product lots or processes, fines, injunctions, civil penalties, delays, suspension, variation or withdrawal of approvals, license revocation, seizures of product candidates or drugs, operating restrictions and criminal prosecutions;
- requirements to cease distribution or to recall batches of our product candidates; and
- in the event of approval to market and commercialize a product candidate, an inability to meet commercial demands for our products.

Additionally, our CMOs may experience difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our CMOs were to encounter any of these difficulties, our ability to provide our product candidates to participants in preclinical and clinical trials, or to provide product for treatment of participants once approved, would be jeopardized.

We depend on limited source suppliers for certain raw materials used in our product candidates. If we are unable to source these supplies on a timely basis or establish redundancy in our manufacturing process or longer-term contracts with our CMOs, we will not be able to complete our clinical trials on time and the development of our product candidates may be delayed.

Certain of the raw materials necessary to produce ESK-001 and A-005 are in limited supply, and we generally rely on one CMO for each manufacturing stage. While we intend to identify and qualify additional suppliers and redundant manufacturers provide the API, drug product and critical raw material prior to submission of an NDA to the FDA and/or a comparable marketing application outside the United States, there can be no assurance that we will be successful in doing so. Furthermore, any of the limited source suppliers upon whom we rely could stop producing our supplies, cease operations or be acquired by, or enter into exclusive arrangements with, our competitors. Establishing redundancy in CMOs and additional or replacement suppliers for these supplies, and obtaining regulatory authorizations that may result from adding or replacing CMOs and suppliers, could take a substantial amount of time, result in increased costs and impair our ability to produce our products, which would adversely impact our business, financial condition, results of operations and prospects. Any such interruption or delay may force us to seek similar supplies from alternative sources, which may not be available at reasonable prices, or at all. Any interruption in the supply of limited source components for our product candidates would adversely affect our

ability to meet scheduled timelines and budget for the development and commercialization of our product candidates, could result in higher expenses and would harm our business. Although we have not experienced any significant disruption as a result of our reliance on limited source suppliers, we have a limited operating history and cannot assure you that we will not experience disruptions in our supply chain in the future as a result of such reliance or otherwise.

In addition, we do not currently have long-term supply contracts with our CMOs, and they are not obligated to supply drug products to us for any period, in any specified quantity or at any certain price beyond the delivery contemplated by the relevant purchase orders. As a result, our suppliers could stop selling to us at commercially reasonable prices, or at all. While we intend to enter into long-term master supply agreements with certain of our CMOs prior to any potential NDA submission, we may not be successful in negotiating such agreements on favorable terms or at all. If we do enter into such long-term master supply agreements, or enter into such agreements on less favorable terms than we currently have with such manufacturers, we could be subject to binding long-term purchase obligations that may be harmful to our business, including in the event that we do not conduct our trials on planned timelines or utilize the drug products that we are required to purchase. Any change in our relationships with our CMOs or changes to the contractual terms of our agreements with them could adversely affect our business, financial condition, results of operations and prospects.

The operations of our suppliers, most of which are located outside of the United States, are subject to additional risks that are beyond our control and that could harm our business, financial condition, results of operations and prospects.

Currently, most of our suppliers are located outside of the United States. As a result of our global suppliers, we are subject to risks associated with doing business abroad, including:

- political unrest, terrorism, labor disputes, and economic instability resulting in the disruption of trade from foreign countries in which our products are manufactured;
- the imposition of new laws and regulations, including those relating to labor conditions, quality, and safety standards, imports, duties, taxes, and other charges on imports, as well as trade restrictions and restrictions on currency exchange or the transfer of funds, particularly new or increased tariffs imposed on imports from countries where our suppliers operate;
- greater challenges and increased costs with enforcing and periodically auditing or reviewing our suppliers' and manufacturers' compliance with cGMPs or status acceptable to the FDA or comparable foreign regulatory authorities;
- reduced protection for intellectual property rights, including trademark protection, in some countries particularly China;
- disruptions in operations due to global, regional, or local public health crises or other emergencies or natural disasters, including, for example, disruptions experienced during the COVID-19 pandemic;
- disruptions or delays in shipments; and
- changes in local economic conditions in countries where our manufacturers or suppliers are located.

These and other factors beyond our control could interrupt our suppliers' production, influence the ability of our suppliers to export our clinical supplies cost-effectively or at all, and inhibit our suppliers' ability to procure certain materials, any of which could harm our business, financial condition, results of operations and prospects.

Risks Related to Ownership of Our Common Stock

An active trading market for our common stock may not develop, and you may not be able to resell your shares of common stock at or above the price you paid for them.

An active trading market for our common stock may never develop or, if it is developed, be sustained. The market value of our common stock may decrease from the price you paid for them. As a result of these and other factors, including our limited public float, you may be unable to resell your shares of our common stock at or above the price you paid for them. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. Furthermore, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic collaborations or acquire companies or products by using our shares of common stock as consideration.

