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

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended **March 31, 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: 001-39580

Immunome, Inc .

(Exact name of registrant as specified in its charter)

Delaware	**77-0694340**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
18702 N. Creek Parkway , Suite 100 Bothell , WA	**98011**
(Address of principal executive offices)	(Zip Code)

(610) 321-3700
(Registrant's telephone number, including area code)

Not applicable.
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	IMNM	The Nasdaq Capital Market

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T 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 ☒

There were 59,968,868 shares of the registrant's common stock outstanding as of May 6, 2024.

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements.

IMMUNOME, INC.

Condensed Consolidated Balance Sheets
(In thousands, except share and per share data)

(unaudited)

	March 31, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 269,723	$ 98,679
Marketable securities	39,983	39,463
Prepaid expenses and other current assets	3,620	6,561
Total current assets	313,326	144,703
Property and equipment, net	4,302	2,073
Operating right-of-use assets	1,458	1,564
Restricted cash	100	100
Other long-term assets	568	100
Total assets	$ 319,754	$ 148,540
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 7,179	$ 3,311
Accrued expenses and other current liabilities	10,844	8,025
Deferred revenue, current	12,745	10,493
Total current liabilities	30,768	21,829
Deferred revenue, non-current	2,208	5,489
Operating lease liabilities, net of current portion	1,206	1,340
Total liabilities	34,182	28,658
Commitments and contingencies (Note 6)		
Stockholders' equity:		
Preferred stock, $ 0.0001 par value; 10,000,000 shares authorized; no shares issued or outstanding at March 31, 2024 and December 31, 2023	—	—
Common stock, $ 0.0001 par value; 300,000,000 and 200,000,000 shares authorized at March 31, 2024 and December 31, 2023, respectively; 59,694,243 and 43,251,778 shares issued and outstanding at March 31, 2024 and December 31, 2023, respectively	6	4
Additional paid-in capital	637,861	342,663
Accumulated other comprehensive income	4	22
Accumulated deficit	(352,299)	(222,807)
Total stockholders' equity	285,572	119,882
Total liabilities and stockholders' equity	$ 319,754	$ 148,540

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

IMMUNOME, INC.

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

(unaudited)

	Three Months Ended March 31,	
	2024	2023
Collaboration revenue	$ 1,029	$ 2,364
Operating expenses:		
In-process research and development	111,954	—
Research and development	15,369	3,913
General and administrative	6,005	2,922
Total operating expenses	133,328	6,835
Loss from operations	(132,299)	(4,471)
Interest income	2,807	201
Net loss	$ (129,492)	$ (4,270)
Net loss per share, basic and diluted	$ (2.51)	$ (0.35)
Weighted-average shares outstanding, basic and diluted	51,544,383	12,182,478
Comprehensive loss:		
Net loss	$ (129,492)	$ (4,270)
Unrealized loss on marketable securities	(18)	—
Comprehensive loss	$ (129,510)	$ (4,270)

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

IMMUNOME, INC.

Condensed Consolidated Statements of Changes in Stockholders' Equity
(In thousands, except share data)

(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2023	43,251,778	$ 4	$ 342,663	$ 22	$ (222,807)	$ 119,882
Share-based compensation expense	—	—	2,159	—	—	2,159
Issuance of common stock under Zentalis License Agreement	2,298,586	—	23,388	—	—	23,388
Issuance of common stock under the Ayala Asset Purchase Agreement	2,175,489	—	50,645	—	—	50,645
Issuance of common stock for public offering, net of commissions and offering costs of $ 14,592	11,500,000	2	215,408	—	—	215,410
Exercise of stock options	125,704	—	171	—	—	171
Exercise of common stock warrants	342,686	—	3,427	—	—	3,427
Unrealized loss on marketable securities	—	—	—	(18)	—	(18)
Net loss	—	—	—	—	(129,492)	(129,492)
Balance at March 31, 2024	59,694,243	$ 6	$ 637,861	$ 4	$ (352,299)	$ 285,572

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance at December 31, 2022	12,128,843	$ 1	$ 132,653	$ (116,001)	$ 16,653
Share-based compensation expense	—	—	1,200	—	1,200
Issuance of common stock under ATM, net of $ 1 of issuance costs	5,925	—	34	—	34
Issuance of common stock	55,250	—	221	—	221
Vesting of restricted stock awards	4,166	—	24	—	24
Net loss	—	—	—	(4,270)	(4,270)
Balance at March 31, 2023	12,194,184	$ 1	134,132	$ (120,271)	$ 13,862

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

IMMUNOME, INC.

Condensed Consolidated Statements of Cash Flows
(In thousands)

(unaudited)

	Three Months Ended March 31,	
	2024	**2023**
Cash flows from operating activities:		
Net loss	$ (129,492)	$ (4,270)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation and amortization	157	94
Amortization of right-of-use asset	106	54
Accretion of discount related to marketable securities	(538)	—
Share-based compensation expense	2,159	1,224
Charge for purchase of in-process research and development assets	111,954	—
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	2,473	214
Accounts payable	2,396	687
Accrued expenses and other current liabilities	669	(1,404)
Deferred revenue	(1,029)	27,636
Operating lease liabilities	(25)	(62)
Net cash (used in) provided by operating activities	(11,170)	24,173
Cash flows from investing activities:		
Cash paid in connection with Ayala asset acquisition	(20,060)	—
Cash paid in connection with Zentalis license agreement	(15,007)	—
Purchases of property and equipment	(2,164)	(106)
Net cash used in investing activities	(37,231)	(106)
Cash flows from financing activities:		
Proceeds from public offering	230,002	—
Payment of offering costs	(14,155)	—
Proceeds from exercise of stock options	171	—
Proceeds from exercise of common stock warrants	3,427	—
Proceeds from issuance of common stock under ATM, net	—	34
Net cash provided by financing activities	219,445	34
Net increase in cash and cash equivalents and restricted cash	171,044	24,101
Cash and cash equivalents and restricted cash at beginning of period	98,779	20,423
Cash and cash equivalents and restricted cash at end of period	$ 269,823	$ 44,524
Reconciliation of cash and cash equivalents and restricted cash:		
Cash and cash equivalents	$ 269,723	$ 44,424
Restricted cash	100	100
Total cash, cash equivalents, and restricted cash	$ 269,823	$ 44,524
Supplemental disclosures of non-cash investing and financing activities:		
Issuance of common stock in exchange for in-process research and development	$ 74,033	$ —
Liabilities assumed in Ayala asset acquisition	$ 2,041	$ —
Purchase of in-process research and development assets in accounts payable	$ 813	$ —
Public offering costs included in accounts payable	$ 437	$ —
Issuance of common stock to certain board of directors in lieu of accrued compensation	$ —	$ 221
Purchases of property and equipment in accounts payable	$ 594	$ 223

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

IMMUNOME, INC.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Nature of the business

Organization

Immunome, Inc., or the Company, is a biopharmaceutical company focused on the development of targeted oncology therapies. The Company believes that the pursuit of novel or underexplored targets will be central to the next generation of transformative therapies, and it is dedicated to developing targeted cancer therapies with first-in-class and best-in-class potential. The Company's goal is to establish a broad pipeline of preclinical and clinical assets and successfully develop such assets into approved products for commercialization. To support that goal, the Company invests heavily in both business development and internal discovery platforms.

Immunome is advancing a program pipeline comprising one clinical and three preclinical assets. The clinical asset is AL102, an investigational gamma secretase inhibitor, or GSI, currently under evaluation in a Phase 3 trial for the treatment of desmoid tumors that was acquired from Ayala Pharmaceuticals, Inc. on March 25, 2024. The preclinical assets are IM-1021, a receptor tyrosine kinase-like orphan receptor 1, or ROR1, antibody-drug conjugate, or ADC; IM-3050, a fibroblast activation protein, or FAP, targeted radioligand therapy, or RLT, candidate; and IM-4320, an anti-IL-38 immunotherapy candidate.

On October 2, 2023, the Company completed its merger with Morphimmune Inc., or Morphimmune, a preclinical biotechnology company focused on developing targeted oncology therapies, and Morphimmune became a wholly owned subsidiary of Immunome.

Liquidity

The Company has incurred significant operating losses since inception and expects to continue to incur losses from operations for the foreseeable future as it pursues development of its therapeutic candidates and other programs. As of March 31, 2024, the Company had an accumulated deficit of $ 352.3 million, non-restricted cash and cash equivalents of $ 269.7 million, and marketable securities of $ 40.0 million. The Company has not generated any product revenue to date and does not expect to generate product revenue until it successfully completes development and obtains regulatory approval for at least one of its product candidates.

Through March 31, 2024, the Company has funded its operations primarily through sales of equity securities and strategic partnerships and transactions as well as expense reimbursements from a government contract that ended in 2022. The Company expects that its existing cash, cash equivalents and marketable securities at March 31, 2024 are sufficient to fund its current and planned operating expenses and capital expenditures for at least 12 months from the filing date of this Quarterly Report on Form 10-Q. Beyond that date, the Company may need to raise additional capital through a combination of equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements to achieve its longer-term business objectives.

2. Summary of significant accounting policies

Basis of presentation

The accompanying unaudited interim financial statements have been prepared in accordance with the accounting principles generally accepted in the United States, or GAAP, and following the requirements of the Securities and Exchange Commission, or the SEC, for interim reporting. Certain information and disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted. Accordingly, these unaudited condensed consolidated financial statements and accompanying notes should be read in conjunction with the Company's annual financial statements and related notes included in the Company's Form 10-K filed with the SEC on March 28, 2024, which provide a more complete discussion of the Company's accounting policies and certain other information. The December 31, 2023 condensed consolidated balance sheet has been derived from the Company's annual financial statements. These unaudited condensed consolidated financial statements have been prepared on the same basis as the annual financial statements and include all adjustments that management believes to be necessary for a fair presentation of the Company's financial information. Interim results are not necessarily indicative of results for a full year or any future interim period.

Principles of consolidation

The condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts in the unaudited condensed consolidated financial statements and the accompanying notes. The Company evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts those estimates and assumptions when facts and circumstances dictate. Actual results could materially differ from those estimates. The Company's significant accounting estimates include, but are not necessarily limited to, the expected volatility used to estimate fair value of stock options, accrued research and development expenses, the fair value of acquired in-process research and development assets, and revenue recognition.

Segment and geographic information

Operating segments are defined as components of an entity about which separate discrete information is available and regularly reviewed by the chief operating decision maker, its Chief Executive Officer, in deciding how to allocate resources and in assessing performance. The Company has determined that it operates as one operating and reporting segment exclusively in the United States.

Concentration of credit risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash and cash equivalents and marketable securities. The Company maintains deposits in a financial institution in excess of government insured limits. Management believes that the Company is not exposed to significant credit risk as the Company's deposits are held at a financial institution that management believes to be of high credit quality, and the Company has not experienced any losses on these deposits. Management also believes that the Company is not exposed to significant credit risk as it relates to marketable securities because the Company only invests in U.S government securities.

Restricted cash

Restricted cash represents collateral provided for a letter of credit issued as a security deposit in connection with the Company's lease of its corporate facility in Bothell, Washington. Cash will be released from restriction upon termination of the lease. Restricted cash was $ 0.1 million at both March 31, 2024 and December 31, 2023.

Asset acquisitions

Acquisitions of assets or a group of assets that do not meet the definition of a business are accounted for as asset acquisitions, with a cost accumulation model used to determine the cost of the acquisition. Common stock issued as consideration in an acquisition of assets is generally measured based on the acquisition date fair value of the equity interests issued. Direct transaction costs are recognized as part of the cost of an acquisition of assets. Intangible assets that are acquired in an asset acquisition for use in research and development activities that have an alternative future use are capitalized as in-process research and development, or IPR&D. Acquired IPR&D that has no alternative future use is expensed immediately as a component of in-process research and development expense in the condensed consolidated statements of operations and comprehensive loss.

In addition to upfront consideration, acquisitions of assets may also include contingent consideration payments to be made for future milestone events or royalties on net sales of future products. The Company assesses whether such contingent consideration is subject to liability classification and fair value measurement or meets the definition of a derivative. Contingent consideration payments in an acquisition of assets not required to be accounted for as a liability at fair value are recognized when the contingency is resolved, and the consideration is paid or becomes payable. Contingent consideration payments made prior to regulatory approval are expensed as incurred.

Net loss per share

Basic net loss per share is computed by dividing the net loss by the weighted average number of shares of common stock outstanding for the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss by the weighted average number of shares of common stock outstanding for the period, including the effect of dilutive securities.

As the Company was in a net loss position for the three months ended March 31, 2024 and 2023, diluted net loss per share is the same as basic net loss per share because the effects of potentially dilutive securities are antidilutive.

The following potentially dilutive securities have been excluded from the computation of diluted net loss per share for the periods presented because including them would have been anti-dilutive (on an as-converted basis):

	Three Months Ended March 31,	
	2024	2023
Stock options outstanding	8,531,683	2,493,410
Common stock warrants	157,314	1,303,112
Unvested restricted stock awards	—	20,834
	8,688,997	3,817,356

Recent accounting standards not yet adopted

In December 2023, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, 2023-09, *Improvements to Income Tax Disclosures* , which updates income tax disclosures primarily related to the rate reconciliation and income taxes paid information. This update also includes certain other amendments to improve the effectiveness of income tax disclosures. The amendments in this update are effective for annual periods beginning after December 15, 2024. Early adoption is permitted for annual financial statements that have not yet been issued or made available for issuance. The Company is still in the process of determining the effect this ASU will have on the condensed consolidated financial statements.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting—Improvements to Reportable Segment Disclosures.* ASU 2023-07 requires disclosure of incremental segment information on an interim and annual basis and provides new segment disclosure requirements for entities with a single reportable segment. ASU 2023-07 is effective for all public companies for fiscal years beginning after December 15, 2023, and interim periods within fiscal periods beginning after December 15, 2024, and requires retrospective application to all prior periods presented in the financial statements. The Company adopted annual requirements under ASU 2023-07 on January 1, 2024 and plans to adopt interim requirements under ASU 2023-07 on January 1, 2025. The Company will begin including financial statement disclosures in accordance with ASU 2023-07 in its Annual Report on Form 10-K for the year ended December 31, 2024.

3. Fair value measurement

The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

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.

The following tables summarize the Company's financial assets measured at fair value on a recurring basis by level within the fair value hierarchy (in thousands):

		March 31, 2024			
	Level	Amortized Cost	Unrealized Gain	Unrealized Loss	Fair Value
Cash equivalents:					
Money market funds	1	$ 46,482	$ —	$ —	$ 46,482
U.S. treasury securities	2	219,101	4	(1)	219,104
Marketable securities:					
U.S. treasury securities	2	39,982	1	—	39,983
Total financial assets		$ 305,565	$ 5	$ (1)	$ 305,569

		December 31, 2023			
	Level	Amortized Cost	Unrealized Gain	Unrealized Loss	Fair Value
Cash equivalents:					
Money market funds	1	$ 73,988	$ —	$ —	$ 73,988
U.S. treasury securities	2	22,993	—	—	22,993
Marketable securities:					
U.S. treasury securities	2	39,441	22	—	39,463
Total financial assets		$ 136,422	$ 22	$ —	$ 136,444

The Company's marketable securities consist of U.S. treasury debt securities with a contractual maturity date of 6 months .

4. Collaboration agreement with AbbVie

In January 2023, the Company entered into a Collaboration and Option Agreement, or the Collaboration Agreement, with AbbVie Global Enterprises Ltd., or AbbVie, pursuant to which the Company is using its discovery platform to discover and validate targets derived from patients with three specified tumor types, and antibodies that bind to such targets, which may be the subject of further development and commercialization by AbbVie. Pursuant to the terms of the Collaboration Agreement, the Company granted AbbVie an exclusive option to purchase all rights to each novel target-antibody pair, or a Validated Target Pair or VTP, that the Company generates that meets certain mutually agreed criteria, up to a maximum of 10 in total, for all human and non-human diagnostic, prophylactic and therapeutic uses throughout the world, including the development and commercialization of certain products, or Products, derived from the assigned VTP.

AbbVie paid the Company a nonrefundable upfront payment of $ 30.0 million in January 2023 and will be required to pay certain additional platform access payments of up to $ 70.0 million in aggregate based on the Company's use of its discovery platform in connection with activities under each stage of the research plan and delivery of VTPs to AbbVie. If AbbVie exercises its option to purchase a VTP, then AbbVie will be required to pay an option exercise fee in the low single-digit millions for each of up to 10 VTPs for which it exercises an option. For each Product, the Company is eligible to receive development and commercial based milestones of up to $ 120.0 million in the aggregate and sales milestones of up to $ 150.0 million in the aggregate for the achievement of specified levels of annual net sales. The Company is also eligible to receive tiered royalties at percentage rates in the low single digits on annual net sales of any Products that are commercialized by AbbVie.

AbbVie's obligation to pay royalties will terminate, on a Product-by-Product and country-by-country basis, upon the earlier of (a) the later of (i) 10 years following the first commercial sale for such Product in such country, or (ii) expiration of all valid claims of patent rights covering the Product in such country, and (b) the expiration of all applicable regulatory exclusivities for such Product in such country. AbbVie may terminate the Collaboration Agreement at any time for convenience upon a specified period of prior written notice.

The Company determined that the Collaboration Agreement represents a contract with a customer and consists of one performance obligation to provide research and development services, or R&D services, to AbbVie. The Company evaluated the options to continue the R&D services and options to purchase licenses to each VTP and concluded that these options did not represent material rights.

The Company determined the initial transaction price of the single performance obligation to be $ 30.0 million, as the variable consideration for additional R&D services, option exercise payments, and development milestone payments are all subject to constraint at contract inception. At each reporting period, the Company will reevaluate the variable consideration subject to constraint and, if necessary, will adjust its estimate of the overall transaction price. For the sales-based royalties, the Company will recognize revenue when the related sales occur.

Revenue from the Collaboration Agreement will be recognized over the estimated performance of the R&D services using the cost-to-cost input method which the Company believes best depicts the transfer of control to the customer. Under the cost-to-cost input method, the extent of progress towards completion is measured based on the ratio of actual costs incurred to the total estimated costs expected upon satisfying the performance obligation. The Company recognized $ 1.0 million and $ 2.4 million of collaboration revenue for the three months ended March 31, 2024 and 2023, respectively.