Our quarterly and annual operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts or any guidance we may publicly provide, each of which may cause our stock price to fluctuate or decline.

We expect our operating results to be subject to quarterly and annual fluctuations which may, in turn, cause the price of our common stock to fluctuate substantially. Our net loss and other operating results will be affected by numerous factors, including:

- variations in the level of expense related to the ongoing development of our most advanced product candidate ESK-001, A-005 and other development programs;
- results and timing of preclinical studies and ongoing and future clinical trials, or the addition or termination of any such clinical trials;
- the timing of payments we may make or receive under future license and future collaboration arrangements or the termination or modification thereof;
- our execution of any strategic transactions, including acquisitions, collaborations, licenses or similar arrangements, and the timing and amount of payments we may make or receive in connection with such transactions;
- any intellectual property infringement lawsuit or opposition, interference or cancellation proceeding in which we may become involved;
- recruitment and departures of key personnel;
- if our product candidates receive regulatory approval, the terms of such approval and market acceptance and demand for such products;
- regulatory developments affecting our product candidates or those of our competitors;
- fluctuations in stock-based compensation expense;
- the impacts of inflation and rising interest rates on our business and operations; and
- changes in general market and economic conditions.

If our quarterly or annual operating results fall below the expectations of investors or securities analysts or any forecasts or guidance we may provide to the market, 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 believe that quarterly or annual comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

Our stock price is likely to continue to be volatile, which could result in substantial losses for our investors.

The market price of our common stock is likely to continue to be volatile and could fluctuate widely in response to many factors, including but not limited to:

- volatility and instability in the financial and capital markets;
- announcements relating to our product candidates, including the results of clinical trials by us or any future collaborators;
- announcements by competitors that impact our competitive outlook;
- negative developments with respect to our product candidates, or similar products or product candidates with which we compete;
- developments with respect to patents or intellectual property rights;
- announcements of technological innovations, new product candidates, new products or new contracts by us or our competitors;
- announcements relating to strategic transactions, including acquisitions, collaborations, licenses or similar arrangements;
- actual or anticipated variations in our operating results due to the level of development expenses and other factors;
- changes in financial estimates by equities research analysts and whether our earnings (or losses) meet or exceed such estimates;
- announcement or expectation of additional financing efforts and receipt, or lack of receipt, of funding in support of conducting our business;
- sales of our common stock by us, our insiders, or other stockholders, or issuances by us of shares of our common stock in connection with strategic transactions;
- expiration of existing market standoff or lock-up agreements, including the lock-up agreements entered into in connection with our IPO;
- conditions and trends in the pharmaceutical, biotechnology and other industries;
- regulatory developments within, and outside of, the United States, including changes in the structure of health care payment systems;
- litigation or arbitration;

- COVID-19 or other pandemics, natural disasters, or major catastrophic events;
- general economic, political and market conditions and other factors; and
- the occurrence of any of the risks described in this Part II, Item 1A “Risk Factors.”

In recent years, the stock market in general, and the market for pharmaceutical and biotechnology companies in particular, has experienced significant price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance.

Sales of a substantial number of shares of our common stock could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market before or after the lock-up and other legal restrictions on resale lapse in connection with our IPO, the market price of our common stock could decline significantly.

Each of our officers, directors and substantially all of our pre-IPO stockholders have entered into lock-up agreements with the underwriters in our IPO that restrict their ability to sell or transfer their shares. These lock-up agreements will expire December 24, 2024. However, Morgan Stanley & Co. LLC may permit our officers, directors and other security holders who are subject to the lock-up agreements to sell shares prior to the expiration of the lock-up agreements at any time in their sole discretion. Sales of these shares, or perceptions that they will be sold, could cause the trading price of our common stock to decline. After the lock-up agreements expire, a substantial number of shares of common stock will be eligible for sale in the public market.

We cannot predict what effect, if any, sales of our shares in the public market or the availability of shares for sale will have on the market price of our common stock. However, future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options, or the perception that such sales may occur, could adversely affect the market price of our common stock.

We also expect that significant additional capital may be needed in the future to continue our planned operations, including conducting our planned clinical trials, manufacturing and commercialization efforts, expanded research and development activities and costs associated with operating as a public company. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock.

Our principal stockholders and management own a significant percentage of our common stock and will be able to control matters subject to stockholder approval.

Based on the beneficial ownership of our capital stock as of June 30, 2024, after giving effect to our IPO and Concurrent Private Placement as if each had occurred as of June 30, 2024, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 68% of our outstanding voting stock. The interests of these stockholders may not be the same as or may even conflict with your interests. For example, these stockholders could delay or prevent a change of control of our company, even if such a change of control would benefit our other stockholders, which could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company or our assets and might affect the prevailing market price of our common stock. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors’ perception that conflicts of interest may exist or arise. In addition, as a result of this concentration of ownership, there is a limited number of shares of our common stock that are not held by officers, directors and controlling stockholders (which is referred to as our public float), thereby

adversely impacting the liquidity of our common stock and potentially depressing the price at which you may be able to sell shares of common stock.

We are an “emerging growth company” and a “smaller reporting company,” and the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.

We are an “emerging growth company” as defined in Section 2(a) of the Securities Act, as modified by the JOBS Act. As an emerging growth company, we are only required to provide two years of audited financial statements (in addition to any required unaudited interim financial statements) and correspondingly reduced management discussion and analysis of financial condition and results of operations disclosure. In addition, we are not required to obtain auditor attestation of reporting on internal control over financial reporting, we have reduced disclosure obligations regarding executive compensation and we are not required to hold non-binding advisory votes on executive compensation or obtain stockholder approval of any golden parachute payments not previously approved. We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of reduced reporting obligations in this report. 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. These provisions allow an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies. We have elected to take advantage of such extended transition period. We cannot predict whether investors will find our common stock less attractive as a result of its reliance on these exemptions. If some investors find our common stock to be less attractive as a result, there may be a less active trading market for our common stock and the price of our common stock may be more volatile than the current trading market and price of our common stock.

Further, there is no guarantee that the exemptions available under the JOBS Act will result in significant savings. To the extent that we choose not to use exemptions from various reporting requirements under the JOBS Act, we will incur additional compliance costs, which may impact our financial condition.

We will remain an emerging growth company until the earliest of: (i) the end of the fiscal year in which we have a total annual gross revenue of \$1.235 billion; (ii) the last day of our fiscal year following the fifth anniversary of the completion of our IPO; (iii) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt; or (iv) the end of the fiscal year in which the market value of common stock held by non-affiliates exceeds \$700 million as of the prior June 30. Even after we no longer qualify as an emerging growth company, we may continue to qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation. In addition, if we are a smaller reporting company with less than \$100 million in annual revenue, we would not be required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act.

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

Our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it difficult for stockholders to elect directors who are not nominated by current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions:

- establish a classified board of directors so that not all members of our board are elected at one time;
- permit only the board of directors to establish the number of directors and fill vacancies on the board;

- provide that directors may only be removed “for cause” and only with the approval of two-thirds of our stockholders;
- require super-majority voting to amend some provisions in our amended and restated certificate of incorporation and amended and restated bylaws;
- authorize the issuance of “blank check” preferred stock that our board could use to implement a stockholder rights plan;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- prohibit cumulative voting; and
- establish advance notice requirements for nominations for election to our board or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

In addition, Section 203 of the Delaware General Corporation Law (DGCL) may discourage, delay or prevent a change in control of our company. Section 203 imposes certain restrictions on mergers, business combinations and other transactions between us and holders of 15% or more of our common stock.

The exclusive forum provisions in our organizational documents may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers or employees, or the underwriters of any offering giving rise to such claim, which may discourage lawsuits with respect to such claims.

Our amended and restated certificate of incorporation, to the fullest extent permitted by law, provides that the Court of Chancery of the State of Delaware is the exclusive forum for: any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws; or any action asserting a claim that is governed by the internal affairs doctrine. This exclusive forum provision does not apply to suits brought to enforce a duty or liability created by the Exchange Act.

This choice of forum provision may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers or other employees, or the underwriters of any offering giving rise to such claims, which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, financial condition, results of operations and prospects.

Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all claims brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Our amended and restated certificate of incorporation provide that the federal district courts of the United States of America, to the fullest extent permitted by law, are the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act (the Federal Forum Provision), including for all causes of action asserted against any defendant named in such complaint. For the avoidance of doubt, this provision is intended to benefit and may be enforced by us, our officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering. Our decision to adopt a Federal Forum Provision followed a decision by the Supreme Court of the State of Delaware holding that such provisions are facially valid under Delaware law. While federal or other state courts may not follow the holding of the Delaware Supreme

Court or may determine that the Federal Forum Provision should be enforced in a particular case, application of the Federal Forum Provision means that suits brought by our stockholders to enforce any duty or liability created by the Securities Act must be brought in federal court and cannot be brought in state court, and our stockholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all claims brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. In addition, neither the exclusive forum provision nor the Federal Forum Provision applies to suits brought to enforce any duty or liability created by the Exchange Act. Accordingly, actions by our stockholders to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder must be brought in federal court, and our stockholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder.

Any person or entity purchasing or otherwise acquiring or holding any interest in any of our securities shall be deemed to have notice of and consented to our exclusive forum provisions in our amended and restated certificate of incorporation, including the Federal Forum Provision. These provisions may limit a stockholders' ability to bring a claim, and may result in increased costs for a stockholder to bring such a claim, in a judicial forum of their choosing for disputes with us or our directors, officers, other employees or agents, which may discourage lawsuits against us and our directors, officers, other employees or agents.

Our board of directors is authorized to issue and designate shares of our preferred stock without stockholder approval.