The following table summarizes the change in deferred revenue (in thousands):

	Three Months Ended March 31, 2024
Balance as of December 31, 2023	$ 15,982
Recognition of revenue	(1,029)
Balance as of March 31, 2024	$ 14,953

As of March 31, 2024, the Company expects to recognize the deferred revenue associated with the non-refundable upfront fee over the estimated research and development period of approximately 1.25 years.

5. Balance sheet components

Accrued expenses and other current liabilities

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

	March 31, 2024	December 31, 2023
Research and development	$ 6,445	$ 1,680
Compensation and related benefits	1,032	2,734
Severance accruals	1,485	1,436
Professional fees	1,408	1,670
Short-term operating lease liability	419	310
Other	55	195
Total accrued expenses and other current liabilities	$ 10,844	$ 8,025

6. Commitments and contingencies

Employment agreements

The Company entered into employment agreements, or the Employment Agreements, with certain key personnel providing for compensation and severance in certain circumstances, as defined in the respective Employment Agreements. The Employment Agreements may be terminated by either the Company or the employees in accordance with the respective Employment Agreements (subject to the payment of severance upon certain terminations) and provide for annual pay adjustments and bonuses at the discretion of the Board of Directors.

Employee benefit plan

The Company maintains a defined-contribution plan under Section 401(k) of the Internal Revenue Code, or the 401(k) Plan. The 401(k) Plan covers all employees who meet defined minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. The Company assumes all administrative costs of the 401(k) Plan and makes matching contributions as defined in the 401(k) Plan document. The Company made matching contributions of $ 0.1 million to the 401(k) Plan for each of the three months ended March 31, 2024 and 2023.

7. Asset acquisitions

Ayala Pharmaceuticals

On March 25, 2024, the Company and Ayala Pharmaceuticals, Inc., or Ayala, completed an Asset Purchase Agreement, or the Ayala Purchase Agreement, initially entered into in February 2024, pursuant to which the Company acquired Ayala's AL101 and AL102 programs and assumed certain liabilities associated with the acquired assets. The upfront consideration included (i) payment of approximately $ 20.0 million in cash, and (ii) the issuance of 2,175,489 unregistered shares of the Company's common stock at an aggregate fair value of $ 50.6 million on the acquisition date. The fair value of the shares issued to Ayala was based on the closing stock price of the Company's common stock on March 25, 2024 of $ 24.00 per share less a discount of 3.0 % related to unregistered share restrictions.

The Company accounted for the transaction as an asset acquisition as substantially all of the fair value of the gross assets acquired was concentrated in two programs that were grouped as a single identifiable IPR&D asset. The assets acquired in the transaction were measured based on the estimated fair value of the consideration paid of $ 71.3 million, which included direct transaction costs of $ 0.7 million.

The consideration paid and the relative fair values of the assets acquired and liabilities assumed were as follows (in thousands):

		Amount
Common stock issued to Ayala	$	50,645
Upfront consideration paid to Ayala		20,039
Transaction costs		657
Consideration paid	$	71,341
Assets acquired:		
In-process research and development	$	73,382
Total assets acquired	$	73,382
Liabilities assumed:		
Accrued expenses	$	2,041
Total liabilities assumed	$	2,041
Net assets acquired	$	71,341

The cost attributable to the IPR&D was expensed in the Company's condensed consolidated statements of operations and comprehensive loss for the three months ended March 31, 2024 since the acquired IPR&D had no alternative future use.

Under the Ayala Purchase Agreement, the Company will be required to pay Ayala up to $ 37.5 million in the aggregate upon the achievement of certain development, regulatory and commercial milestone events. Any potential future milestone payment amounts will be accrued when the related contingency is resolved, and the milestone consideration becomes payable.

Atreca

In December 2023, the Company entered into an agreement with Atreca, Inc., or Atreca, on the terms of a cash acquisition pursuant to which the Company would acquire certain antibody-related assets and materials for an upfront payment of $ 5.5 million and up to $ 7.0 million in clinical development milestones. The closing of the transaction is subject to customary conditions, including the approval of Atreca's stockholders. As of March 31, 2024, the transaction had not closed.

Morphimmune

On October 2, 2023, the Company completed its merger with Morphimmune, or the Merger, and acquired all of the outstanding equity interests of Morphimmune in exchange for 8,835,710 shares of the Company's common stock, based upon an exchange ratio of 0.3042 shares of the Company's common stock for each outstanding share of Morphimmune capital stock. Under the terms of the Agreement and Plan of Merger and Reorganization dated as of June 28, 2023, the Company assumed Morphimmune's 2020 Equity Incentive Plan and all outstanding options to purchase shares of Morphimmune capital stock were converted into 2,472,563 options to purchase shares of the Company's common stock with a weighted average exercise price of $ 1.29 per share. All other terms and conditions associated with these options, including vesting and exercisability, are governed by the original terms and conditions of the Morphimmune 2020 Equity Incentive Plan.

The Company accounted for the acquisition of Morphimmune as an asset acquisition as substantially all of the fair value of the gross assets acquired was concentrated in two programs that were grouped as a single identifiable IPR&D asset. The assets acquired in the transaction were measured based on the estimated fair value of the consideration paid of $ 88.0 million, which included direct transaction costs of $ 0.8 million. The consideration paid consisted of $ 72.5 million of the Company's common stock based on the closing stock price on October 2, 2023 of $ 8.20 per share and $ 14.7 million related to the value of Morphimmune's share-based awards assumed by Immunome as of the same date. The cost of the acquisition allocated to the acquired IPR&D of $ 80.8 million was expensed since the acquired IPR&D had no alternative future use.

8. Licensing arrangements

Bristol-Myers Squibb

In connection with the closing of the Ayala Purchase Agreement in March 2024, the Company assumed a license agreement, the BMS License Agreement, with Bristol-Myers Squibb Company, or BMS, pursuant to which the Company obtained a worldwide, non-transferable, royalty-bearing, exclusive, sublicensable, license under certain patent rights and know-how of BMS to research, discover, develop, make, have made, use, sell, offer to sell, export, import and commercialize AL101 and AL102, or the BMS Licensed Compounds, and products containing AL101 or AL102, or the BMS Licensed Products, for all uses including the prevention, treatment or control of any human or animal disease, disorder or condition.

Under the BMS License Agreement, the Company is obligated to use commercially reasonable efforts to develop at least one BMS Licensed Product. The Company is also required to use commercially reasonable efforts to obtain regulatory approvals in certain major market countries for at least one BMS Licensed Product, as well as to affect the first commercial sale of and commercialize each BMS Licensed Product after obtaining such regulatory approval.

The Company is required to pay BMS up to approximately $ 142.0 million in the aggregate upon the achievement of certain clinical development or regulatory milestones for AL101 and AL102 across multiple indications. In addition, the Company is required to pay BMS up to $ 50.0 million in the aggregate upon the achievement of certain commercial milestones for each BMS Licensed Product. Any potential future milestone payment amounts will be accrued when the related contingency is resolved, and the milestone consideration becomes payable. BMS is also eligible to receive tiered royalties ranging from a high single-digit to a low teen percentage on annual worldwide net sales of any BMS Licensed Products. Royalty payments will be expensed in the period in which the underlying revenues are earned.

BMS has the right to terminate the BMS License Agreement in its entirety if the Company fails to fulfill its development and commercialization obligations within a defined period of time following written notice by BMS. The Company has the right to terminate the BMS License Agreement for convenience upon prior written notice to BMS. Upon termination of the BMS License Agreement by the Company for convenience or by BMS, the Company will grant an exclusive, non-transferable, sublicensable, worldwide license to BMS for certain patent rights that are necessary to develop, manufacture or commercialize the BMS Licensed Compounds or BMS Licensed Products. In exchange for such license, BMS will be obligated to pay the Company a low single-digit percentage royalty on net sales of the BMS Licensed Compounds and/or BMS Licensed Products by it or its affiliates, licensees or sublicensees, provided that the termination occurred after a specified developmental milestone for such BMS Licensed Compounds and/or BMS Licensed Products.

Zentalis Pharmaceuticals

On January 5, 2024, the Company entered into a license agreement with Zentalis Pharmaceuticals, Inc., or the Zentalis License Agreement, pursuant to which the Company received an exclusive, worldwide, royalty-bearing, sublicensable license under certain intellectual property relating to Zentalis' proprietary antibody-drug conjugate, or ADC, platform technology, ROR1 antibodies and ADCs targeting ROR1 to exploit products covered by or incorporating the licensed intellectual property rights. Under the Zentalis License Agreement, the Company is required to use commercially reasonable efforts to develop an ADC targeting ROR1, two additional ADCs, and commercialize any product that has received regulatory approval.

As up front consideration for the license, the Company paid to Zentalis $ 15.0 million in cash and issued 2,298,586 unregistered shares of its common stock at an aggregate fair value of $ 23.4 million. The fair value of the common stock issued to Zentalis was based on the closing stock price of the Company's common stock on January 5, 2024 of $ 11.12 per share less a discount of 8.5 % related to unregistered share restrictions. The Company accounted for the transaction as an asset acquisition as substantially all of the fair value of the gross assets acquired was concentrated in a single identifiable IPR&D asset. The consideration paid to acquire the license and intellectual property rights, which included transaction costs of $ 0.2 million, was immediately recognized as IPR&D expense in the Company's condensed consolidated statement of operations and comprehensive loss for the three months ended March 31, 2024 since the acquired IPR&D had no alternative future use.

Under the Zentalis License Agreement, the Company is obligated to pay Zentalis an aggregate of up to $ 150.0 million in development and regulatory milestones for the first product containing an ADC targeting ROR1, or a ROR1 ADC Product, to achieve such milestones, and commercial milestones on ROR1 ADC Products. The Company is also obligated to pay Zentalis mid-to-high single digit royalties on ROR1 ADC Products. In addition, the Company is obligated to pay Zentalis up to $ 25.0 million in development and regulatory milestones for the first product from each of the first five additional development programs using the licensed platform technology to generate products, and mid-single digit royalties on products from each such program. Any potential future milestone payment amounts will be accrued when the related contingency is resolved, and the milestone consideration becomes payable. The Company's royalty payment obligation will commence, on a product-by-product and country-by-country basis, on the first commercial sale of such product in such country and will expire on the latest of (a) the 10-year anniversary of such first commercial sale for such product in such country, (b) the expiration of regulatory exclusivity for such product in such country, and (c) the expiration of the last-to-expire valid claim of a licensed patent covering such product in such country. Royalty payments will be expensed in the period in which the underlying revenues are earned.

The Zentalis License Agreement will continue until the expiration of all royalty payment obligations. The Zentalis License Agreement may be terminated early by (a) either party in its entirety upon (i) the other party's uncured material breach, subject to a notice and cure period, (ii) any insolvency event of the other party or (iii) prolonged force majeure, (b) the Company, either in its entirety or in part, for convenience upon a specified period prior written notice, or (c) Zentalis (i) in its entirety if the Company challenges one of the licensed patents or (ii) fails to meet certain development activity benchmarks within specified time periods.

Purdue Research Foundation

Upon closing of the Merger, the Company assumed certain license agreements that Morphimmune had entered into prior to the Merger. In January 2022, Morphimmune entered into a Master License Agreement, or the Purdue License Agreement, with Purdue Research Foundation, or PRF. Under the Purdue License Agreement, PRF granted Morphimmune a royalty-bearing, transferable, worldwide, exclusive license, sublicensable through multiple tiers, under certain intellectual property owned by PRF to research, develop, manufacture, and commercialize the licensed products in all fields of use with limited exceptions.

Under the Purdue License Agreement, Morphimmune paid PRF a one-time upfront payment of $ 0.2 million upon execution and $ 0.1 million on each of the first and second anniversary of the effective date of the Purdue License Agreement. During the period commencing on the date of first commercial sale of a licensed product and ending upon the date of expiration of the last valid claim of the licensed patents covering such licensed product in a country, referred to as the royalty term, the Company will pay PRF an earned unit royalty of a low single-digit percentage on gross receipts from sale of the licensed product, and beginning with the first sale of a licensed product, a tiered minimum annual royalty from the low to mid six-digit figure range less the unit royalties due for the annual period. Upon the achievement of specified development and commercialization milestones, the Company will pay PRF the milestone payments as specified in the Purdue License Agreement, which may be up to $ 3.8 million in the aggregate. The Company is also required to pay PRF an annual maintenance fee ranging from a low five-digit figure to a low six-digit figure prior to first sale of a licensed product and a low double-digit percentage of sublicense income received for sublicenses of licensed intellectual property, the percentage depending upon the timing of execution of the sublicense.

The Purdue License Agreement expires on a licensed product-by-licensed product and country-by-country basis, upon expiration of the royalty term for such licensed product for the applicable country. The Company may terminate the Purdue License Agreement upon at least one month's prior written notice to PRF. PRF may terminate the Purdue License Agreement and the licenses granted thereunder if the Company fails to cure a payment default or other material breach of the Purdue License Agreement after written notice from PRF, or if Morphimmune becomes insolvent.

Other License Agreements

The Company has entered into various other license agreements to further discover, develop and commercialize certain technologies and treatments. As of March 31, 2024, the Company may need to pay developmental and regulatory milestone payments of up to approximately $ 6.0 million. In addition, the Company may need to pay royalty rates on net product sales, a portion of certain sublicense and collaboration payments, and certain commercial milestone payments of up to approximately $ 7.5 million, if any.

The Company did not make any development, regulatory, or commercial milestone payments under these licensing agreements during the three months ended March 31, 2024 and 2023.

9. Leases

The Company currently leases approximately 11,000 square feet of office and laboratory space in Exton, Pennsylvania under a lease that expires on March 31, 2025, and approximately 14,000 square feet of office and laboratory space in Bothell, Washington, under a lease that expires on October 31, 2028.

Supplemental balance sheet information related to leases was as follows (in thousands):

	March 31, 2024	December 31, 2023
Operating leases:		
Operating lease right-of-use assets	$ 1,458	$ 1,564
Operating lease liabilities, current portion	$ 419	$ 310
Operating lease liabilities, net of current portion	1,206	1,340
Total operating lease liabilities	$ 1,625	$ 1,650

Operating lease liabilities, current portion is included in accrued expenses and other current liabilities in the accompanying condensed consolidated balance sheets.

For each of the three months ended March 31, 2024 and 2023, the Company recorded operating lease expense of $ 0.1 million. Under the terms of the lease agreements, the Company is also responsible for certain variable lease payments that are not included in the measurement of the lease liability. The Company did not incur significant variable lease costs for the three months ended March 31, 2024 and 2023.

Other information related to the Company's operating leases was as follows:

	March 31, 2024	December 31, 2023
Weighted-average remaining lease term (in years)	4.20	4.81
Weighted-average discount rate	8.3 %	8.3 %

Supplemental cash flow information related to the Company's operating leases was as follows (in thousands):

	Three Months Ended March 31,	
	2024	2023
Cash paid for operating lease liabilities	$ 63	$ 61

The Company's future minimum lease payments were as follows as of March 31, 2024 (in thousands):

Years ending December 31,	Amount
2024 (represents remaining nine months in 2024)	$ 388
2025	464
2026	412
2027	422
2028	433
Total lease payments	2,119
Less imputed interest	(494)
Present value of operating lease liabilities	$ 1,625

10. Common stock

Common stock

The holders of common stock are entitled to one vote for each share of common stock. The holders of common stock shall be entitled to receive dividends out of funds legally available if and when declared by the Company's board of directors. In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company, the holders of common stock shall be entitled to share ratably in the remaining assets of the Company available for distribution.

The Company has reserved the following shares of common stock for issuance, on an as-converted basis, as follows:

	March 31, 2024	December 31, 2023
Stock options issued and outstanding under the Plans	8,531,683	7,978,291
Common stock warrants outstanding	157,314	500,000
Remaining shares available for issuance under the Plans	5,327,876	4,250,303
Remaining shares available for issuance under the ESPP	906,251	473,733
Total reserved common stock	14,923,124	13,202,327

Follow-on public offering

In February 2024, the Company completed a follow-on public offering and issued 11,500,000 shares of its common stock at $ 20.00 per share for net proceeds of $ 215.4 million, after deducting underwriting discounts and commissions and offering expenses.

Warrants to acquire shares of common stock

The Company had 157,314 and 500,000 issued and outstanding common stock warrants as of March 31, 2024 and December 31 2023, respectively, with an exercise price of $ 10.00 per share and an expiration date of April 28, 2024. During the three months ended March 31, 2024, warrants to purchase 342,686 shares of common stock were exercised for proceeds of $ 3.4 million. No warrants were exercised during the three months ended March 31, 2023.

11. Share-based compensation

2020 Equity Incentive Plan

In September 2020, the Company adopted the 2020 Equity Incentive Plan, or the 2020 Plan, which supersedes all prior equity incentive plans. No further awards will be granted under the 2018 Equity Incentive Plan, or 2018 Plan. Awards forfeited, cancelled, or repurchased from the above plans are returned to the pool of shares of common stock available for issuance under the 2020 Plan. On January 1, 2024, the shares of common stock authorized for issuance under the 2020 Plan increased by 1,730,071 shares. As of March 31, 2024, there were 4,398,174 shares available for issuance under the 2020 Plan.

On October 2, 2023, the Morphimmune 2020 Equity Incentive Plan, or the Morphimmune Plan, (or collectively with the 2020 Plan, the Plans), was assumed by the Company in conjunction with the Merger (Note 7). There were 929,702 shares available for issuance under the Morphimmune Plan as of March 31, 2024.

2020 Employee Stock Purchase Plan

The Company adopted the 2020 Employee Stock Purchase Plan, or ESPP, in September 2020. On January 1, 2024, the shares of common stock authorized for issuance under the ESPP increased by 432,518 shares. As of March 31, 2024, there were 906,251 shares available for issuance under the ESPP. No shares of common stock have been issued under the ESPP as of March 31, 2024.

Stock options

A summary of option activity under the Plans during the three months ended March 31, 2024 is as follows:

	Number of shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2023	7,978,291	$ 6.15	8.62	$ 45,360
Granted	1,129,434	19.86		
Exercised	(137,112)	6.22		
Forfeited	(344,339)	8.26		
Expired	(94,591)	20.86		
Outstanding at March 31, 2024	8,531,683	$ 7.71	8.33	$ 146,173
Exercisable at March 31, 2024	3,115,238	$ 5.38	6.62	$ 61,212

Aggregate intrinsic value in the above table is calculated as the difference between the exercise price of the options and the Company's fair value of its common stock as of period end.

The weighted-average grant date fair value of stock options granted during the three months ended March 31, 2024 and 2023 was $ 14.62 and $ 4.18 per share, respectively. The aggregate intrinsic value of options exercised during the three months ended March 31, 2024 was $ 2.5 million. No options were exercised during the three months ended March 31, 2023.

The weighted average assumptions used in the Black-Scholes option-pricing model for stock options granted were:

	Three Months Ended March 31,	
	2024	2023
Expected volatility	84.1 %	87.9 %
Risk-free interest rate	4.1 %	3.9 %
Expected term (in years)	6.06	5.96
Expected dividend yield	— %	— %

Share-based compensation expense recorded in the condensed consolidated statements of operations and comprehensive loss is as follows (in thousands):

	Three Months Ended March 31,	
	2024	2023
Research and development	$ 383	$ 430
General and administrative	1,776	794
Total share-based compensation expense	$ 2,159	$ 1,224

Unrecognized share-based compensation related to stock options was $ 37.1 million as of March 31, 2024 and is expected to be recognized over a weighted average period of 1.9 years.

12. Subsequent events

2024 ATM Agreement

On May 14, 2024, the Company entered into a sales agreement, or the 2024 ATM Agreement, with TD Securities (USA) LLC, or TD Cowen, as sales agent, pursuant to which the Company may offer and sell from time to time shares of its common stock having an aggregate offering price of up to $ 200.0 million, or the ATM Shares. The sales of the ATM Shares, if any, will be made by any method permitted that is deemed to be an “at-the-market” equity offering as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, including sales made directly on or through the Nasdaq Capital Market. The Company has agreed to pay TD Cowen a commission of up to 3.0 % of the aggregate gross proceeds from any ATM Shares sold through the 2024 ATM Agreement. The Company has not yet sold any ATM Shares under the 2024 ATM Agreement.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and our audited financial statements and notes thereto and the related Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2023. Unless otherwise indicated, all references in this Quarterly Report on Form 10-Q to "Immunome," the "company," "we," "our," "us" or similar terms refer to Immunome, Inc. and its subsidiary.

Forward-Looking Statements

In addition to historical financial information, this discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth in the section titled "Risk Factors" under Part II, Item 1A below. In some cases, you can identify forward-looking statements by terminology such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potentially," "predict," "should," "will" or the negative of these terms or other similar expressions.

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 while 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 an exhaustive 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.

Overview

We are a biopharmaceutical company focused on the development of targeted oncology therapies. We believe that the pursuit of novel or underexplored targets will be central to the next generation of transformative therapies, and we are dedicated to developing targeted cancer therapies with first-in-class and best-in-class potential. Our goal is to establish a broad pipeline of preclinical and clinical assets and successfully develop such assets into approved products for commercialization. To support that goal, we pair business development activity with significant investment in our internal discovery platforms.

We are advancing a program pipeline comprising one clinical and three preclinical assets. The clinical asset is AL102, an investigational gamma secretase inhibitor, or GSI, currently under evaluation in a Phase 3 trial for the treatment of desmoid tumors. The preclinical assets are IM-1021, a receptor tyrosine kinase-like orphan receptor 1, or ROR1, antibody-drug conjugate, or ADC; IM-3050, a fibroblast activation protein, or FAP, targeted radioligand therapy, or RLT, candidate; and IM-4320, an anti-IL-38 immunotherapy candidate.

On October 2, 2023, we completed our merger with Morphimmune Inc., or Morphimmune, a preclinical biotechnology company focused on developing targeted oncology therapies, and Morphimmune became a wholly owned subsidiary of Immunome.

Our current programs and strategic collaboration

AL-102 (Gamma Secretase Inhibitor)

Our clinical asset is AL102, an investigational GSI that we acquired from Ayala Pharmaceuticals, Inc., or Ayala, on March 25, 2024 pursuant to an Asset Purchase Agreement, or the Ayala Purchase Agreement. AL102 is currently under evaluation in a Phase 3 trial for the treatment of desmoid tumors.

AL102 clinical activity was observed in two clinical trials that enrolled adult desmoid tumor patients. A Phase 1 dose-escalation clinical trial was conducted by Bristol-Myers Squibb, or BMS, in patients with solid tumors. In this trial, one patient with desmoid fibromatosis was enrolled. This patient demonstrated tumor shrinkage of 16.5% while on study. Based on these data and responses demonstrated with other GSIs, Ayala designed a seamless Phase 2/3 study called RINGSIDE to specifically evaluate the activity of AL102 in patients with progressing desmoid tumors who required therapy. RINGSIDE Part A enrolled 42 patients at three different dosing regimens of AL102: 2 mg once a day for two days every week, 4 mg once a day for two days every week or 1.2 mg once a day daily. Overall, the ORR in evaluable patients as measured by RECIST v1.1 by an independent radiologist was 61% for all doses tested. The 1.2 mg daily dosing cohort had an ORR of 75% in the evaluable population. AL102 was well tolerated overall with a safety profile consistent with that reported with other GSIs. These data were reported at ESMO in 2023.

Based upon the clinical activity observed in RINGSIDE Part A at the dose of 1.2 mg given once daily, and following consultation with the U.S. Food and Drug Administration, or FDA, the Phase 3 randomized registration trial, RINGSIDE Part B (NCT04871282) was initiated by Ayala in November 2022. Enrollment was completed in February 2024.

RINGSIDE Part B is a registrational Phase 3, global, double-blind, randomized, placebo-controlled clinical trial, conducted at 61 clinical sites in North America, Europe, Asia and Australia. It will evaluate the efficacy, safety and tolerability of AL102 compared to placebo in patients with progressing desmoid tumors. One hundred fifty-six patients with histologically confirmed desmoid tumors with progressive disease (defined as tumor growth of at least 20% within the past 12 months as measured by RECIST v1.1) were enrolled. Patients were either treatment-naïve with desmoid tumors not amenable to surgery or had refractory or recurrent disease after at least one line of therapy. Patients in the study were randomized to receive either AL102 at a dose of 1.2 mg given once daily or placebo and evaluated for tumor progression using RECIST v1.1. Patients who progress while on study are eligible to enter an open-label extension whereby they may receive AL102 at a dose of 1.2 mg once daily until disease progression or unacceptable toxicity. The primary endpoint of RINGSIDE Part B is progression free survival with secondary endpoints of ORR, duration of response and specific patient-reported outcomes.

We expect to publish topline data for RINGSIDE Part B in the second half of 2025. In parallel, we are evaluating and performing the additional manufacturing and pharmacology work required to support a new drug application, or NDA, submission.

IM-1021 (ROR1 ADC)

We are developing IM-1021, a preclinical stage ADC targeting ROR1 that we exclusively licensed from Zentalis Pharmaceuticals, Inc., or Zentalis, in January 2024.

In preclinical studies, IM-1021 showed sustained tumor regression in a mouse model of triple-negative breast cancer. In this model, IM-1021 dosed weekly for three weeks at 2.5 mg/kg or 5.0 mg/kg demonstrated superior reductions in tumor volume compared with the same respective dose of a competitor, vedotin payload ROR1 ADC, with no meaningful weight loss observed.

Subject to obtaining an IND, our IM-1021 clinical strategy is designed to efficiently evaluate dose escalation in patients with solid tumors or lymphoma, followed by potential expansion of the solid tumor clinical program into targeted indications, potentially including non-small cell lung cancer, breast, prostate, pancreatic, and gastric cancer, and potential expansion of the lymphoma program into diffuse large B-cell lymphoma, mantle cell lymphoma, or other indications that are deemed to be appropriate. Concurrent with the dose escalation and expansion studies, we plan to conduct non-clinical studies evaluating IM-1021 in combination with other therapies, and to evaluate and develop potential companion diagnostics that could help identify patients most likely to respond to IM-1021. Our strategy is to pursue pivotal clinical studies in indications that have shown compelling clinical outcomes in earlier-stage trials, present significant commercial opportunities, have the potential for enhanced outcomes using a companion diagnostic, and offer potential for accelerated approval. We expect to submit an IND for the IM-1021 program to the FDA in the first quarter of 2025.

IM-3050 (FAP Radioligand Therapy)

We are developing IM-3050, a FAP-targeted Lu-177 RLT development candidate for the treatment of solid tumors. FAP serves as a tumor-specific marker due to its expression in approximately 75% of solid tumors. FAP is predominantly expressed by cancer-associated fibroblasts, the most common tumor stromal cell. IM-3050 is designed to deliver radioactive Lu-177 directly to FAP-expressing cells, where the "bystander" effect of the radiation may damage or kill nearby tumor cells. We believe this RLT approach could overcome the limitations, such as poor internalization and low expression on tumor cells, that make FAP an unsuitable target for ADCs. IM-3050, our lead FAP-targeted RLT, has four functional domains:

- A small molecule FAP-specific ligand
- A linker tuned to drive tumor-specific uptake
- An albumin-binding domain to improve tumor retention
- A chelator to deliver the radionuclide

We expect to submit an IND for the IM-3050 program to the FDA in the first quarter of 2025.

IM-4320 (Anti-IL-38 Immunotherapy)

We initiated our anti-IL-38 immunotherapy program on the basis of data generated by our proprietary memory B cell hybridoma screening technology.

IL-38 was identified as the target of an antibody isolated from a hybridoma library generated from the memory B cells of a patient with squamous head and neck cancer. Our query of public and proprietary databases of cancer gene expression revealed over-expression of IL-38 in multiple solid tumors. Furthermore, in some tumor types, we observed a correlation between high IL-38 expression and low levels of tumor-infiltrating immune effector cells, a hallmark of immune suppression, suggesting a role for IL-38 as an immune modulator.

Data obtained from preclinical testing indicated that blocking IL-38 function using inhibitory antibodies increased the immune response to the tumor and resulted in anti-tumor activity in select animal models, suggesting that anti-IL-38 antibodies could have therapeutic utility as single agents or in combination with other therapeutic modalities. Our recent analysis further confirms IL-38 expression is frequently elevated in samples of select patient tumor subtypes, in cancers such as head and neck, lung and gastroesophageal. We believe that this information could potentially guide patient selection for early clinical testing and may improve the overall probability of demonstrating clinical utility, thereby improving the probability of clinical success. We intend to submit an IND for the IM-4320 program to the FDA subsequent to our anticipated IND submissions for IM-3050 and IM-1021.

Other Programs and Platforms

In addition to the already described current programs, we expect to continue to invest in our proprietary discovery platform to expand our pipeline. The high output of antibody-target pairs resulting from our discovery platform may provide us with additional insights into the immune response against cancer and other diseases. We intend to continue to invest in our platform, with the goal of developing first-in-class and best-in-class targeted cancer therapies, including immunotherapies, radioligand therapies and ADCs.

Additionally, we plan to expand our intellectual property estate and infrastructure needed to discover and advance our platform and programs. We may in-license or acquire complementary intellectual property as needed or required, and we may continue to build our know-how and trade secrets. As an example, we may pursue both therapeutic and diagnostic applications of our antibodies through composition of matter and/or method of use patents. While the focus area of our current programs is oncology, we may invest in intellectual property in other therapeutic areas as well. We believe that our technology has broad utility and could enable the formation of attractive strategic partnerships. Therefore, to maximize the value of our platform we may, from time to time, contemplate and enter into various forms of collaborative agreements related to our platform, our programs and/or development candidates with third parties, including other companies, government agencies, academic institutions and non-profit groups.

Components of our results of operations

Collaboration revenue

We have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products for the foreseeable future. To date, we have generated our revenue through a Collaboration and Option Agreement, or the Collaboration Agreement, with AbbVie. Our collaboration revenue to date consists of payments from AbbVie that we recognize over the expected performance period under this agreement. We expect that revenues for the foreseeable future will be derived primarily from this agreement and any additional collaborations into which we may enter. We have not received any royalties under the Collaboration Agreement with AbbVie to date.

In-process research and development expenses

Intangible assets acquired in an asset acquisition for use in research and development activities which have no alternative future use are expensed as in-process research and development, or IPR&D, expense on the acquisition date. IPR&D expenses for the three months ended March 31, 2024 relate to the acquisition of our license pursuant to the Zentalis Agreement and the acquisition of certain assets from Ayala.

Research and development expenses

Research and development expenses consist of costs incurred in performing research and development activities, which include:

- personnel-related expenses, including salaries, bonuses, benefits and share-based compensation for employees engaged in research and development functions;
- expenses incurred in connection with the advancement of our programs and development candidates, including under agreements with consultants, contractors, contract research organizations, or CROs, and other third-party vendors and suppliers;
- expenses to conduct clinical trials including regulatory and quality assurance;
- the cost of developing and validating our manufacturing process for use in our preclinical studies and clinical trials;
- laboratory supplies and research materials and other infrastructure-related expenses; and
- facilities, depreciation and amortization and other expenses which include direct and allocated expenses.

We expense research and development costs as incurred. Advance payments that we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the benefits are consumed.

Research and development activities are central to our business model. We expect that our research and development expenses will increase substantially in connection with the continuation of our activities and new agreements.

General and administrative expenses

General and administrative expenses consist primarily of salaries and other related costs, including share-based compensation for personnel in our executive, business development, and administrative functions. General and administrative expenses also include legal fees relating to intellectual property and corporate matters, professional fees for accounting, auditing, tax and consulting services, insurance costs, travel, direct and allocated facility related expenses, and other operating costs.

We anticipate that our general and administrative expenses will increase in the future to support increased and progressed research and development activities and to operate as a public company.

Interest income

Interest income consists of interest earned on our marketable securities and on our cash and cash equivalent balances held with financial institutions.

Results of operations

Comparison of the three months ended March 31, 2024 and 2023

The following table summarizes our results of operations for the periods presented (in thousands):

	Three Months Ended March 31,		
	2024	2023	Change
Collaboration revenue	$ 1,029	$ 2,364	$ (1,335)
Operating expenses:			
In-process research and development	111,954	—	111,954
Research and development[(1)]	15,369	3,913	11,456
General and administrative[(1)]	6,005	2,922	3,083
Total operating expenses	133,328	6,835	126,493
Loss from operations	(132,299)	(4,471)	(127,828)
Interest income	2,807	201	2,606
Net loss	$ (129,492)	$ (4,270)	$ (125,222)

(1) Amounts include non-cash share-based compensation expense as follows (in thousands):

	Three Months Ended March 31,		
	2024	2023	Change
Research and development	$ 383	$ 430	$ (47)
General and administrative	1,776	794	982
Total share-based compensation expense	$ 2,159	$ 1,224	$ 935

Collaboration revenue

Collaboration revenue decreased by $1.4 million, from $2.4 million for the three months ended March 31, 2023 to $1.0 million for the three months ended March 31, 2024. The decrease was primarily due to a decrease in certain research and development activities allocated to AbbVie during the three months ended March 31, 2024 compared to the same period in 2023.

In-process research and development expenses

IPR&D expense for the three months ended March 31, 2024 was related to the write-off of IPR&D assets that were acquired from Zentalis and Ayala and determined to have no alternative future use. There was no IPR&D expense for the three months ended March 31, 2023.

Research and development expenses

Research and development expenses increased by $11.5 million, from $3.9 million for the three months ended March 31, 2023 to $15.4 million for the three months ended March 31, 2024.

We record direct research and development expenses , consisting principally of external costs, such as fees paid to investigators, consultants, central laboratories and CROs in connection with our clinical trials, and costs related to manufacturing, to specific product development and clinical programs. We do not allocate costs related to purchasing clinical trial materials, employee and contractor-related costs, and costs associated with our facility expenses, including depreciation or other indirect costs, to specific product candidates and clinical programs because these costs support multiple product programs. The table below shows our research and development expenses incurred with respect to each active program.

	Three Months Ended March 31,		
	2024	2023	Change
AL102 (1)	$ 250	$ —	$ 250
Pre-clinical programs (2)	5,038	424	4,614
Other research and development activities (3)	5,953	1,215	4,738
Indirect research and development (4)	4,128	2,274	1,854
Total	$ 15,369	$ 3,913	$ 11,456

(1) The increase in 2024 compared to 2023 was due to clinical trial activities related to AL102, which was acquired from Ayala during the three months ended March 31, 2024.

(2) The increase in 2024 compared to 2023 was due primarily to increased outsourced research and materials pertaining to IM-1021, IM-3050, and IM-4320.

(3) The increase in 2024 compared to 2023 was due primarily to increased ADC discovery activities.

(4) The increase in 2024 compared to 2023 was due primarily to an increase in personnel and personnel-related costs associated with the Merger and our discovery platform.

General and administrative expenses

General and administrative expenses increased by $3.1 million, from $2.9 million for the three months ended March 31, 2023 to $6.0 million for the three months ended March 31, 2024. The increase was primarily a result of a $1.6 million increase in personnel-related costs, which included increases of $0.6 million in salary and benefits costs due to increased headcount associated with the Merger and $1.0 million in share-based compensation. In addition, professional fees increased $1.1 million related to accounting, legal and patent fees and other overhead related costs.

Interest income

Interest income increased by $2.6 million from $0.2 million for the three months ended March 31, 2023 to $2.8 million for the three months ended March 31, 2024. The increase was primarily a result of increased interest rates and higher cash and cash equivalent and marketable security balances.

Liquidity and capital resources

Sources of liquidity

Since our inception in 2006, we have devoted substantially all our resources to research and development, raising capital, building our management team, building our intellectual property portfolio and entering and executing on collaborations and strategic transactions. To date, we have financed our operations primarily through sales of our equity securities, collaboration arrangements, strategic partnerships and transactions, and to a lesser extent, through expense reimbursements received from a governmental contract that ended in 2022.

To date, we have not generated any revenue from commercial sales and do not expect to generate revenue from commercial sale of products for the foreseeable future. Since inception, we have incurred significant operating losses and negative cash flows from operations. Our net losses were $129.5 million and $4.3 million for the three months ended March 31, 2024 and 2023, respectively. As of March 31, 2024, we had cash, cash equivalents and marketable securities of $309.7 million and an accumulated deficit of $352.3 million.