Our amended and restated certificate of incorporation authorizes our board of directors, without the approval of our stockholders, to issue shares of preferred stock, subject to limitations prescribed by applicable law, rules and regulations and the provisions of our amended and restated certificate of incorporation, and to establish from time to time the number of shares of preferred stock to be included in each such series and to fix the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions thereof. The powers, preferences and rights of these additional series of convertible preferred stock may be senior to or on parity with our common stock, which may reduce our common stock's value.

Because we do not anticipate paying any dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared nor paid dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development, operation and expansion of our business and we do not anticipate declaring or paying any dividends in the foreseeable future. As a result, capital appreciation of our common stock, which may never occur, will be your sole source of gain on your investment for the foreseeable future.

The dual class structure of our common stock may limit your ability to influence corporate matters and may limit your visibility with respect to certain transactions.

The dual class structure of our common stock may limit your ability to influence corporate matters. Holders of our common stock are entitled to one vote per share, while holders of our non-voting common stock are not entitled to any votes. Nonetheless, each share of our non-voting common stock may be converted at any time into one share of our common stock at the option of its holder by providing written notice to us, subject to the ownership and other limitations provided for in our certificate of incorporation. Consequently, if holders of our non-voting common stock exercise their option to make this conversion, this will have the effect of increasing the relative voting power of those prior holders of our non-voting common stock, and correspondingly decreasing the voting power of the holders of our common stock, which may limit your ability to influence corporate matters. Additionally, stockholders who hold, in the aggregate, more than 10% of our common stock and non-voting common stock, but 10% or less of our common stock, and are not otherwise an insider, may not be required to report changes in their ownership due to transactions in our non-voting common stock pursuant to Section 16(a) of the Exchange Act, and may not be subject to the short-swing profit provisions of Section 16(b) of the Exchange Act.

General Risk Factors

Unstable economic and market conditions may have serious adverse consequences on our business, financial condition and stock price.

Global economic and business activities continue to face widespread uncertainties, and global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts, rising interest rates, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks and uncertainty about economic and geopolitical stability (for example, related to the ongoing conflicts in Ukraine and Israel and the surrounding areas). The extent of the impact of these conditions on our operational and financial performance, including our ability to execute our business strategies and initiatives in the expected timeframe, as well as that of third parties upon whom we rely, will depend on future developments which are uncertain and cannot be predicted. There can be no assurance that further deterioration in economic or market conditions will not occur, or how long these challenges will persist. If the current equity and credit markets further deteriorate, or do not improve, it may make any necessary debt or equity financing more difficult, more costly and more dilutive. Furthermore, our stock price may decline due in part to the volatility of the stock market and the general economic downturn.

If securities or industry analysts do not publish research or reports about our business, or if they publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock is influenced in part by the research and reports that industry or securities analysts publish about us or our business. We do not have any control over the industry or securities analysts, or the content and opinions included in their reports and may never obtain research coverage by securities and industry analysts. If no or few securities or industry analysts commence coverage of us, or if analysts cease coverage of us, we could lose visibility in the financial markets, and the trading price for our common stock could be impacted negatively. If any of the analysts who cover us publish inaccurate or unfavorable research or opinions regarding us, our business model, our intellectual property or our stock performance, or if our preclinical studies and clinical trials and operating results fail to meet the expectations of analysts, our stock price would likely decline.

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 and corporate governance practices.

As a public company, we incur significant legal, accounting and other expenses that we did not incur as private company. The Securities Act, the Exchange Act, Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global Select Market and other applicable securities rules and regulations impose 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 continue to need to devote a substantial amount of time to these compliance initiatives. Moreover, we expect these rules and regulations to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly, particularly after we are no longer an emerging growth company. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers. The increased costs may require us to reduce costs in other areas of our business. Moreover, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Failure to establish and maintain effective internal control over financial reporting could adversely affect our business and if investors lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could be negatively affected.

We are not currently required to comply with the rules of the SEC implementing Section 404 of the Sarbanes-Oxley Act and are therefore not required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. However, we are required to comply with the SEC's rules implementing Sections 302 and 404 of the Sarbanes-Oxley Act, which require our management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of internal control over financial reporting. Although we will be required to disclose changes made in our internal control over financial reporting on a quarterly basis, we will not be required to make our first annual assessment of our internal control over financial reporting until our second annual report on Form 10-K. However, as an emerging growth company, our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of the year following our first annual report required to be filed with the SEC or the date we are no longer an emerging growth company. At such time, our independent registered public accounting firm would need to issue a report that is adverse in the event that there are material weaknesses in our internal control over financial reporting.