In February 2024, we completed a follow-on public offering and issued 11,500,000 shares of our common stock at $20.00 per share for net proceeds of $215.4 million, after deducting underwriting discounts and commissions and offering expenses payable by us, or the 2024 Financing.

In May 2024, we entered into a sales agreement, or the 2024 ATM Agreement, with TD Securities (USA) LLC, or TD Cowen, as sales agent, pursuant to which we may offer and sell from time to time shares of our common stock having an aggregate offering price of up to $200.0 million, or the ATM Shares. The sales of the ATM Shares, if any, will be made by any method permitted that is deemed to be an “at-the-market” equity offering as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, including sales made directly on or through the Nasdaq Capital Market. We have agreed to pay TD Cowen a commission of up to 3.0% of the aggregate gross proceeds from any ATM Shares sold through the 2024 ATM Agreement. We have not yet sold any ATM Shares under the 2024 ATM Agreement.

Cash flows

The following table summarizes our sources and uses of cash for the three months ended March 31, 2024 and 2023 (in thousands):

	Three Months Ended March 31,	
	2024	2023
Cash (used in) provided by operating activities	$ (11,170)	$ 24,173
Cash used in investing activities	(37,231)	(106)
Cash provided by financing activities	219,445	34
Net increase in cash and cash equivalents and restricted cash	$ 171,044	$ 24,101

Operating activities

Net cash used in operating activities for the three months ended March 31, 2024 was $11.2 million, consisting primarily of our net loss of $129.5 million, partially offset by noncash charges of $113.8 million and a net change in operating assets and liabilities of $4.5 million. The noncash charges primarily consisted of $112.0 million of in-process research and development assets acquired without alternative future use, and $2.2 million of share-based compensation. The change in operating assets and liabilities primarily consisted of a decrease in prepaid expense and other current assets of $2.5 million, an increase in accounts payable of $2.4 million, and an increase in accrued expenses and other current liabilities of $0.7 million, partially offset by a decrease in deferred revenue of $1.0 million.

Net cash provided by operating activities for the three months ended March 31, 2023 was $24.2 million, consisting primarily of our net loss of $4.3 million, offset by noncash charges of $1.4 million and a net change in operating assets and liabilities of $27.1 million. The noncash charges primarily consisted of $1.2 million of share-based compensation. The change in operating assets and liabilities primarily consisted of an increase in deferred revenue of $27.6 million, an increase in accounts payable of $0.7 million, and a decrease in prepaid expenses and other current assets of $0.2 million, partially offset by a decrease in accrued expenses and other liabilities and other long-term liabilities of $1.5 million.

Investing activities

Net cash used in investing activities for the three months ended March 31, 2024 was $37.2 million, consisting primarily of $35.1 million in IPR&D assets acquired from Zentalis and Ayala and $2.2 million of purchases of property and equipment.

Net cash used in investing activities for the three months ended March 31, 2023 was $0.1 million, consisting primarily of purchases of property and equipment.

Financing activities

Net cash provided by financing activities for the three months ended March 31, 2024 was $219.4 million, consisting of net proceeds of $215.8 million from the 2024 Financing and $3.6 million from the exercise of options and common stock warrants.

Net cash provided by financing activities for the three months ended March 31, 2023 was $34,000, consisting of net proceeds from the sales of common stock under our prior ATM sales agreement that we terminated in November 2023.

Funding requirements

We expect our expenses to increase substantially in connection with our ongoing and future activities, particularly as we advance and expand our clinical development of AL102, seek regulatory approval for AL102, continue the preclinical and potential clinical development of IM-1021, IM-3050, IM-4320, and any other future product candidates, and continue to pursue our business development strategy. We expect that our primary uses of capital will be for clinical development services, non-clinical research, strategic transactions, manufacturing, legal and other regulatory compliance expenses, compensation and related expenses, risk management, and general overhead costs.

We expect that our existing cash, cash equivalents and marketable securities as of March 31, 2024 will enable us to fund our current and planned operating expenses and capital expenditures for at least 12 months from the filing date of this Quarterly Report on Form 10-Q. We will need additional financing to support our continuing operations and pursue our research and development strategy. We have based these estimates on assumptions that may prove to be imprecise, and we may exhaust our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development of our programs, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our programs and development candidates.

Our future funding requirements will depend on many factors including:

- the extent to which we acquire or in-license products, intellectual property, and other technologies, and the terms on which we acquire or in-license those assets;
- the scope, progress, results and costs of discovery, preclinical development, manufacturing and clinical trials for programs and development candidates that we currently own and those that we may acquire rights to in the future;
- the costs of continuing to operate and advance our discovery and ADC platforms;

- the costs of preparing, filing, and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights, and defending intellectual property-related claims and the success of our intellectual property portfolio;

- the costs, timing, and outcome of regulatory review of the programs and development candidates we may develop;

- the costs of future activities, including product sales, medical affairs, marketing, manufacturing, distribution, coverage and reimbursement for any programs or development candidates for which we receive regulatory approval;

- the success of our existing and any future license agreements, collaborations and other strategic transactions and the achievement of milestones or occurrence of other developments that trigger payments to or from us under any such agreements and transactions; and

- the costs of operating as a public company.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, including pursuant to the 2024 ATM Agreement, debt financings, collaborations, strategic alliances, and licensing arrangements. As a result of the war between Russia and Ukraine, conflict in the Middle East, bank failures, inflationary pressures on the economy and monetary policy responses taken by government agencies and other macroeconomic and political factors, the global credit and financial markets have experienced extreme volatility, including diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth and uncertainty about economic stability. There can be no assurance that deterioration in credit and financial markets and confidence in economic conditions will not occur. If equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult to obtain, more costly and/or more dilutive. To the extent that we raise additional capital through the sale of equity, including pursuant to the 2024 ATM Agreement, or convertible debt securities, the ownership interest of any purchaser 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 acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts, or grant rights to develop and market programs and development candidates that we would otherwise prefer to develop and market ourselves. If we cannot obtain the necessary funding to support these activities on favorable terms, or at all, we will need to delay, scale back or eliminate some or all of our research and development programs, including our clinical and preclinical development of our product candidates.

Contractual obligations and contingencies

We have no material non-cancelable purchase commitments with service providers, as we have generally contracted on a cancelable, purchase order basis. Our expected material cash requirements do not include potential contingent payments that we may be required to pay upon the achievement of development, regulatory or commercial milestones under the terms of the Ayala Purchase Agreement, nor do they include potential contingent payments upon the achievement of development, regulatory and commercial milestones or royalty payments that we may be required to make under license agreements we have entered into or may enter into with various entities pursuant to which we have in-licensed certain intellectual property. For further details on the potential contingent payments related to asset acquisitions and license agreements, see Notes 7 and 8 to our condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Critical accounting policies and estimates

There have been no material changes in our critical accounting policies and estimates from those disclosed in our Form 10-K for the fiscal year ended December 31, 2023. For a discussion of our critical accounting policies and estimates, refer to "*Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical accounting policies and significant judgments*" in Part II, Item 7 of our Form 10-K for the fiscal year ended December 31, 2023.

Recent accounting pronouncements

See Note 2, *Summary of significant accounting policies* , to our condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information regarding recently issued accounting pronouncements.

JOBS Act

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies, including reduced disclosure about our executive compensation arrangements, exemption from the requirements to hold non-binding advisory votes on executive compensation and golden parachute payments and exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until the last day of the fiscal year following the fifth anniversary of our initial public offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company earlier if we have more than $1.235 billion in annual revenue, we have more than $700.0 million in market value of our stock held by non-affiliates (and we have been a public company for at least 12 months and have filed one annual report on Form 10-K) or we issue more than $1.0 billion of non-convertible debt securities over a three-year period. For so long as we remain an emerging growth company, we are permitted, and intend, to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. We may choose to take advantage of some, but not all, of the available exemptions. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to "opt out" of such extended transition period or (ii) no longer qualify as an emerging growth company. Therefore, the reported results of operations contained in our financial statements may not be directly comparable to those of other public companies.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The information under this item is not required to be provided by smaller reporting companies.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of March 31, 2024, our disclosure controls and procedures were effective to ensure the timely disclosure of required information in our SEC filings.

Changes in Internal Control Over Financial Reporting

No changes in our internal control over financial reporting occurred during the quarter ended March 31, 2024 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently a party to any material legal proceedings. From time to time, we may become involved in legal proceedings arising in the ordinary course of our business.

Item 1A. Risk Factors

RISK FACTOR SUMMARY

Below is a summary of the principal factors that make an investment in our common stock speculative or risky. This summary does not address all of the risks that we face. Additional discussion of the risks summarized in this risk factor summary, and other risks that we face, can be found below under the heading "Risk Factors" and should be carefully considered, together with other information in this Quarterly Report and our other filings with the SEC before making investment decisions regarding our common stock.

- We are a biopharmaceutical company with a history of losses. We expect to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability.
- We have a limited operating history, which may make it difficult to evaluate our drug development capabilities and predict our future performance.
- We have not yet demonstrated successful completion of clinical development, submitted a New Drug Application, obtained FDA approval for marketing, or successfully commercialized a drug product, and we may be unable to do so. Furthermore, AL102, which we recently acquired, is currently in Phase 3 development, but such acquisition and prior clinical success is not indicative of our ability to obtain new drug application, or NDA, approval or successfully commercialize AL102.
- We may not be successful in our efforts to use and expand our discovery and ADC platforms to build and progress a pipeline.
- We may be unable to advance any of our development candidates into and through clinical development, obtain regulatory approvals and ultimately commercialize them, or we could experience significant delays in doing so.
- We may pursue particular programs or development candidates over others; these decisions may prove to be wrong and may adversely impact our business.
- Clinical trials are expensive, time-consuming and difficult to design and implement.
- If we or others identify undesirable side effects caused by a development candidate undergoing clinical trials, our ability to market and derive revenue from the program or development candidate could be compromised.
- If third parties on which we intend to rely to conduct our current and future preclinical and clinical studies do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our programs could be delayed with material and adverse impacts on our business and financial condition.
- Because we may rely on third parties for manufacturing, supply and testing, some of which may be sole source vendors, for preclinical and clinical development materials and commercial supplies, our supply may become limited or interrupted or may not be of satisfactory quantity or quality.
- There is no guarantee that our collaboration with AbbVie will result in the successful discovery and validation of targets for further development and commercialization by AbbVie.
- It is difficult and costly to protect our intellectual property and our proprietary technologies, and we may not be able to ensure their protection.

- We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.
- If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.
- We may fail to realize the business benefits anticipated as a result of completed or pending strategic transactions.
- The market price of our common stock is expected to be volatile, and purchasers of our common stock could incur substantial losses.

RISK FACTORS

As noted throughout this Quarterly Report on Form 10-Q, or this Quarterly Report, we are subject to a number of risks and uncertainties. You should consider and read carefully all the risks and uncertainties described below, as well as other information included in this Quarterly Report, including our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report and our "Management's Discussion and Analysis of Financial Conditions and Results of Operations." The risks and uncertainties described below are not the only ones we face. The occurrence of any of the following risks or additional risks and uncertainties not presently known to us or that we currently believe to be immaterial could materially and adversely affect our business, financial condition or results of operations. In such case, the trading price of our common stock could decline, and you may lose all or part of your investment. This Quarterly Report also contains forward-looking statements and estimates. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of specific factors, including the risks and uncertainties described below. We have marked with an asterisk (*) those risk factors that were not included as separate risk factors in, or reflect changes from the similarly titled risk factors included in, Item 1A of our Annual Report on Form 10-K, filed with the SEC on March 28, 2024. References to "we," "us," and "our" in this section refer to Immunome and its subsidiaries.

Risks Related to Our Business

We are a biopharmaceutical company with a history of losses. We expect to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability.*

We are a biotechnology company with a history of losses. Since our inception, we have devoted substantially all of our resources to research and development, raising capital, pursuing strategic transactions, building our management team and building our intellectual property portfolio, and we have incurred significant operating losses. As of March 31, 2024, we had an accumulated deficit of $352.3 million. Our net loss for the year ended December 31, 2023 was $106.8 million and $129.5 million for the three months ended March 31, 2024. In 2023, the net loss included $80.8 million of in-process research and development (IPR&D) expense in relation to our acquisition of Morphimmune, which occurred in October 2023. In the first quarter of 2024, the net loss included $112.0 million of IPR&D expense inclusive of $73.4 million in relation to our asset purchase agreement with Ayala, and $38.6 million in relation to our licensing agreement with Zentalis. Substantially all our losses have resulted from IPR&D expense, from expenses incurred in connection with our research and development programs, and from general and administrative costs associated with our operations. To date, we have not generated any revenue from product sales, and we have not identified or sought or obtained regulatory approval for the marketing or sale of any product. Furthermore, we may not generate any revenue from product sales for the foreseeable future, and we expect to continue to incur significant operating losses for the foreseeable future due to the cost of research and development activities and the regulatory approval process for our development candidates.

We expect our net losses to increase substantially as we continue our operations; however, the amount of our future losses is uncertain. Our ability to achieve or sustain profitability, if ever, will depend on, among other things, successfully identifying and developing our development candidates, obtaining regulatory approvals for marketing and commercialization, manufacturing on commercially reasonable terms, performance as anticipated by our vendors, entering into additional potential future strategic partnerships and performing and meeting milestones on strategic partnerships, establishing a sales and marketing organization or suitable third-party alternatives for any approved product and raising sufficient funds to finance business activities. If we, or our present or potential future partners, are unable to commercialize one or more of our programs or development candidates, or if sales revenue from any program or development candidate that receives approval is insufficient, we will not achieve or sustain profitability, which could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We have a limited operating history, which may make it difficult to evaluate our drug development capabilities and predict our future performance.

Other than our recent acquisition of AL102, a product candidate in late-stage clinical trials, we have not initiated clinical trials for any of our drug candidates. We have no drugs approved for commercial sale and have not generated any revenue from drug sales. Our ability to generate drug revenue, which may not occur for the foreseeable future, if ever, will depend on the successful development and eventual commercialization of our drug candidates, which may never occur. We may never be able to develop or commercialize a marketable drug.

Our current and future drug candidates require additional discovery research, preclinical development, clinical development, regulatory approval in multiple jurisdictions to market, manufacturing validation, obtaining current good manufacturing practice, or cGMP, manufacturing supply, capacity and expertise, building of a commercial and distribution organization, substantial investment and significant marketing efforts before we generate any revenue from drug sales.

Our limited operating history may make it difficult to evaluate our drug candidates and predict our future performance. Our short history as an operating company makes any assessment of our future success or viability subject to significant uncertainty. We will encounter risks and difficulties frequently experienced by early clinical-stage companies in evolving fields. If we do not address these risks successfully, our business will suffer. Similarly, we expect that our financial condition and operating results will fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. As a result, our stockholders should not rely upon the results of any quarterly or annual period as an indicator of future operating performance.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown circumstances. As we advance our drug candidates, including AL102, we will need to transition from a company with a research focus to a company capable of supporting clinical development and if successful, commercial activities. We may not be successful in such a transition.

We have not yet demonstrated successful completion of clinical development, submitted a New Drug Application, obtained FDA approval for marketing, or successfully commercialized a drug product, and we may be unable to do so. Furthermore, AL102, which we recently acquired, is currently in Phase 3 development, but such acquisition and prior clinical success is not indicative of our ability to obtain new drug application, or NDA, approval or successfully commercialize AL102.

As an organization, we have not yet demonstrated an ability to successfully complete clinical development, obtain regulatory approvals, manufacture a commercial-scale product, conduct sales and marketing activities necessary for successful commercialization, or arrange for a third party to do any of the foregoing on our behalf. Prior to obtaining approval to commercialize a product candidate in the United States or elsewhere, we or our collaborators must demonstrate with substantial evidence from 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. In 2022, we advanced IMM-BCP-01 into Phase 1 clinical trials for the treatment of SARS-CoV-2, but we since decided to cease further development of IMM-BCP-01 until we identify a partner to continue trials and further development. As such, AL102 is currently our only clinical trial candidate. We acquired this asset and have not yet conducted or completed any clinical trials for our current development candidates previously. We also have limited experience as a company in preparing and submitting marketing applications and have not previously submitted an NDA or other comparable foreign regulatory submission for any product candidate. In addition, we have had limited interactions with the FDA or other comparable foreign regulatory authorities and cannot be certain how many additional clinical trials of our development candidates will be required or how such additional trials should be designed. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to submission of an application for and obtaining regulatory approval of any of our development candidates. Notably, AL102's prior development was not conducted by us. As a result, our assumptions about AL102's development potential are based in large part on the data generated from clinical trials conducted by Ayala and we may observe materially and adversely different results in ongoing or future clinical trials. In addition, results from nonclinical studies and clinical trials can be interpreted in different ways. Even if we believe the nonclinical or clinical data for AL102 is promising, compliance or data integrity issues may later arise and even if not, the data may not be sufficient to support approval by the FDA or comparable foreign regulatory authorities. Marketing approval of AL102 or any other applications that we may submit may be delayed by several years or may require us to expend significantly more resources than we have available.

In addition, even if we were to obtain marketing approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may impose significant limitations in the form of narrow indications, warnings, or a post-marketing risk management strategy such as a Risk Evaluation and Mitigation Strategy, or REMS, or the equivalent in another jurisdiction. Regulatory authorities may grant approval contingent on the performance of costly post-marketing clinical trials or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for AL102 or our earlier-stage product candidates.

We will need to raise substantial additional funds to advance development of our development candidates and our discovery and ADC platforms, and we cannot guarantee that we will have sufficient funds available in the future to develop and commercialize any of our development candidates.*

The research and development of biotechnology products is capital-intensive. If our development candidates continue to advance through preclinical studies and clinical trials, we will need substantial additional funds to expand our development, regulatory, manufacturing, marketing and sales capabilities. We have used substantial funds to develop and acquire our development candidates and will require significant funds to continue to advance our discovery and ADC platforms and conduct further research and development, including preclinical studies and clinical trials, to seek regulatory approvals and to manufacture and market products, if any, that are approved for commercial sale. In addition, we incur additional costs associated with operating as a public company.

Based on our current operating plan, we expect that our existing cash, cash equivalents and marketable securities as of March 31, 2024 will enable us to fund our current and planned operating expenses and capital expenditures for at least 12 months from the filing date of this Quarterly Report on Form 10-Q. Our future capital requirements and the period for which we expect our existing resources to support our operations may vary significantly from what we expect. Our monthly spending levels vary based on new and ongoing research and development and other corporate activities. Because the length of time and activities associated with successful research and development of biotechnology products is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities.

Any additional capital-raising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and, if approved, commercialize our current and any future development candidates. Additional funding may not be available on acceptable terms, or at all. As a result of the war between Russia and Ukraine, conflict in the Middle East, bank failures, inflationary pressures on the economy and monetary policy responses taken by government agencies and other macroeconomic and political factors, the global credit and financial markets have experienced and may in the future experience extreme volatility and disruptions, including severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, and uncertainty about economic stability. If the equity and credit markets deteriorate, including as a result of recent or future bank failures, it may make any necessary debt or equity financing more difficult to obtain in a timely manner on favorable terms or at all.

The timing and amount of our operating expenditures will depend largely on factors outside of our control, some of which are discussed in this section, including the following:

- the scope, number, timing and progress of preclinical and clinical development activities;
- the price and pricing structure that we are able to obtain from our third-party contract manufacturers to manufacture our preclinical study and clinical trial materials and supplies and other vendors relevant to advancement of our programs;
- our ability to maintain our current licenses, conduct our research and development programs and establish new strategic partnerships and collaborations;
- the costs involved in obtaining, maintaining, enforcing and defending patents and other intellectual property rights and the resources needed to pursue regulatory approvals;
- the Merger and the costs related to the integration of business, operations, networks, systems, technologies, policies and procedures; and
- our efforts to enhance operational systems, secure sufficient laboratory space and hire additional personnel, including personnel to support development of our programs and development candidates and satisfy our obligations as a public company.

To date, we have primarily financed our operations through the sale of equity securities and convertible debt, and through our collaborations. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, including pursuant to the 2024 ATM Agreement, debt financings, additional collaborations, strategic alliances, licensing arrangements, government contracts and other arrangements. We cannot assure you that we will be successful in acquiring additional funding at levels sufficient to fund our operations on terms favorable to us or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our preclinical studies, clinical trials, research and development programs or commercialization efforts. Because of the numerous risks and uncertainties associated with the development and commercialization of our development candidates and the extent to which we may enter into collaborations with third parties to participate in their development and commercialization, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated preclinical studies and clinical trials. To the extent that we raise additional capital through additional collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights, future revenue streams or research programs or to grant licenses on terms that may not be as favorable to us. If we do raise additional capital through public or private equity, including pursuant to the 2024 ATM Agreement, or convertible debt offerings, the ownership interest of our existing stockholders will be diluted, and the terms of certain securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

We do not expect to realize revenue from product sales (either directly or through our collaborators) in the foreseeable future, if at all, unless and until our drug candidates complete clinical testing, are approved for commercialization and are successfully marketed.

Risks Related to Our Discovery, Development and Regulatory Approval of Development Candidates

We may not be successful in our efforts to use and expand our discovery and ADC platforms to build and progress a pipeline.

A key element of our strategy is to use and expand our discovery and ADC platforms to build a pipeline and progress the pipeline through preclinical and clinical development for the treatment of various diseases. Our scientific research that forms the basis of our discovery and ADC platforms is ongoing. Further, the scientific evidence to support the feasibility of discovering and developing products based on our technologies has not been established. In addition, our discovery and ADC platforms are not proven to be superior to competing technologies. Even if we are successful in building our pipeline, the development candidates that we identify may not be suitable for clinical development or generate acceptable clinical data, including as a result of being shown to have unacceptable effects or other characteristics that indicate that they are unlikely to be products that will receive marketing approval from regulatory authorities or achieve market acceptance. If we or our collaborators do not successfully develop and commercialize development candidates, we will not be able to generate product revenue.

We may be unable to advance any of our development candidates into and through clinical development, obtain regulatory approvals and ultimately commercialize them, or we could experience significant delays in doing so.

Some of our candidates are in the early stages of development efforts and we will need to continue to progress our development candidates through preclinical studies and submit INDs to the FDA or appropriate regulatory documents to applicable foreign authorities prior to initiating their clinical development. Additionally, we acquired AL102, a Phase 3 clinical asset, which requires additional clinical data before we can submit an NDA to the FDA and other applicable foreign authorities before we can receive regulatory approval, if at all. We have no products on the market that have gained regulatory approval. Our ability to generate revenue and achieve and sustain profitability depends on our ability to continue to identify programs and nominate development candidates, advance them into preclinical and clinical development and obtain regulatory approvals for and successfully commercializing them, either alone or through a collaboration.

Before obtaining regulatory approval for the commercial distribution of any programs or development candidates, we, either alone or with or through a collaborator, must conduct extensive preclinical studies, followed by clinical trials to demonstrate their safety and efficacy in humans. We cannot be certain of the timely completion or outcome of our research and development activities or our planned clinical studies and cannot predict if the FDA or other regulatory authorities will ultimately support the further advancement of our development candidates. Most of our development candidates are in the early stages of development, other than AL102, which is a Phase 3 clinical asset, and we are subject to the risks of failure inherent in the development of candidates based on novel approaches, targets and mechanisms of action.

In November 2021, we submitted an IND for the IMM-BCP-01 program to the FDA. In March 2022, the FDA communicated that the clinical study can be initiated for our antibody cocktail for the treatment of SARS-CoV-2 following a brief clinical hold, and we initiated the Phase 1b study of IMM-BCP-01 in patients infected with SARS-CoV-2 in June 2022. On January 6, 2023, we announced that we successfully completed dosing of the first cohort of patients in a Phase 1b trial with no significant treatment-related adverse events. We decided to seek a partner in order to continue the trial and for any further development activities. No assurance can be given that we will be able to find a suitable partner for IMM-BCP-01, that any potential partner will offer us satisfactory partnering terms or that any such partner will have success in its development and commercialization efforts.

We anticipate submitting INDs for IM-3050 and IM-1021 in the first quarter of 2025 and for IM-4320 at a later date. However, there can be no assurance that we will be able to do so as anticipated or that we will not face regulatory or other hurdles, including the requirement to provide additional data.

If we do not advance IM-4320, IM-1021 or IM-3050 to IND as anticipated, we may incur significant delays and expense identifying another development candidate, if any. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays, and difficulties frequently encountered by biotechnology companies such as ours.

We may not have the financial resources to continue development of, or to enter into new collaborations for, our development candidates. This may be exacerbated by one or more of the following:

- negative or inconclusive results from our preclinical studies or clinical trials or the preclinical studies or clinical trials of others for development candidates similar to ours, leading to a decision or requirement to conduct additional preclinical studies or clinical trials or abandon a program;
- product-related side effects experienced by participants in our clinical trials or by individuals using drugs or therapeutic antibodies similar to ours;
- product-related side effects experienced by participants in our clinical trials or by individuals using drugs or therapeutic antibodies similar to ours;
- delays in IND submissions or comparable foreign applications, or delays or failure in obtaining the necessary approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- inadequate supply or quality of components or materials or other supplies necessary for the conduct of our preclinical studies or clinical trials;
- poor effectiveness of our development candidates during preclinical studies or clinical trials;
- capital expenditures used to expand our current pipeline;
- unfavorable FDA or other regulatory agency inspection and review of a clinical trial or manufacture site; failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all; or

- the FDA or other regulatory agencies interpreting our data differently than we do.

Further, we and any existing or potential future partners may never receive necessary marketing and commercialization approvals from regulatory authorities. Even if we or a potential future partner obtains regulatory approval, the approval may be delayed, or may be for targets, disease indications or patient populations not as broad as we intended or desired or may require labeling that includes significant use or distribution restrictions or safety warnings. We or a potential future partner may be subject to post-marketing testing requirements to maintain regulatory approval.

We may pursue particular programs or development candidates over others; these decisions may prove to be wrong and may adversely impact our business.

In the natural course of progressing our development candidates, we may make decisions about prioritization that may prove to be incorrect. In addition, because we have limited financial and other resources, we may be limited in our ability to pursue all potential development candidates of interest, including IM-4320, IM-1021, IM-3050 and AL102, even if we would otherwise choose to do so if these limitations did not exist. For these reasons, we may fail to capitalize on viable opportunities. If we do not accurately evaluate the commercial potential or target market for a program or development candidate, we may relinquish valuable rights to it through partnership, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights.

We may fail to realize the business benefits anticipated as a result of completed or pending strategic transactions.

The success of our business strategy to pursue acquisitions of assets will depend, in part, on our ability to successfully integrate, develop and advance the acquired assets. If we are unable to do so following the consummation of such transaction, the anticipated benefits of such transaction may not be realized fully or at all, or may take longer to realize than expected. Any failure to timely realize the anticipated benefits of our strategic transaction could have a material adverse effect on our business, operating results, financial condition and stock price. Furthermore, in connection with the consummation of such transactions, we may become responsible for unknown or contingent liabilities. These liabilities could include, among others, exposure to unexpected compliance and regulatory violations and issues, clinical trial design or contract manufacturing and supply issues or delays that may impact the timing to submit applications for regulatory approval, unanticipated obligations to vendors and other creditors and other problems that could result in significant costs and delays to us.

All these factors could decrease or delay the expected accretive effect of the transactions, negatively impact our stock price, or have a material adverse effect on our business, financial condition and results of operations.

As a targeted radioligand therapy, our IM-3050 program may face additional and potentially unpredictable challenges.

Lutetium-177 (177Lu), or Lu-177, oncology therapy is relatively new, only two Lu-177 therapies have been approved in the United States or the European Union and only a limited number of clinical trials of products based on Lu-177 therapies have commenced. As such, it is difficult to accurately predict the developmental challenges we may incur in advancing IM-3050 through candidate nomination, preclinical studies and clinical trials, if at all. The IM-3050 program is subject to risks described above as well as others that may include:

- interruptions to our ability to obtain sufficient supply of Lu-177 for our preclinical needs and potential future clinical and commercial needs;

- we may not be able to find suitable vendors, including contract research organizations, or CROs and clinical manufacturing organizations, for our development due to the limited number of suppliers qualified to work with radioactive material, or we may develop sole-source relationships with vendors, which may present additional risks inherent to a sole-source relationship;

- if we initiate a clinical trial, our ability to recruit patients may be negatively impacted by the limited number of sites that can administer radioligand therapies;

- if our product is successfully approved for commercial sale, our revenue may be negatively impacted by the limited number of sites that can administer radioligand therapies; and

- due to the short half-life of Lu-177, we may incur significant expense developing the means required to effectively and timely distribute drug products to clinical sites and, if approved, to sites for administration to patients.

There is no guarantee that our collaboration with AbbVie Global Enterprises Ltd., or AbbVie, will result in the successful discovery and validation of targets for further development and commercialization by AbbVie.

Related to the AbbVie collaboration and option agreement entered into on January 4, 2023, or the Collaboration Agreement, there is no guarantee that our discovery platform will successfully discover and validate targets, or that such targets may become the subject of further successful development and commercialization by AbbVie. Additionally, if there is any conflict, dispute, disagreement, or issue of nonperformance between us and AbbVie regarding our rights or obligations under the Collaboration Agreement, AbbVie may have a right to terminate the agreement or reduce the payments due to us thereunder.

We have obtained rights to use human samples in furtherance of our research and development. However, if we failed to obtain appropriate permission to use these samples or exceed the scope of the permissions given, our program could be adversely affected.

With respect to certain of our development candidates, our discovery process involves gathering tissue samples from humans. While we attempt to ensure that we and our vendors have obtained these samples with all necessary permissions, there is a risk that one or more individuals from whom samples were collected, or their representatives may assert that we have either failed to obtain appropriate permission or exceeded the scope of permission granted. In such circumstances, we could be required to pay monetary damages, to pay a continuing royalty on any products created or invented by analyzing the person's sample or even to cease using the sample and any and all materials derived from or created through analysis of the sample, any of which could result in a change to our business plan and materially harm our business, financial condition, results of operations and prospects. Further, in some cases, these penalties could materially impact the performance, availability, or validity of studies conducted by us or on our behalf. Even in the absence of violations resulting in penalties, regulatory and other authorities may refuse to authorize the conduct or to accept the results of studies for regulatory or ethical reasons, which could impact our ability to progress our program into or through clinical trials, and peer-reviewed journals may refuse to publish scientific findings, which could limit our ability to disseminate information related to this program.

Clinical trials are expensive, time-consuming and difficult to design and implement.

Human clinical trials are expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. For example, we will incur additional expenses as a result of acquiring AL102 and implementing its Phase 3 clinical trial. Additionally, because our other development candidates are based on new technologies and discovery approaches, we expect that they will require extensive research and development and have substantial manufacturing and processing costs. In addition, costs to treat study participants and to treat potential side effects that may result from our development candidates may be significant. Accordingly, our clinical trial costs are likely to be high and could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Preliminary results from our preclinical studies and clinical trials that we announce or publish from time to time may change as more data become available and as the data undergo audit and verification procedures. Furthermore, clinical development has an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results.

From time to time, we may publish preliminary results from our preclinical studies and clinical trials. Interim results from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as enrollment continues and more data becomes available. Preliminary or top-line results also remain subject to audit and verification procedures that may result in the final data being materially different from the data we previously published or publish. As a result, preliminary and interim data should be viewed with caution until the final data is available. Differences between preliminary or interim data and final data could significantly affect our business prospects.

It is impossible to predict when or if any of our programs or development candidates will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities, we must, as applicable, complete preclinical studies and then conduct extensive clinical trials to demonstrate the safety and efficacy in humans. Clinical testing can take many years to complete, and its outcome is inherently uncertain. The results of preclinical studies and early clinical trials of any of our development candidates may not be predictive of the results of later-stage clinical trials. In addition, development candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. A number of pharmaceutical companies have suffered significant setbacks in advanced clinical trials due to lack of efficacy or safety profiles, notwithstanding promising results in earlier trials. In addition, AL102's prior development was not conducted by us, and we did not conduct any of the preclinical studies for the ROR1 ADC that we in-licensed from Zentalis. As a result, our assumptions about the potential of these programs are based in large part on the data generated in preclinical studies and clinical trials conducted by these third parties. Results from nonclinical studies and clinical trials can be interpreted in different ways. We may observe materially and adversely different results in any ongoing or future preclinical studies or clinical trials, or later discover errors or other issues with the data generated by these third parties.

We do not know whether planned preclinical studies and clinical trials will be completed on schedule or at all, or whether planned clinical trials will begin on time, need to be redesigned, enroll participants on time or be completed on schedule, if at all. Our development programs may be delayed for a variety of reasons, including delays related to:

- inability to generate sufficient preclinical, toxicology, or other in vivo or in vitro data to support the initiation of clinical trials;
- delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for clinical trials;
- delays in developing suitable assays for screening participants for eligibility for trials with respect to certain development candidates;
- delays in reaching agreement with the FDA, European Medicines Agency or other regulatory authorities as to the design or implementation of our clinical trials;
- reaching agreement on acceptable terms with prospective CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining institutional review board, or IRB, approval at each clinical trial site;
- recruiting suitable participants to participate in a clinical trial and having participants complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites, CROs or other third parties deviating from trial protocol or dropping out of a trial;

- failure to perform in accordance with the FDA's good clinical practice, or GCP requirements, or applicable regulatory guidelines in other countries;

- any unresolved ethical issues associated with enrolling patients in clinical trials in lieu of prescribing existing treatments that have established safety and efficacy profiles;

- addressing participant safety concerns that arise during the course of a trial, including occurrence of adverse events that are viewed to outweigh potential benefits;

- external factors such as an epidemic or pandemic which prevent execution of the study(ies) or recruitment of subjects to a trial or trials; or

- having inadequate supply or quality of components or materials or other supplies necessary for the conduct of our preclinical studies or clinical trials.

Furthermore, we expect to rely on CROs, clinical trial sites and other vendors to ensure the proper and timely conduct of our clinical trials and, while we expect to enter into agreements governing their committed activities, we have limited influence over their actual performance.

Clinical trials may be suspended or terminated by us, our partners, the IRBs of the institutions in which such trials are being conducted, the Data Safety Monitoring Board for such trials or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, inability to recruit appropriate subjects or an adequate number of subjects, failure to demonstrate a benefit from using a drug or therapeutic biologic, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience delays in the completion of, or termination of, any clinical trial of any of our programs, the commercial prospects will be harmed, and our ability to generate product revenue will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow our product development and approval process and jeopardize our ability to commence product sales and generate revenue. Any of these occurrences may materially and adversely affect our business, financial condition, results of operations and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval.

If we encounter difficulties enrolling participants in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may not be able to initiate or continue clinical trials for our programs or development candidates if we are unable to locate and enroll a sufficient number of eligible participants to participate in these trials as required by the FDA or other regulatory authorities. The enrollment of participants depends on many factors, including:

- the severity of the disease under investigation;

- the eligibility criteria defined in the clinical trial protocol and the size of the population required for analysis of the trial's primary endpoints;

- the existence of approved therapies, or ones available under Emergency Use Authorizations, for treating similar populations may limit recruitment into the clinical trial;

- the willingness or availability of eligible individuals to participate in our clinical trials;

- the proximity and availability of clinical trial sites;
- the referral practices of physicians;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- perceptions as to the potential advantages of the candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating;
- our ability to obtain and maintain participant consents; and
- the risk that those enrolled in clinical trials will drop out of the trials before completion.

In addition, our future clinical trials will compete with other clinical trials for development candidates that are in the same therapeutic areas as those being pursued by us, 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. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of participants who are available for our clinical trials at such clinical trial sites. Additionally, because we anticipate that some of our oncology clinical trials will be in patients with advanced solid tumors, the patients are typically in the late stages of the disease and may experience disease progression or adverse events independent from our development candidates, making them unevaluable for purposes of the trial and requiring additional enrollment. Delays in enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our pipeline.