To comply with the requirements of being a public company, we have undertaken various actions, and will need to take additional actions, such as implementing numerous internal controls and procedures and hiring additional accounting or internal audit staff or consultants. Testing and maintaining internal controls can divert our management's attention from other matters that are important to the operation of our business. Additionally, when evaluating our internal control over financial reporting, we may identify material weaknesses that we may not be able to remediate in time to meet the applicable deadline imposed upon us for compliance with the requirements of Section 404. If we identify any material weaknesses in our internal control over financial reporting or are unable to comply with the requirements of Section 404 in a timely manner or assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting once we are no longer an emerging growth company, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC or other comparable foreign regulatory authorities, which could require additional financial and management resources. In addition, if we fail to remedy any material weakness, our financial statements could be inaccurate, and we could face restricted access to capital markets.

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. Any disclosure 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. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make any related party transaction disclosures. 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. In addition, we do not have a formal risk management program for identifying and addressing risks to our business in other areas.

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

The market price of our common stock is likely to 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 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 (including the cost to defend against, and any potential adverse outcome resulting from any such proceeding) can be expensive and time-consuming, damage our reputation 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

Recent Sales of Unregistered Equity Securities

Equity Plan-Related Issuances

From April 1, 2024 through June 30, 2024, we granted to certain directors, officers, employees, consultants and other service providers options to purchase an aggregate of (i) 1,276,629 shares of our common stock under our 2021 Plan at exercise prices ranging from \$10.19 to \$13.32 per share, (ii) 1,880,680 shares of our common stock under our 2024 POP at an exercise price of \$10.19 per share and (iii) 163,131 shares of our common stock under our 2024 EIP at an exercise price of \$16.00 per share.

Redeemable Convertible Preferred Stock Issuances

In May 2024, we sold an aggregate of 41,264,892 shares of our Series C redeemable convertible preferred stock at a purchase price of \$3.13826 per share. The aggregate purchase price for the Series C redeemable convertible preferred shares was \$129,499,960.08.

Concurrent Private Placement

In connection with the IPO, we completed a concurrent private placement that closed on July 17, 2024, in which we issued and sold 2,500,000 shares of common stock at \$16.00 per share, the IPO price, to AyurMaya Capital Management Fund, LP, an existing investor.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. Unless otherwise stated, the sales of the above securities were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act (and Regulation D or Regulation S promulgated thereunder) or Rule 701 promulgated under Section 3(b) of the Securities Act as transactions by an issuer not involving any public offering or pursuant to benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed on the share certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us. The sales of these securities were made without any general solicitation or advertising.

Use of Proceeds from our Initial Public Offering of Common Stock and Concurrent Private Placement

On June 27, 2024, our Registration Statement on Form S-1, as amended (File No. 333-280068) (Registration Statement), was declared effective in connection with our IPO, pursuant to which we sold an aggregate of 13,125,000 shares of our common stock at a price to the public of \$16.00 per share. Morgan Stanley & Co. LLC, Leerink Partners LLC, Cantor Fitzgerald & Co. and Guggenheim Securities, LLC acted as joint book-running managers. The IPO closed on July 1, 2024. The aggregate net proceeds from the IPO were approximately \$193.2 million, after deducting underwriting discounts and commissions and other offering costs of \$16.8 million. The offering terminated after the sale of all securities registered pursuant to the Registration Statement. No payments for such expenses were made directly or indirectly to (i) any of our

officers or directors or their associates, (ii) any persons owning 10% or more of any class of our equity securities or (iii) any of our affiliates.

We intend to use the net proceeds we received from the IPO and Concurrent Private Placement primarily to fund clinical development and related studies for our product candidates as well as our activities in preparation for such clinical development.

There has been no material change in the planned use of proceeds from our IPO as described in the Prospectus.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

On August 9, 2024, the Compensation Committee (the Committee) of our board of directors approved adjustments to certain elements of the compensation of our executive officers, including Martin Babler, President and Chief Executive Officer; John Schroer, Chief Financial Officer; David Goldstein, Ph.D., Chief Scientific Officer; and Roy Hardiman, Chief Business and Legal Officer (the Covered Executives).

Base Salary Adjustments and Target Bonus Amounts

As set forth in the table below, the Committee adjusted the base salary and annual cash target bonus (as a percent of base salary for the 2024 calendar year) for each of the Covered Executives for 2024. The annual salary adjustment was retroactive to July 1, 2024.

Executive	Base Salary	Target Bonus
Martin Babler	\$ 661,000	55 %
David Goldstein, Ph.D.	\$ 508,600	40 %
John Schroer	\$ 495,000	40 %
Roy Hardiman	\$ 465,000	40 %

Item 6. Exhibits

<u>Exhibit Number</u>	<u>Description</u>
3.1	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, filed with the SEC on July 1, 2024).
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, filed with the SEC on July 1, 2024).
4.1	Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
4.2	Amended and Restated Investors' Rights Agreement, by and among the Registrant and certain of its stockholders, dated March 4, 2024 (incorporated herein by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-280068), filed with the SEC on June 7, 2024).
10.1†	Alumis Inc. 2021 Stock Plan, as amended (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-280068), filed with the SEC on June 7, 2024).
10.2†	Forms of Stock Option Grant Notice under Alumis Inc. 2021 Stock Plan, as amended (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-280068), filed with the SEC on June 7, 2024).
10.3†	Alumis Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.4†	Forms of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise under Alumis Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.5†	Forms of Restricted Stock Unit Grant Notice and Award Agreement under Alumis Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.6†	Alumis Inc. 2024 Performance Option Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.7†	Forms of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise under Alumis Inc. 2024 Performance Option Plan (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.8†	Alumis Inc. 2024 Employee Stock Purchase Plan of the Registrant (incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.9†	Alumis Inc. 2024 Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).
10.10	Form of Indemnification Agreement by and between the Registrant and its directors and executive officers. (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1/A (File No. 333-280068), filed with the SEC on June 24, 2024).