We face substantial competition, which may result in others discovering, developing or commercializing products more quickly or marketing them more successfully than us. If their product candidates are shown to be safer or more effective than ours, then our commercial opportunity will be reduced or eliminated.*

The development and commercialization of new product candidates is highly competitive. We compete in the segments of the pharmaceutical, biotechnology and other related markets that develop therapies for the treatment of cancer, which is highly competitive with rapidly changing standards of care. As such, our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop or that would render any products that we may develop obsolete or non-competitive. Our competitors also may obtain marketing approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

We expect to compete with oncology companies advancing small molecules, ADCs, targeted radiotherapies, antibodies, and other therapeutic modalities. This may include large, multinational pharmaceutical companies such as Immunogen (acquired by AbbVie Inc.), AstraZeneca; Amgen; Bayer AG, BMS; Eli Lilly and Company; Genentech, Inc. (a member of Roche group); Merck & Co. Inc.; Novartis; Seagen (acquired by Pfizer) and Johnson & Johnson. If any of our current or future product candidates are eventually approved for sale, they will likely compete with a range of treatments that are either in development or currently marketed for use in those same disease indications.

With respect to AL102, we expect to compete with companies advancing treatments for desmoid tumors, including SpringWorks Therapeutics,Inc. In November2023, Springworks received FDA approval for its oral gamma secretase inhibitor, OGSIVEO® (nirogacestat), for the treatment of adult patients with progressing tumors who require systemic treatment. Desmoid tumors treatments also include surgery, hormonal therapy, targeted therapy and chemotherapy.

There are several other companies developing FAP-targeted radioligand therapies which may represent the most direct competition to our IM-3050 program. Novartis is advancing a FAP-targeted radioligand therapy (177Lu-FAP-2286) that was acquired from Clovis Oncology and is currently in Phase 1/2. In December2023, Eli Lilly and Company acquired POINT Biopharma, which is developing a FAP-targeted radioligand therapy (PNT2004) that is currently in Phase 1. Yantai LNC Biotechnology has also initiated a Phase 1 trial for another FAP-targeted radioligand therapy (LNC1004.) Additionally, our IM-3050 program faces competition from competitors who may have superior access to a consistent supply of radioactive isotopes.

In January2023, we exclusively licensed a preclinical ROR1 ADC program from Zentalis with the potential to address hematologic and solid tumor indications. There are several other companies developing antibodies, ADCs, and CAR-T therapies targeting ROR1, and they may represent the most direct competition to our ROR1 ADC program. Merck has an ADC program (Zilovertamab vedotin) in a Phase 2/3 clinical trial for B-cell lymphoma. CStone Pharmaceuticals, Inc. has an ADC program in a Phase I trial. Companies advancing clinical ROR1-CAR T therapy programs include Octernal Therapeutics (ONCT-808) in a Phase 1/2 in B-cell malignancies, and Lyell Immunopharma (LYL797) in a Phase 1 trial.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, performing preclinical studies, conducting clinical studies, integrating assets into their portfolio, obtaining regulatory approvals and marketing approved products than we have. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical study sites and patient registration for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our programs. In addition, these larger companies may be able to use their greater market power to obtain more favorable supply, manufacturing, distribution and sales-related agreements with third parties, which could give them a competitive advantage over us.

Further, as more product candidates within a particular class of drugs proceed through clinical development to regulatory review and approval, the amount and type of clinical data that may be required by regulatory authorities may increase or change. Consequently, the results of our clinical trials for product candidates in that class will likely need to show a risk benefit profile that is competitive with or more favorable than those products and product candidates in order to obtain marketing approval or, if approved, a product label that is favorable for commercialization. If the risk benefit profile is not competitive with those products or product candidates, or if the approval of other agents for an indication or patient population significantly alters the standard of care with which we tested our product candidates, we may have developed a product that is not commercially viable, that we are not able to sell profitably or that is unable to achieve favorable pricing or reimbursement. In such circumstances, our future product revenue and financial condition would be materially and adversely affected.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other 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 scientific and management personnel, establishing clinical study sites and subject enrollment for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our current or future products or programs.

The market may not be receptive to our development candidates, and we may not generate any revenue from their sale, partnering or licensing.

Even if regulatory marketing approval is obtained, we may not generate or sustain revenue from sales of the corresponding product. Market acceptance will depend on, among other factors:

- the timing of our receipt of any marketing and commercialization approvals and the terms of such approvals;
- safety and efficacy;
- limitations or warnings contained in any labeling approved by the FDA or other regulatory authority;

- relative convenience and ease of administration;
- the availability of coverage and adequate government and third-party payor reimbursement and the pricing of our products, particularly as compared to alternative treatments; and
- availability of alternative effective treatments for the disease indications that our programs or development candidates are intended to treat and the relative risks, benefits and costs of those treatments.

If any program or development candidate we commercialize fails to achieve market acceptance, it could have a material and adverse effect on our business, financial condition, results of operations and prospects.

If the market opportunities for our development candidates are smaller than we believe they are, our future product revenues may be adversely affected, and our business may suffer.

Our understanding of the number of people who suffer from certain types of medical conditions that may be able to be treated by our current and future potential development candidates is based on estimates. These estimates may prove to be incorrect, and new studies may reduce the estimated incidence or prevalence of these diseases. The number of patients in the United States or elsewhere may turn out to be lower than expected or may not be otherwise amenable to treatment. Additionally, patients may become increasingly difficult to identify and access, all of which would adversely affect our business prospects and financial condition. In particular, the treatable population for various oncology indications may further be reduced if our estimates of addressable populations are erroneous or sub-populations of patients do not derive benefit from our development candidates.

Further, there are several factors that could contribute to making the actual number of participants in clinical studies less than the potentially addressable market. These include the lack of widespread availability of, and limited reimbursement for, new therapies in many underdeveloped markets.

If we or others identify undesirable side effects caused by any of our current or future development candidates undergoing clinical trials, our ability to market and derive revenue from the program or development candidate could be compromised.

Undesirable side effects caused by any development candidates could cause regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of these side effects. In such an event, our trials could be suspended or terminated, and the FDA or other regulatory authorities could order us to cease further development of or deny approval of a development candidate for any or all targeted indications. Such side effects could also affect recruitment or the ability of enrolled participants to complete the trial or result in potential product liability claims. Any of these occurrences may materially and adversely affect our business and financial condition and impair our ability to generate revenues.

Further, clinical trials by their nature utilize a sample of the potential population. With a limited number of participants and limited duration of exposure, rare and severe side effects of a program or development candidate may only be uncovered when a significantly larger number of participants are exposed to the development candidate or when participants are exposed for a longer period of time.

In the event that any of our development candidates receive regulatory approval and we or others identify undesirable side effects caused by one of these products, any of the following adverse events could occur, which could result in the loss of significant revenue to us and materially and adversely affect our results of operations and business:

- regulatory authorities may withdraw their approval of the product, seize the product or impose additional restrictions on the marketing of the particular product or the manufacturing processes for the product or any component thereof;

- we may be required to recall the product, change the way the product is administered, conduct additional preclinical studies or clinical trials or change the labeling of the product;

- we may be sued, subject to fines, injunctions or the imposition of civil or criminal penalties; and

- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication or a limitation on the indications for use or impose restrictions on the distribution in the form of a REMS in connection with approval.

If any of our development candidates is approved for marketing and commercialization in the future and we are unable to develop sales, marketing and distribution capabilities on our own or enter into agreements with third parties to perform these functions on acceptable terms, we will be unable to successfully commercialize any such future products.

We currently have no sales, marketing or distribution capabilities, which are necessary in order to commercialize each program and development candidate that gains FDA approval. It would be expensive and time-consuming to build these capabilities or enter into strategic partnerships with third parties to perform these services. If we decide to market any approved products directly, we will need to commit significant financial and managerial resources to develop a marketing and sales force with technical expertise and supporting distribution, administration and compliance capabilities. If we rely on third parties with such capabilities to market any approved products or decide to co-promote products with partners, we will need to establish and maintain marketing and distribution arrangements with third parties, and there can be no assurance that we will be able to enter into such arrangements on acceptable terms or at all. In entering into third-party marketing or distribution arrangements, any revenue we receive will depend upon the efforts of the third parties and we cannot assure you that such third parties will establish adequate sales and distribution capabilities or be successful in gaining market acceptance for any approved product. If we are not successful in commercializing any product approved in the future, either on our own or through third parties, our business and results of operations could be materially and adversely affected.

A Fast Track Designation from the FDA, even if granted for any of our product candidates, may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that our product candidates will receive regulatory approval.

The FDA has granted Fast Track designation for AL102 for progressing desmoid tumors. We intend to seek such designation for some or all of our additional product candidates. The Fast Track program is intended to expedite or facilitate the process for reviewing new product candidates that meet certain criteria. Specifically, drugs and biologic are eligible for Fast Track designation if they are intended, alone or in combination with one or more drugs or biologics, to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the combination of the product candidate and the specific indication for which it is being studied. The sponsor of a Fast Track product candidate has opportunities for more frequent interactions with the applicable FDA review team during product development and, once a biologics license application, or biologics license applications, or BLA, or NDA is submitted, the application may be eligible for priority review. An NDA or BLA submitted for a Fast Track product candidate may also be eligible for rolling review, where the FDA may consider for review sections of the NDA or BLA on a rolling basis before the complete application is submitted. If the sponsor provides a schedule for the submission of the sections of the NDA or BLA, the FDA agrees to accept sections of the NDA or BLA, as applicable, and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

The FDA has broad discretion whether or not to grant this designation. Even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive Fast Track Designation for any of our product candidates, such product candidates may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may also withdraw Fast Track Designation if it believes that the designation is no longer supported by data from our clinical development program. Furthermore, such a designation does not increase the likelihood that AL102 or any other product candidate that may be granted Fast Track designation will receive regulatory approval in the United States. Many product candidates that have received Fast Track Designation have ultimately failed to obtain regulatory approval.

We may attempt to secure approval from the FDA through the use of the accelerated approval pathway. If we are unable to obtain such approval, we may be required to conduct additional preclinical studies or clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary regulatory approvals. Even if we receive accelerated approval from the FDA, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA may seek to withdraw any accelerated approval we have obtained.

We may in the future seek accelerated approval for one or more of our product candidates. Under the accelerated approval program, the FDA may grant accelerated approval to a product candidate designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit.

The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional confirmatory studies to verify and describe the drug's clinical benefit. If such post-approval studies fail to confirm the drug's clinical benefit or are not completed in a timely manner, the FDA may withdraw its approval of the drug on an expedited basis. In addition, in December 2022, President Biden signed an omnibus appropriations bill to fund the U.S. government through fiscal year 2023. Included in the omnibus bill is the Food and Drug Omnibus Reform Act of 2022, which among other things, provided FDA new statutory authority to mitigate potential risks to patients from continued marketing of ineffective drugs previously granted accelerated approval. Under these provisions, the FDA may require a sponsor of a product seeking accelerated approval to have a confirmatory trial underway prior to such approval being granted.

Prior to seeking accelerated approval for any of our product candidates, we intend to seek feedback from the FDA and will otherwise evaluate our ability to seek and receive accelerated approval. There can be no assurance that after our evaluation of any feedback and other factors we will decide to pursue or submit an NDA for accelerated approval or any other form of expedited development, review or approval. Furthermore, if we decide to submit an application for accelerated approval for any of our product candidates, there can be no assurance that such application will be accepted or that any expedited development, review or approval will be granted on a timely basis, or at all. The FDA or other comparable foreign regulatory authorities could also require us to conduct further studies prior to considering our application or granting approval of any type. A failure to obtain accelerated approval or any other form of expedited development, review or approval for any of our product candidates would result in a longer time period to commercialization of such product candidate, if any, could increase the cost of development of such product candidate and could harm our competitive position in the marketplace.

We may fail to obtain orphan drug designations from the FDA for our product candidates, and even if we obtain such designations, we may be unable to maintain the benefits associated with orphan drug designation, including the potential for market exclusivity.

Regulatory authorities in some jurisdictions, including the United States, may designate biologics or drugs designed to address relatively small patient populations as "orphan drugs." Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biologic intended to treat a rare disease or condition, which is defined as one occurring in a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States, where there is no reasonable expectation that the cost of developing the drug or biologic will be recovered from sales in the United States. In the United States, orphan designation entitles a party to financial incentives such as opportunities for grant funding for clinical trial costs, tax advantages and user-fee waivers. In addition, if a product candidate that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including an NDA, to market the same drug for the same disease or condition for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or where the manufacturer is unable to assure sufficient product quantity.

In November 2023, the FDA granted Orphan Drug Designation to AL102 for the treatment of desmoid tumors, and we may seek additional Orphan Drug Designations for our other product candidates. There can be no assurances that we will be able to obtain such designations. Even if we, or any future collaborators, obtain orphan drug designation for a product candidate, we, or they, may not be able to obtain or maintain orphan drug exclusivity for that product candidate. Further, even if we, or any future collaborators, obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active ingredients may be approved for the same disease or condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug or biologic for the same disease or condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care, or the manufacturer of the product with orphan exclusivity is unable to maintain sufficient product quantity. Orphan drug designation neither shortens the development or regulatory review time of a drug nor gives the drug or biologic any advantage in the regulatory review or approval process.

If we are required by the FDA to obtain approval of a companion diagnostic in connection with approval of any of our product candidates, and we do not obtain, or face delays in obtaining, FDA approval of such companion diagnostic, we will not be able to commercialize such product candidate and our ability to generate revenue will be materially impaired.

According to FDA guidance, if the FDA determines that a companion diagnostic device is essential to the safe and effective use of a novel therapeutic product or indication, the FDA generally will not approve the therapeutic product or new therapeutic product indication if the companion diagnostic is not also approved or cleared for that indication. Depending on the data from our clinical trials, we may decide to collaborate with diagnostic companies during our clinical trial enrollment process to help identify patients with characteristics that we believe will be most likely to respond to our product candidates. If a satisfactory companion diagnostic is not commercially available in this situation, we may be required to develop or obtain such diagnostic, which would be subject to regulatory approval requirements. The process of obtaining or creating a diagnostic is time consuming and costly.

Companion diagnostics are developed in conjunction with clinical programs for the associated product and are subject to regulation as medical devices by the FDA and comparable foreign regulatory authorities, and the FDA has generally required premarket approval of companion diagnostics for cancer therapies. The approval or clearance of a companion diagnostic as part of the therapeutic product's further labeling limits the use of the therapeutic product to only those patients who express the specific characteristic that the companion diagnostic was developed to detect.

If the FDA or a comparable foreign regulatory authority requires approval or clearance of a companion diagnostic for any of our product candidates, whether before or after the product candidate obtains regulatory approval, we and/or third-party collaborators may encounter difficulties in developing and obtaining approval or clearance for these companion diagnostics. Any delay or failure by us or third-party collaborators to develop or obtain regulatory approval or clearance of a companion diagnostic could delay or prevent approval or continued marketing of the relevant product. We or our collaborators may also experience delays in developing a sustainable, reproducible and scalable manufacturing process for the companion diagnostic or in transferring that process to commercial partners or negotiating insurance reimbursement plans, all of which may prevent us from completing our clinical trials or commercializing our product candidates, if approved, on a timely or profitable basis, if at all.

Additional regulatory burdens and other risks and uncertainties in foreign markets may limit our growth.

Our future growth may depend, in part, on our ability to engage in development and commercialization efforts in foreign markets for which we may rely on strategic partnership with third parties. We will not be permitted to market or promote any program or development candidate before we receive regulatory approval from the applicable regulatory authority in a foreign market, and we may never receive such regulatory approval. To obtain separate regulatory approval in foreign markets, we generally 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 a program or development candidate, and we cannot predict success in these jurisdictions. If we obtain approval of any of our programs or development candidates and ultimately commercialize any such program or development candidate in foreign markets, we would be subject to risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and the reduced protection of intellectual property rights in some foreign countries. Pricing flexibility may be limited in foreign markets which may further limit revenue.

Our business entails a significant risk of product liability, which may not be sufficiently covered by our insurance.

As we continue to engage in preclinical studies and clinical trials, we will be exposed to significant product liability risks inherent in the development, testing, manufacturing and marketing of antibody treatments. Product liability claims could delay or prevent completion of our development programs. If we succeed in marketing products, such claims could result in an FDA investigation of the safety and effectiveness of our products, 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 or withdrawal of approvals. Regardless of the merits or eventual outcome, liability claims may also result in decreased demand for our products, injury to our reputation, costs to defend the related litigation, a diversion of management's time and our resources, substantial monetary awards to trial participants or patients and a decline in our stock price. Any insurance we have or may obtain may not provide sufficient coverage against potential liabilities. Furthermore, clinical trial and product liability insurance is becoming increasingly expensive. As a result, our partners or we may be unable to obtain sufficient insurance at a reasonable cost to protect us against losses caused by product liability claims that could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Government Regulation

We and the third parties with whom we work are subject to stringent and evolving U.S. and foreign laws, regulations, and rules, contractual obligations, industry standards, policies and other obligations related to data privacy and security. Our (or the third parties with whom we work) actual or perceived failure to comply with such obligations could lead to regulatory investigations or government enforcement actions; private litigation (including class claims) and mass arbitration demands; fines and penalties; disruptions of our business operations; adverse publicity; and other consequences that could negatively affect our operating results and business.*

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) personal information and other sensitive information, including proprietary and confidential business data, trade secrets, intellectual property, data we collect about trial participants in connection with clinical trials, and sensitive third-party data. Due to these data processing activities, we and the third parties with whom we work, including our current and potential collaborators are or may become subject to numerous data privacy and security obligations, such as federal, state, local and foreign laws and regulations, guidance, industry standards, external and internal privacy and security policies, contractual requirements, and other obligations related to data privacy and security.

In the United States, numerous federal, state and local laws and regulations, including federal health information privacy laws (*e.g.*, the Health Insurance Portability and Accountability Act, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, state data breach notification laws, state health information privacy laws, federal and state consumer protection laws (*e.g.*, Section 5 of the Federal Trade Commission Act), and other similar laws (*e.g.*, wiretapping laws), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of the third parties with whom we work. For example, HIPAA imposes specific requirements relating to the privacy, security, and transmission of individually identifiable protected 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, or other data privacy and security laws. Depending on the facts and circumstances, we could be subject to criminal penalties if we knowingly obtain, use, or disclose protected health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA. However, determining whether protected health information has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and may be subject to changing interpretation. Many state laws govern the data privacy and security of personal information and data in specified circumstances, are often not pre-empted by HIPAA, and may have a more prohibitive effect than HIPAA, thus complicating compliance efforts. In the past few years, numerous U.S. states—including California, Virginia, Colorado, Connecticut, and Utah—have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal information. As applicable, such rights may include the right to access, correct, or delete certain personal information, and to opt-out of certain data processing activities, such as targeted advertising, profiling, and automated decision-making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal information, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020, or CPRA (collectively, CCPA) applies to personal information of consumers, business representatives, and employees who are California residents. The CCPA provides for fines of up to $7,500 per intentional violation and allows private litigants affected by certain data breaches to recover significant statutory damages. While there is currently an exception for protected health information that is subject to HIPAA and clinical trial regulations in the CCPA and certain other U.S. state privacy laws, these laws increase compliance costs and potential liability with respect to other personal information we maintain. Similar laws are being considered in several other states, as well as at the federal and local levels, and we expect more states to pass similar laws in the future.

Outside the United States, an increasing number of laws, regulations, and industry standards govern data privacy and security. For example, the European Union's General Data Protection Regulation, or EU GDPR, and the United Kingdom's GDPR, or UK GDPR, (collectively, GDPR) impose strict requirements for processing personal information. For example, under the GDPR, companies subject to these laws and in the event of non-compliance may experience temporary or definitive bans on data processing and other corrective actions; fines of up to 20 million Euros under the EU GDPR, 17.5 million pounds sterling under the UK GDPR or, in each case, 4% of annual global revenue, whichever is greater; or private litigation related to processing of personal information brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests. In Canada, the Personal Information Protection and Electronic Documents Act, or PIPEDA, and various related provincial laws, as well as Canada's Anti-Spam Legislation, or CASL, may apply to our operations. Compliance with foreign data privacy and security laws and regulations could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions.

In the ordinary course of business, we may transfer personal data from Europe and other jurisdictions to the United States or other countries. Europe and certain 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 (EEA) and the United Kingdom (UK) have significantly restricted the transfer of personal data to the United States and other countries whose privacy laws it generally believes are inadequate. Other jurisdictions may adopt similarly stringent interpretations of their data localization and cross-border data transfer laws.

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, these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these mechanisms to lawfully transfer personal data to the United States.

If there were 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 (such as Europe) 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. Regulators in the US are also increasingly scrutinizing certain data transfers and may also impose certain data localization requirements.

Our employees and personnel have used, and may in the future use, generative artificial intelligence, or AI, technologies to perform their work, and the disclosure and use of personal information in generative AI technologies is subject to various privacy laws and other privacy obligations. Governments have passed and are likely to pass additional laws regulating generative AI. Our use of this technology could result in additional compliance costs, regulatory investigations and actions, and lawsuits. If we are unable to use generative AI, it could make our business less efficient and result in competitive disadvantages.

We also have used, and may in the future use, AI and machine learning, or ML, technologies to assist us in making certain decisions, which is regulated by certain data privacy and security laws. Due to inaccuracies or flaws in the inputs, outputs, or logic of the AI/ML, the model could be biased and could lead us to make decisions that could bias certain individuals (or classes of individuals), and adversely impact their rights, employment, and ability to obtain certain pricing, products, services, or benefits.

In addition to data privacy and security laws, we are contractually subject to industry standards adopted by industry groups, and we may become subject to such obligations in the future. We are also bound by contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful. For example, clinical trial sites who share data about clinical trial participants may contractually limit our ability to use and disclose personal information.

We publish privacy policies, marketing materials and other statements, such as compliance with certain certifications or self-regulatory principles, regarding data privacy and security. If these policies, materials or statements are found to be deficient, lacking in transparency, deceptive, unfair, or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators or other adverse consequences.

Obligations related to data privacy and security (and consumers' data privacy expectations) are quickly changing, becoming increasingly stringent, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. Preparing for and complying with these obligations requires us to devote significant resources, which may necessitate changes to our services, information technologies, systems, and practices and to those of any third parties with whom we work.

We may at times fail (or be perceived to have failed) in our efforts to comply with our data privacy and security obligations. Moreover, despite our efforts, our personnel or third parties with whom we work may fail to comply with such obligations, which could negatively impact our business operations. If we or the third parties with whom we work fail, or are perceived to have failed, to address or comply with applicable U.S. and foreign data privacy and security laws and regulations, we could face government enforcement actions (*e.g.*, investigations, fines, penalties, audits, inspections, and similar); litigation (including class claims) or mass arbitration demands; additional reporting requirements and/or oversight; bans on processing personal information; orders to destroy or not use personal information; and imprisonment of company officials. Claims that we or the third parties with whom we work have violated individuals' privacy rights, failed to comply with data privacy and security laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time consuming to defend and could result in adverse publicity that could harm our business. Plaintiffs have become increasingly more active in bringing privacy-related claims against companies, including class claims and mass arbitration demands. Some of these claims allow for the recovery of statutory damages on a per violation basis, and, if viable, carry the potential for monumental statutory damages, depending on the volume of data and the number of violations.

Any of the aforementioned events could have a material adverse effect on our reputation, business, or financial condition, including: interruptions or stoppages in our business operations (including, as relevant, clinical trials); 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.

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

In the United States, there have been and continue to be a number of legislative initiatives to contain health care costs. For example, in March 2010, the Patient Protection and Affordable Care Act, or ACA, was signed into law. This legislation changed the system of health care insurance and benefits and was intended to broaden access to health care coverage, enhance remedies against fraud and abuse, add transparency requirements for the health care and health insurance industries, impose taxes and fees on the health care industry, impose health policy reforms, and control costs. This law also contains provisions that would affect companies in the pharmaceutical industry and other health care related industries by imposing additional costs and changes to business practices. Since its enactment, there have been judicial and congressional challenges to certain aspects of the ACA. For example, on June 17, 2021, the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the ACA is unconstitutional in its entirety because the individual mandate was repealed by the U.S. Congress. In addition, on August 16, 2022, President Biden signed the Inflation Reduction Act of 2022, or the IRA, into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA also eliminates the “donut hole” under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and creating a new manufacturer discount program. The uncertainty around the future of the ACA and other health reform measures, and in particular the impact to reimbursement levels, may lead to uncertainty or delay in the purchasing decisions of our customers, which may in turn negatively impact our product sales. We continue to evaluate the effect that the ACA and any other health reform measures could have on our business. Additional federal and state legislative and regulatory developments are likely, and we expect ongoing initiatives in the United States to increase pressure on drug and biologic pricing and reimbursement. Such reforms could have an adverse effect on anticipated revenues from development candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop development candidates.

Further, among other things, the IRA has multiple provisions that may impact the prices of drug products that are both sold into the Medicare program and throughout the United States. Starting in 2023, the Centers for Medicare & Medicaid Services, or CMS, began to implement the program in which a manufacturer of a drug or biological product covered by Medicare Parts B or D must pay a rebate to the federal government if the drug product’s price increases faster than the rate of inflation. This calculation is made on a drug product by drug product basis and the amount of the rebate owed to the federal government is directly dependent on the volume of a drug product that is paid for by Medicare Parts B or D. Additionally, starting in payment year 2026, the CMS will negotiate drug prices annually for a select number of single source Part D drugs without generic or biosimilar competition. On August 29, 2023, the list of the first 10 drugs that will be subject to price negotiations was published, although the Medicare drug price negotiation program is currently subject to legal challenges. CMS will also negotiate drug prices for a select number of Part B drugs starting for payment year 2028. If a drug product is selected by CMS for negotiation, it is expected that the revenue generated from such drug will decrease. CMS has and will continue to issue and update guidance as these programs are implemented. The IRA permits the U.S. Department of Health and Human Services, or HHS, to implement many of these provisions through guidance, as opposed to regulation, for the initial years. HHS has and will continue to issue and update guidance as these programs are implemented. It is unclear how the IRA will be implemented but is likely to have a significant impact on the pharmaceutical industry.

Further, on February 14, 2023, HHS released a report outlining three new models for testing by the Centers for Medicare & Medicaid Services Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Additionally, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act. On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march-in rights. While march-in rights have not previously been exercised, it is uncertain if that will continue under the new framework.

Individual states in the United States have also increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. For example, on January 5, 2024, the FDA approved Florida's Section 804 Importation Program, or SIP, proposal to import certain drugs from Canada for specific state healthcare programs. It is unclear how this program will be implemented, including which drugs will be chosen, and whether it will be subject to legal challenges in the United States or Canada. Other states have also submitted SIP proposals that are pending review by the FDA. Any such approved importation plans, when implemented, may result in lower drug prices for products covered by those programs.

Those new laws and initiatives may result in additional reductions in Medicare and other health care funding, which could have a material adverse effect on our future customers and accordingly, our financial operations. 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 lose any marketing approval that we otherwise may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. We expect that additional state and federal health care reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for health care products and services, which could result in reduced demand for our development candidates or additional pricing pressures, or otherwise adversely impact our operations.

If we or our existing or potential future partners, manufacturers or other service providers fail to comply with health care laws and regulations, we or they could be subject to enforcement actions, which could affect our ability to develop, market and sell our products and may harm our reputation.

Health care providers and third-party payors, among others, will play a primary role in the prescription and recommendation of any programs or development candidates for which we obtain marketing approval. Our current and future arrangements with third-party payors, providers and customers, among others, may expose us to broadly applicable fraud and abuse and other health care laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our development candidates for which we obtain marketing approval. These laws and regulations, include:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid or other federally financed healthcare programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other. Although there are several statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution, the exceptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Further, 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;

- federal civil and criminal false claims laws, including the federal False Claims Act, which prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, or causing to be made, a false statement to get a false claim paid. Over the past few years, several pharmaceutical and other healthcare companies have been prosecuted under these laws for a variety of alleged promotional and marketing activities, including: allegedly providing free items and services, sham consulting fees and grants and other monetary benefits to prescribers; reporting to pricing services inflated average wholesale prices that were then used by federal programs to set reimbursement rates; engaging in off-label promotion that caused claims to be submitted to government healthcare programs for non-covered, off-label uses; and submitting inflated best price information to the Medicaid Drug Rebate Program to reduce liability for Medicaid rebates. In addition, the government may assert that a claim including items or 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;

- HIPAA, which prohibits, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, of any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless or the payor (e.g., public or private), willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services; like 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;

- HIPAA, as amended by HITECH, and their respective implementing regulations, including the Final Omnibus Rule which impose requirements relating to the privacy, security and transmission of individually identifiable health information on certain health care providers, health care clearinghouses, and health plans, known as covered entities, as well as independent contractors, or agents of covered entities that create, receive or obtain individually identifiable health information in connection with providing a service on behalf of a covered entity, known as a business associates, and their covered subcontractors;

- the federal transparency requirements known as the federal Physician Payments Sunshine Act, created as part of the ACA, which requires manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the government information related to payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professionals (such as physician assistants and nurse practitioners) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and

- analogous local, state and foreign laws and regulations such as state 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; some state laws that require biotechnology companies to comply with the industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; some state laws that require biotechnology companies to report information on the pricing of certain drug products; and some state and local laws require the registration or pharmaceutical sales representatives.

Ensuring that our future business arrangements with third parties comply with applicable health care laws and regulations could involve substantial costs. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with multiple jurisdictions with different compliance or reporting requirements increases the possibility that a health care company may run afoul of one or more of the requirements. It is possible that governmental authorities will conclude that our business practices, including certain advisory agreements we have entered into with physicians who are paid, in part, in the form of stock or stock options, 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 criminal and civil monetary penalties, damages, fines, individual imprisonment, disgorgement, contractual damages, reputational harm, exclusion from participation in government health care programs, integrity obligations, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, private qui tam actions brought by individual whistleblowers in the name of the government, refusal to allow us to enter into supply contracts, including government contracts, additional reporting requirements and oversight if subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We intend to develop and implement a comprehensive corporate compliance program prior to the commercialization of our development candidates. Although effective compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, 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. Moreover, federal, state or foreign laws or regulations are subject to change, and while we, our collaborators, manufacturers and/or service providers currently may be compliant, that could change due to changes in interpretation, prevailing industry standards or for other reasons.

Any programs or development candidates for which we intend to seek approval as biologic products may face competition sooner than anticipated.

Even if we are successful in achieving regulatory approval to commercialize a program or development candidate ahead of our competitors, our development candidates may face competition from biosimilar or generic products. In the United States, our antibody-based programs and development candidates are expected to be regulated by the FDA as biological products, and we intend to seek approval for these development candidates pursuant to the BLA pathway. The Biologics Price Competition and Innovation Act of 2009, or BPCIA, created an abbreviated pathway for FDA approval of biosimilar and interchangeable biological products based on a previously licensed reference product. Under the BPCIA, an application for a biosimilar biological product cannot be approved by the FDA until 12 years after the original reference biological product was approved under a BLA. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our programs and development candidates.

We believe that any of our development candidates approved as a biological product under a BLA should qualify for the 12-year period of exclusivity available to reference biological products. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our development candidates to be reference biological products pursuant to its interpretation of the exclusivity provisions of the BPCIA for competing products, potentially creating the opportunity for generic follow-on biosimilar competition sooner than anticipated. Moreover, the extent to which a biosimilar product, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing including whether a future competitor seeks an interchangeability designation for a biosimilar of one of our products. Under the BPCIA as well as state pharmacy laws, only interchangeable biosimilar products are considered substitutable for the reference biological product without the intervention of the health care provider who prescribed the original biological product. However, as with all prescribing decisions made in the context of a patient-provider relationship and a patient's specific medical needs, health care providers are not restricted from prescribing biosimilar products in an off-label manner. In addition, a competitor could decide to forego the abbreviated approval pathway available for biosimilar products and to submit a full BLA for product licensure after completing its own preclinical studies and clinical trials. In such a situation, any exclusivity for which our development candidates may be eligible under the BPCIA would not prevent the competitor from marketing its biological product as soon as it is approved.

In Europe, the European Commission has granted marketing authorizations for several biosimilar products pursuant to a set of general and product class-specific guidelines for biosimilar approvals issued over the past few years. In addition, companies may be developing biosimilar products in other countries that could compete with our products, if approved. If competitors are able to obtain marketing approval for biosimilars referencing our development candidates, if approved, our future products may become subject to competition from such biosimilars, whether or not they are designated as interchangeable, with the attendant competitive pressure and potential adverse consequences. Such competitive products may be able to immediately compete with us in each indication for which our development candidates may have received approval.

If the FDA, the European Medicines Agency, or EMA, or other comparable foreign regulatory authorities approve generic versions of any of our small molecule drug candidates that receive marketing approval, or such authorities do not grant our products appropriate periods of exclusivity before approving generic versions of those products, the sales of our products, if approved, could be adversely affected.

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

The FDA may not approve an ANDA for a generic product until any applicable period of non-patent exclusivity for the reference listed drug has expired. The Federal Food, Drug and Cosmetic Act provides a period of five years of non-patent exclusivity for a new drug containing a new chemical entity. Specifically, in cases where such exclusivity has been granted, an ANDA may not be submitted to the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification that a patent covering the reference listed drug is either invalid or will not be infringed by the generic product, in which case the sponsor may submit its application four years following approval of the reference listed drug.

Generic drug manufacturers may seek to launch generic products following the expiration of any applicable exclusivity period we obtain if our small molecule product candidates are approved, even if we still have patent protection for such products. Competition that our products could face from generic versions of our products could materially and adversely affect our future revenue, profitability, and cash flows and substantially limit our ability to obtain a return on the investments we have made in those product candidates.

Disruptions at the FDA, the SEC and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved or commercialized in a timely manner or at all, or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in recent years, including beginning on December 22, 2018, the U.S. government shut down several times and certain regulatory agencies, such as the FDA and the SEC, had to furlough critical employees and stop critical activities.

If a prolonged government shutdown occurs, or if global health concerns prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, in our operations as a public company, future government shutdowns or delays could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Even if we receive regulatory approval of our development candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense, and we may be subject to penalties if we fail to comply with regulatory requirements.

If our development candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy, and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities.

Manufacturers and manufacturers' facilities must comply with extensive FDA, and comparable foreign regulatory authority, requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any BLA, other marketing applications, and previous responses to inspection observations. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control.

Any regulatory approvals that we receive for our development candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the program and development candidate. The FDA may also require a REMS program as a condition of approval of our development candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our development candidates, we will have to comply with requirements, including submissions of safety and other post-marketing information and reports, and registration, as well as continued compliance with cGMP and GCP for any clinical trials that we conduct post-approval.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

Failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or other enforcement-related letters or clinical holds on post-approval clinical trials;
- refusal of the FDA to approve pending BLAs or supplements to approved BLAs, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- injunctions or the imposition of civil or criminal penalties; and
- consent decrees, corporate integrity agreements, debarment, or exclusion from federal health care programs; or mandated modification of promotional materials and labeling and the issuance of corrective information.

The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our development candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative 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 lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Even if we are able to commercialize any program or development candidate, the program and development candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

We cannot be sure that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our development candidates or assure that coverage and reimbursement will be available for any product that we may develop. The regulations that govern marketing approvals, pricing and reimbursement for new drug and biological products vary widely from country to country. Some countries require approval of the sale price of a drug or biologic before it can be marketed. In many countries, the pricing review period begins after marketing or product approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. We are monitoring these regulations as several of our programs move into later stages of development, including AL102 which is in Phase 3 clinical development; however, a majority of our programs are currently in the earlier stages of development and we will not be able to assess the impact of price regulations for a number of years. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that could delay our commercial launch of the product and negatively impact any potential revenues we may be able to generate from the sale of the product in that country and potentially in other countries due to reference pricing.

Our ability to commercialize any products successfully will also depend in part on the extent to which coverage and adequate reimbursement/payment for these products and related treatments will be available from government health administration authorities, private payors and other organizations. Even if we succeed in bringing one or more products to the market, these products may not be considered medically necessary and/or cost-effective, and the amount reimbursed for any products may be insufficient to allow us to sell our products on a competitive basis. At this time, we are unable to determine their cost effectiveness or the likely level or method of reimbursement for our development candidates. Increasingly, third-party payors, such as government and private insurance plans, are requiring that biotechnology companies provide them with predetermined discounts from list prices and are seeking to reduce the prices charged or the amounts paid for biotechnology products. If the price we are able to charge for any products we develop, or the payments provided for such products, is inadequate in light of our development and other costs, our return on investment could be adversely affected.