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10.11*	Alumis Inc. Incentive Compensation Recoupment Policy.
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 amended, 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 amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
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.
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.
101.INS*	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101)

* Filed herewith.

† Indicates management contract or compensatory plan.

This certification accompanies the Quarterly Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed “filed” by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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.

Date: August 13, 2024

ALUMIS INC.

By: /s/ Martin Babler
Name: Martin Babler
Title: President and Chief Executive Officer
(Principal Executive Officer)

By: /s/John Schroer
Name: John Schroer
Title: Chief Financial Officer
(Principal Financial Officer)

ALUMIS, INC.

INCENTIVE COMPENSATION RECOUPMENT POLICY

1. INTRODUCTION

The Board of Directors (the “**Board**”) of Alumis, Inc., a Delaware corporation (the “**Company**”), has determined that it is in the best interests of the Company and its stockholders to adopt this Incentive Compensation Recoupment Policy (this “**Policy**”) providing for the Company’s recoupment of Recoverable Incentive Compensation that is received by Covered Officers of the Company under certain circumstances. Certain capitalized terms used in this Policy have the meanings given to such terms in Section 3 below.

This Policy is designed to comply with, and shall be interpreted to be consistent with, Section 10D of the Exchange Act, Rule 10D-1 promulgated thereunder (“**Rule 10D-1**”) and Nasdaq Listing Rule 5608 (the “**Listing Standards**”).

2. EFFECTIVE DATE

This Policy shall apply to all Incentive Compensation that is received by a Covered Officer on or after June 28, 2024 (the “**Effective Date**”). Incentive Compensation is deemed “**received**” in the Company’s fiscal period in which the Financial Reporting Measure specified in the Incentive Compensation award is attained, even if the payment or grant of such Incentive Compensation occurs after the end of that period.

3. DEFINITIONS

“**Accounting Restatement**” means an accounting restatement that the Company is required to prepare due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

“**Accounting Restatement Date**” means the earlier to occur of (a) the date that the Board, a committee of the Board authorized to take such action, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement, or (b) the date that a court, regulator or other legally authorized body directs the Company to prepare an Accounting Restatement.

“**Administrator**” means the Compensation Committee or, in the absence of such committee, the Board.

“**Code**” means the U.S. Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

“**Compensation Committee**” means the Compensation Committee of the Board.

“**Covered Officer**” means each current and former Executive Officer.

“**Exchange**” means the Nasdaq Stock Market.

“**Exchange Act**” means the U.S. Securities Exchange Act of 1934, as amended.

“**Executive Officer**” means the Company’s president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person who performs similar policy-making functions for the Company. Executive officers of the Company’s parent(s) or subsidiaries are deemed executive officers of the Company if they perform such policy-making functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant. Identification of an executive officer for purposes of this Policy would include at a minimum executive officers identified pursuant to Item 401(b) of Regulation S-K promulgated under the Exchange Act.

“**Financial Reporting Measures**” means measures that are determined and presented in accordance with the accounting principles used in preparing the Company’s financial statements, and any measures derived wholly or in part from such measures, including Company stock price and total stockholder return (“**TSR**”). A measure need not be presented in the Company’s financial statements or included in a filing with the SEC in order to be a Financial Reporting Measure.

“**Incentive Compensation**” means any compensation that is granted, earned or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

“**Lookback Period**” means the three completed fiscal years immediately preceding the Accounting Restatement Date, as well as any transition period (resulting from a change in the Company’s fiscal year) within or immediately following those three completed fiscal years (except that a transition period of at least nine months shall count as a completed fiscal year). Notwithstanding the foregoing, the Lookback Period shall not include fiscal years completed prior to the Effective Date.

“**Recoverable Incentive Compensation**” means Incentive Compensation received by a Covered Officer during the Lookback Period that exceeds the amount of Incentive Compensation that would have been received had such amount been determined based on the Accounting Restatement, computed without regard to any taxes paid (*i.e.*, on a gross basis without regard to tax withholdings and other deductions). For any compensation plans or programs that take into account Incentive Compensation, the amount of Recoverable Incentive Compensation for purposes of this Policy shall include, without limitation, the amount contributed to any notional account based on Recoverable Incentive Compensation and any earnings to date on that notional amount. For any Incentive Compensation that is based on stock price or TSR, where the Recoverable Incentive Compensation is not subject to mathematical recalculation directly from the information in an Accounting Restatement, the Administrator will determine the amount of Recoverable Incentive Compensation based on a reasonable estimate of the effect of the Accounting Restatement on the stock price or TSR upon which the Incentive Compensation was received. The Company shall maintain documentation of the determination of that reasonable estimate and provide such documentation to the Exchange in accordance with the Listing Standards.

“**SEC**” means the U.S. Securities and Exchange Commission.

4. RECOUPMENT

(a) **Applicability of Policy.** This Policy applies to Incentive Compensation received by a Covered Officer (i) after beginning services as an Executive Officer, (ii) who served as an Executive Officer at any time during the performance period for such Incentive Compensation, (iii) while the Company had a class of securities listed on a national securities exchange or a national securities association, and (iv) during the Lookback Period.

(b) **Recoupment Generally.** Pursuant to the provisions of this Policy, if there is an

Accounting Restatement, the Company must reasonably promptly recoup the full amount of the Recoverable Incentive Compensation, unless the conditions of one or more subsections of Section 4(c) of this Policy are met and the Compensation Committee, or, if such committee does not consist solely of independent directors, a majority of the independent directors serving on the Board, has made a determination that recoupment would be impracticable. Recoupment is required regardless of whether the Covered Officer engaged in any misconduct and regardless of fault, and the Company's obligation to recoup Recoverable Incentive Compensation is not dependent on whether or when any restated financial statements are filed.

(c) Impracticability of Recovery. Recoupment may be determined to be impracticable if, and only if:

(i) the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount of the applicable Recoverable Incentive Compensation; provided that, before concluding that it would be impracticable to recover any amount of Recoverable Incentive Compensation based on expense of enforcement, the Company shall make a reasonable attempt to recover such Recoverable Incentive Compensation, document such reasonable attempt(s) to recover, and provide that documentation to the Exchange in accordance with the Listing Standards; or

(ii) recoupment of the applicable Recoverable Incentive Compensation would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of Code Section 401(a)(13) or Code Section 411(a) and regulations thereunder.

(d) Sources of Recoupment. To the extent permitted by applicable law, the Administrator shall, in its sole discretion, determine the timing and method for recouping Recoverable Incentive Compensation hereunder, provided that such recoupment is undertaken reasonably promptly. The Administrator may, in its discretion, seek recoupment from a Covered Officer from any of the following sources or a combination thereof, whether the applicable compensation was approved, awarded, granted, payable or paid to the Covered Officer prior to, on or after the Effective Date: (i) direct repayment of Recoverable Incentive Compensation previously paid to the Covered Officer; (ii) cancelling prior cash or equity-based awards (whether vested or unvested and whether paid or unpaid); (iii) cancelling or offsetting against any planned future cash or equity-based awards; (iv) forfeiture of deferred compensation, subject to compliance with Code Section 409A; and (v) any other method authorized by applicable law or contract. Subject to compliance with any applicable law, the Administrator may effectuate recoupment under this Policy from any amount otherwise payable to the Covered Officer, including amounts payable to such individual under any otherwise applicable Company plan or program, *e.g.*, base salary, bonuses or commissions and compensation previously deferred by the Covered Officer. The Administrator need not utilize the same method of recovery for all Covered Officers or with respect to all types of Recoverable Incentive Compensation.

(e) No Indemnification of Covered Officers. Notwithstanding any indemnification agreement, applicable insurance policy or any other agreement or provision of the Company's certificate of incorporation or bylaws to the contrary, no Covered Officer shall be entitled to indemnification or advancement of expenses in connection with any enforcement of this Policy by the Company, including paying or reimbursing such Covered Officer for insurance premiums to cover potential obligations to the Company under this Policy.

(f) Indemnification of Administrator. Any members of the Administrator, and any other members of the Board who assist in the administration of this Policy, shall not be personally liable for any action, determination or interpretation made with respect to this Policy and shall be indemnified by the

Company to the fullest extent under applicable law and Company policy with respect to any such action, determination or interpretation. The foregoing sentence shall not limit any other rights to indemnification of the members of the Board under applicable law or Company policy.

(g) No “Good Reason” for Covered Officers. Any action by the Company to recoup or any recoupment of Recoverable Incentive Compensation under this Policy from a Covered Officer shall not be deemed (i) “good reason” for resignation or to serve as a basis for a claim of constructive termination under any benefits or compensation arrangement applicable to such Covered Officer, or (ii) to constitute a breach of a contract or other arrangement to which such Covered Officer is party.

5. ADMINISTRATION

Except as specifically set forth herein, this Policy shall be administered by the Administrator. The Administrator shall have full and final authority to make any and all determinations required under this Policy. Any determination by the Administrator with respect to this Policy shall be final, conclusive and binding on all interested parties and need not be uniform with respect to each individual covered by this Policy. In carrying out the administration of this Policy, the Administrator is authorized and directed to consult with the full Board or such other committees of the Board as may be necessary or appropriate as to matters within the scope of such other committee’s responsibility and authority. Subject to applicable law, the Administrator may authorize and empower any officer or employee of the Company to take any and all actions that the Administrator, in its sole discretion, deems necessary or appropriate to carry out the purpose and intent of this Policy (other than with respect to any recovery under this Policy involving such officer or employee).

6. SEVERABILITY

If any provision of this Policy or the application of any such provision to a Covered Officer shall be adjudicated to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Policy, and the invalid, illegal or unenforceable provisions shall be deemed amended to the minimum extent necessary to render any such provision or application enforceable.

7. NO IMPAIRMENT OF OTHER REMEDIES

Nothing contained in this Policy, and no recoupment or recovery as contemplated herein, shall limit any claims, damages or other legal remedies the Company or any of its affiliates may have against a Covered Officer arising out of or resulting from any actions or omissions by the Covered Officer. This Policy does not preclude the Company from taking any other action to enforce a Covered Officer’s obligations to the Company, including, without limitation, termination of employment and/or institution of civil proceedings. This Policy is in addition to the requirements of Section 304 of the Sarbanes-Oxley Act of 2002 (“**SOX 304**”) that are applicable to the Company’s Chief Executive Officer and Chief Financial Officer and to any other compensation recoupment policy and/or similar provisions in any employment, equity plan, equity award, or other individual agreement, to which the Company is a party or which the Company has adopted or may adopt and maintain from time to time; provided, however, that compensation recouped pursuant to this Policy shall not be duplicative of compensation recouped pursuant to SOX 304 or any such compensation recoupment policy and/or similar provisions in any such employment, equity plan, equity award, or other individual agreement except as may be required by law.

8. AMENDMENT; TERMINATION

The Administrator may amend, terminate or replace this Policy or any portion of this Policy at any time and from time to time in its sole discretion. The Administrator shall amend this Policy as it deems necessary to comply with applicable law or any Listing Standard.

9. SUCCESSORS

This Policy shall be binding and enforceable against all Covered Officers and, to the extent required by Rule 10D-1 and/or the applicable Listing Standards, their beneficiaries, heirs, executors, administrators or other legal representatives.

10. REQUIRED FILINGS

The Company shall make any disclosures and filings with respect to this Policy that are required by law, including as required by the SEC.

* * * * *

INCENTIVE COMPENSATION RECOUPMENT POLICY

FORM OF EXECUTIVE ACKNOWLEDGMENT

I, the undersigned, agree and acknowledge that I am bound by, and subject to, the Alumis, Inc. Incentive Compensation Recoupment Policy, as may be amended, restated, supplemented or otherwise modified from time to time (the "**Policy**"). In the event of any inconsistency between the Policy and the terms of any employment agreement, offer letter or other individual agreement with Alumis, Inc. (the "**Company**") to which I am a party, or the terms of any compensation plan, program or agreement, whether or not written, under which any compensation has been granted, awarded, earned or paid to me, the terms of the Policy shall govern.

In the event that the Administrator (as defined in the Policy) determines that any compensation granted, awarded, earned or paid to me must be forfeited or reimbursed to the Company pursuant to the Policy, I will promptly take any action necessary to effectuate such forfeiture and/or reimbursement. I further agree and acknowledge that I am not entitled to indemnification, and hereby waive any right to advancement of expenses, in connection with any enforcement of the Policy by the Company.

Agreed and Acknowledged:

Name: _____

Title: _____

Date: _____

**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**

I, Martin Babler, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Alumis 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. 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
 - c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 13, 2024

By: /s/ Martin Babler

Name: Martin Babler

Title: Chief Executive Officer

(Principal Executive Officer)

**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**

I, John Schroer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Alumis 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. 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
 - c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 13, 2024

By: /s/ John Schroer

Name: John Schroer

Title: Chief Financial Officer

(Principal Financial and Accounting Officer)

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

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Martin Babler, Chief Executive Officer of Alumis Inc. (the “Company”), hereby certifies that, to the best of his knowledge:

- (i) The Company’s Quarterly Report on Form 10-Q for the period ended June 30, 2024, to which this Certification is attached as Exhibit 32.1 (the “Periodic Report”) fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
- (ii) The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2024

By: /s/ Martin Babler

Name: Martin Babler

Title: Chief Executive Officer

(Principal Executive Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

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

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), John Schroer, Chief Financial Officer of Alumis Inc. (the “Company”), hereby certifies that, to the best of his knowledge:

- (i) The Company’s Quarterly Report on Form 10-Q for the period ended June 30, 2024, to which this Certification is attached as Exhibit 32.2 (the “Periodic Report”) fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
- (ii) The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2024

By: /s/ John Schroer

Name: John Schroer

Title: Chief Financial Officer

(Principal Financial and Accounting Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.