We currently expect that any drugs we develop may need to be administered under the supervision of a physician on an outpatient basis. Under currently applicable U.S. law, certain therapeutic products that are not usually self-administered (such as most injectable drugs and biologics) may be eligible for coverage under the Medicare Part B program if:

- they are incident to a physician’s services;
- they are reasonable and necessary for the diagnosis or treatment of the illness or injury for which they are administered according to accepted standards of medical practice; and
- they have been approved by the FDA and meet other requirements of the statute.

There may be significant delays in obtaining coverage for newly approved biologics, and coverage may be more limited than the indications for which the biologic is approved by the FDA or comparable foreign regulatory authorities. Patients who are prescribed medications for the treatment of their conditions, and their prescribing physicians, generally rely on third-party payors to pay all or part of the costs associated with their prescription medications. Patients are unlikely to use our products unless coverage is provided, and payment is adequate to cover all or a significant portion of the cost of our products. Therefore, coverage and adequate payment is critical to new product acceptance. Coverage decisions may depend upon clinical and economic standards that disfavor new products when more established or lower cost therapeutic alternatives are already available or subsequently become available. Moreover, eligibility for coverage does not imply that any of our products, if approved, will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim payments for new drugs or biologics, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement may be based on payments allowed for lower-cost products that are already reimbursed, may be incorporated into existing payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drugs or biologics may be reduced by mandatory discounts or rebates required by government health care programs or private payors and by any future relaxation of laws that presently restrict imports of medicines from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates. However, no uniform policy requirement for coverage and reimbursement for drug or biologic products exists among third-party payors in the United States. Therefore, coverage and reimbursement for drug and biologic 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. Additionally, we or our collaborators may develop companion diagnostic tests for use with our current and future potential development candidates. We or our collaborators will be required to obtain coverage and reimbursement for these tests separately and apart from the coverage and reimbursement we may seek for our current and future potential development candidates. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for new products we develop and for which we obtain regulatory approval could adversely affect our operating results, our ability to raise capital needed to commercialize products, and our overall financial condition.

A number of legislative and regulatory changes in the health care system in the United States and other major health care markets have been proposed and/or adopted in recent years, and such efforts have expanded substantially in recent years. We believe that the efforts of governments and third-party payors to contain or reduce the cost of health care and legislative and regulatory proposals to broaden the availability of health care will continue to affect the business and financial condition of pharmaceutical and biotechnology companies.

We are subject to U.S. and foreign anti-corruption and anti-money laundering laws with respect to our operations and non-compliance with such laws can subject us to criminal or civil liability and harm our business.

We are subject to the Foreign Corrupt Practices Act, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, third-party intermediaries, joint venture partners and collaborators from authorizing, promising, offering or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. We interact with officials and employees of government agencies and government-affiliated hospitals, universities and other organizations. In addition, we may engage third-party intermediaries to promote our clinical research activities abroad or to obtain necessary permits, licenses and other regulatory approvals. We can be held liable for the corrupt or other illegal activities of these third-party intermediaries, our employees, representatives, contractors, partners and agents, even if we do not explicitly authorize or have actual knowledge of such activities.

We adopted a Code of Business Conduct and Ethics and implemented training programs, policies and procedures to ensure compliance with such code. The Code of Business Conduct and Ethics mandates compliance with the FCPA and other anti-corruption laws applicable to our business throughout the world. However, we cannot assure you that our employees and third-party intermediaries will comply with this code or such anti-corruption laws. Noncompliance with anti-corruption and anti-money laundering laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension or debarment from contracting with certain persons, the loss of export privileges, reputational harm, adverse media coverage and other collateral consequences. If any subpoenas, investigations or other enforcement actions are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense and compliance costs and other professional fees. In certain cases, enforcement authorities may even cause us to appoint an independent compliance monitor which can result in added costs and administrative burdens.

Risks Related to Manufacturing, Commercialization and Reliance on Third Parties

If we choose to continue to pursue collaborations and other strategic transactions, we may not be able to enter into such transactions on acceptable terms, if at all, which could adversely affect our development and commercialization activities, impact our cash position, increase our expenses, and present significant distractions to our management.

We have, and may continue to consider strategic transactions, such as the Ayala Asset Purchase, our Collaboration Agreement with AbbVie, the Zentalis License Agreement, acquisitions of companies like the merger with Morphimmune, other asset purchases, collaborations, joint ventures and out- or in-licensing. The competition for partners is intense, and the negotiation process is time-consuming and complex. If we desire to enter into strategic transactions but are not able to do so, we may not have access to the required liquidity or expertise to further develop our development candidates and our discovery and ADC platforms. Any such collaboration, or other strategic transaction, may require us to incur non-recurring or other charges, increase our near- and long-term expenditures and pose significant integration or implementation challenges or disrupt our management or business. We may acquire additional technologies and assets, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business, but we may not be able to realize the benefit of acquiring such assets. Conversely, any new collaboration that we do enter into may be on terms that are not optimal for us. These transactions would entail numerous operational and financial risks, including:

- exposure to unknown liabilities and higher-than-expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses; and

- disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired products, programs or technologies, including impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership.

Accordingly, although there can be no assurance that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks and our business could be materially harmed by such transactions. Conversely, any failure to enter into any collaboration or other strategic transaction that would be beneficial to us could delay the development and potential commercialization of our development candidates and have a negative impact on the competitiveness of any program or development candidate that reaches market.

In addition, to the extent that any of our current or potential future partners were to terminate a collaboration agreement, we may be forced to independently develop our development candidates, including funding preclinical studies or clinical trials, assuming marketing and distribution costs and maintaining, enforcing and defending intellectual property rights, or, in certain instances, abandoning any program or development candidate altogether, any of which could result in a change to our business plan and materially harm our business, financial condition, results of operations and prospects.

If third parties on which we intend to rely to conduct our current and future preclinical studies and clinical trials do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our programs could be delayed with material and adverse impacts on our business and financial condition.

We intend to rely on third-party clinical investigators, CROs, clinical data management organizations and consultants to design, conduct, supervise and monitor certain preclinical studies and any clinical trials, including the Phase 3 clinical trial of AL102. Because we intend to rely on these third parties and will not have the ability to conduct certain preclinical studies or clinical trials independently, we will have less control over the timing, quality and other aspects of such preclinical studies and clinical trials than we would have had we conducted them on our own. These investigators, CROs and consultants will not be our employees and we will have limited control over the amount of time and resources that they dedicate to our programs. These third parties may have contractual relationships with other entities, some of which may be our competitors, which may draw time and resources from our programs. The third parties with which we may contract might not be diligent, careful or timely in conducting our preclinical studies or clinical trials, resulting in the preclinical studies or clinical trials being delayed or unsuccessful.

The FDA requires certain preclinical studies to be conducted in accordance with good laboratory practices and clinical trials must be conducted in accordance with GCPs, including for designing, conducting, recording and reporting the results of preclinical studies and clinical trials to ensure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control will not relieve us of these responsibilities and requirements. Any adverse development or delay in our clinical trials could have a material and adverse impact on our commercial prospects and may impair our ability to generate revenue.

Because we may rely on third parties for manufacturing, supply and testing, some of which may be sole source vendors, for preclinical and clinical development materials and commercial supplies, our supply may become limited or interrupted or may not be of satisfactory quantity or quality.*

We may rely on third-party contract manufacturers for our preclinical and future clinical trial product materials and commercial supplies, including our Phase 3 clinical trial of AL102. We do not intend to produce any meaningful quantity of materials needed for preclinical and clinical development through our internal resources, and we do not currently own manufacturing facilities for producing such supplies. While we intend to try to avoid sole-source arrangements with any of our manufacturing, supply and testing vendors, it may not always be possible to do so. We cannot assure you that our preclinical or future clinical development product supplies and commercial supplies will not be limited or interrupted, especially with respect to any sole source third-party manufacturing and supply partners or will be of satisfactory quality or continue to be available at acceptable prices. In particular, any replacement of our manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements.

The manufacturing process for a program or development candidate is subject to FDA and other regulatory authority review. 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 cGMP. In the event that any of our future manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third party, which we may not be able to do on reasonable terms, or at all. In some cases, the technical skills or technology required for manufacture may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third party manufacture our materials. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop in a timely manner or within budget.

Certain Chinese biotechnology companies, CROs and contract development and manufacturing organizations may become subject to trade restrictions, sanctions, other regulatory requirements, or proposed legislation by the U.S. government, which could potentially impact services available for our research and development or our ability to secure the materials we need for our development candidates. For example, the recently proposed BIOSECURE Act introduced in the U.S. House of Representatives, as well as a substantially similar bill in the U.S. Senate, target U.S. government contracts, grants, and loans for entities that use equipment and services from certain named Chinese biotech companies, and authorize the U.S. government to name additional Chinese biotechnology companies of concern. If these bills become law, or similar laws are passed, they would have the potential to severely restrict the ability of companies to work with certain Chinese biotechnology companies of concern without losing the ability to contract with, or otherwise receive funding from, the U.S. government. Such disruption could have adverse effects on our research and development activities.

If we are unable to obtain or maintain third-party manufacturing for any program or development candidate, or to do so on commercially reasonable terms, we may not be able to complete our development and commercialization efforts successfully. Our or a third party's failure to execute on our manufacturing requirements and comply with cGMP could adversely affect our business in a number of ways, including:

- an inability to initiate or continue clinical trials;
- delay in submitting regulatory applications, or receiving regulatory approvals;
- loss of the cooperation of a potential future partner;
- subjecting third-party manufacturing facilities or our potential future manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease distribution or to recall batches; and
- in the event of approval to market and commercialize a product, an inability to meet commercial demands.

We may be unable to successfully scale manufacturing in sufficient quality and quantity, which would delay or prevent us from completing our development and commercialization efforts, if any.

In order to conduct our research and development efforts, including clinical trials, for our development candidates, we will need to manufacture large quantities. If any programs or development candidates are commercialized, we will need to scale up manufacturing efforts even further. We currently expect to continue to use third parties for our manufacturing needs, as we do not currently have, nor do we currently intend to establish, our own manufacturing capacity. Our manufacturing partners may be unable to successfully increase the manufacturing capacity for any program or development candidate in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities and our manufacturers may fail to perform under their contracts with us, which could result in an unexpected need to change manufacturers. If we or our manufacturing partners are unable to successfully scale the manufacture at any stage, in sufficient quality and quantity, the development, testing and clinical trials of that program or development candidate may be delayed or infeasible, and regulatory approval or commercial launch of any potential resulting product may be delayed or not obtained, which could significantly harm our business.

Our significant reliance on third-party vendors could impair our ability to implement our business plan.

We rely on, and expect to continue to rely on, third-party vendors for many aspects of our business. We depend on these third parties, and likely will continue to depend on them, to perform their obligations in a timely manner consistent with contractual and regulatory requirements. We also at times need to rely, and may continue to need to rely, on certain vendors as our sole source for research, development, manufacturing or other services. Establishing additional or replacement sole source vendors, if required, may not be accomplished quickly. In addition, these vendors may now or in the future partner with and conduct services for third parties developing in enabling technologies that are competitive with our discovery and ADC platforms and/or current or future development candidates. If we are unable to make arrangements with a vendor for a particular need, or maintain our relationship with that vendor, on commercially reasonable terms, we may not be able to develop and commercialize our programs or development candidates successfully or operate our business as we intend, which could harm our business, result of operations, financial condition and prospects.

A cyber-attack or breach of our information technology systems, or those of the third parties with whom we work, could cause adverse consequences, including regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; and other adverse consequences.*

In the ordinary course of business, we, our collaborators, and our vendors may collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit, and share, or collectively, process, proprietary, confidential, and sensitive data, including our clinical trial data or personal information, or collectively, sensitive data.

Cyber-attacks, malicious internet-based activity, online and offline fraud, and other similar activities threaten the confidentiality, integrity, and availability of our sensitive data and information technology systems, and those of the third parties with whom we work. Such threats are prevalent and continue to rise, 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.

Some actors now engage and are expected to continue to engage in cyber-attacks, 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 with whom we work may be vulnerable to a heightened risk of these attacks, including retaliatory cyber-attacks, that could materially disrupt our systems and operations, supply chain, and ability to conduct our business as presently conducted.

We and the third parties with whom we work are subject to a variety of evolving threats, including social-engineering attacks (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service attacks, credential stuffing, credential harvesting, personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, telecommunications failures, earthquakes, fires, floods, attacks enhanced or facilitated by AI, and other similar threats.

In particular, severe ransomware attacks are becoming increasingly prevalent and can lead to significant interruptions in our operations, ability to provide our products or services, loss of sensitive data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments.

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

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. Furthermore, 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 companies into our information technology environment and security program.

We rely on third parties and technologies to operate critical business systems to process sensitive data in a variety of contexts, including cloud-based infrastructure, data center facilities, encryption and authentication technology, employee email, and other functions. 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. If the third parties with whom we work experience a security incident or other interruption, we could experience adverse consequences. While we may be entitled to damages if the third parties with whom we work 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' infrastructure in our supply chain or third-parties' with whom we work supply chains have not been compromised.

While we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We take steps designed to detect, mitigate and remediate vulnerabilities in our information security systems (such as our hardware and/or software, including that of third parties with whom we work), but we may not be able to detect, mitigate, and remediate all such vulnerabilities including on a timely basis. Further, we may experience delays in developing and deploying remedial measures and patches designed to address identified vulnerabilities.

Any of the previously identified or similar threats could cause a security incident or other interruption that could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive data 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 our business as presently conducted. We may expend significant resources or modify our business activities (including our clinical trial activities) to try to protect against security incidents. Certain data privacy and security obligations may require us to implement and maintain specific security measures or industry-standard or reasonable security measures to protect our information technology systems and sensitive data.

Applicable data privacy and security obligations may require us to notify relevant stakeholders, including affected individuals, customers, regulators, and investors, 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 with whom we work) experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences, such as government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing sensitive data (including personal information); litigation (including class claims) and mass arbitration demands; indemnification obligations; negative publicity; reputational harm; monetary fund diversions; diversion of management attention; interruptions in our operations (including availability of data); disputes with physicians and other healthcare providers, clinical trial participants and our partners; increases in operating expenses; expenses or lost revenues or other adverse consequences, any of which could have a material adverse effect on our business, results of operations, financial condition, prospects and cash flows.

Further, our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations.

Although we have insurance coverage, including cybersecurity insurance, in place, we cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims by third parties or losses that we directly incur.

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 reveal competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position. Additionally, sensitive data of the Company could be leaked, disclosed, or revealed as a result of or in connection with the use of generative AI technologies by our employees, our personnel, or third parties with whom we work.

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

Our current business operations are concentrated in the greater Seattle and Philadelphia areas. Any unplanned event, such as flood, fire, explosion, extreme weather condition, medical epidemics, including any potential effects from a pandemic, such as power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities or the manufacturing facilities of our third-party contract manufacturers, or lose our repository of blood-based and other valuable laboratory samples, 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. Loss of access to these facilities may result in increased costs, delays in the development efforts or interruption of our business operations. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our locations, that damaged critical infrastructure, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers, 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. In addition, terrorist acts or acts of war targeted at the United States, and specifically the greater Seattle and Philadelphia areas, could cause damage or disruption to us, our employees, facilities, partners and suppliers. The disaster recovery and business continuity plan we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business. 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 third-party contract manufacturers, 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 research and development programs may be harmed. Any business interruption may have a material and adverse effect on our business and financial condition.

Risks Related to Our Intellectual Property

It is difficult and costly to protect our intellectual property and our proprietary technologies, and we may not be able to ensure their protection.

Our success will depend in part on obtaining and maintaining patent protection and trade secret protection for our discovery and ADC platforms and targeted therapeutics, as well as on successfully defending these patents against potential third-party challenges. Our ability to protect our technologies from unauthorized making, using, selling, offering to sell or importing by third parties is dependent on the extent to which we have rights under valid and enforceable patents that cover these activities.

The patent positions of pharmaceutical, biotechnology and other life sciences companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved and have in recent years been the subject of much litigation. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. Over the past decade, U.S. federal courts have increasingly invalidated pharmaceutical and biotechnology patents during litigation often based on changing interpretations of patent law. Further, the determination that a patent application or patent claim meets all the requirements for patentability is a subjective determination based on the application of law and jurisprudence. The ultimate determination by the U.S. Patent and Trademark office, or USPTO, or by a court or other trier of fact in the United States, or corresponding foreign national patent offices or courts, on whether a claim meets all requirements of patentability cannot be assured. We cannot be certain that all relevant information has been identified. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our own patent portfolio.

We cannot provide assurances that any of our patent applications will be found to be patentable, including over our own prior art publications or patent literature, or will issue as patents. Neither can we make assurances as to the scope of any claims that may issue from our pending and future patent applications nor to the outcome of any proceedings by any potential third parties that could challenge the patentability, validity or enforceability of our patent portfolio in the United States or foreign jurisdictions. Any such challenge, if successful, could limit patent protection for our targeted therapeutics and/or materially harm our business.

In addition to challenges during litigation, third parties can challenge the validity of our patents in the United States using post-grant review and *inter partes* review proceedings, which some third parties have been using to cause the cancellation of selected or all claims of issued patents of competitors. For a patent filed March 16, 2013 or later, a petition for post-grant review can be filed by a third party in a nine-month window from issuance of the patent. For a patent filed before March 16, 2013, a petition for *inter partes* review can be filed immediately following the issuance of the patent. A petition for *inter partes* review can be filed after the nine-month period for filing a post-grant review petition has expired for a patent with an effective filing date of March 16, 2013 or later. Post-grant review proceedings can be brought on any ground of invalidity, whereas *inter partes* review proceedings can only raise an invalidity challenge based on published prior art and patents. These adversarial actions at the USPTO review patent claims without the presumption of validity afforded to U.S. patents in lawsuits in U.S. federal courts and use a lower burden of proof than used in litigation in U.S. federal courts. Therefore, it is generally considered easier for a competitor or third party to have a U.S. patent invalidated in a USPTO post-grant review or *inter partes* review proceeding than invalidated in a litigation in a U.S. federal court. If any of our patents are challenged by a third party in such a USPTO proceeding, there is no guarantee that we will be successful in defending the patent, which may result in a loss of the challenged patent right to us.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- we may not be able to generate sufficient data to support full patent applications that protect the entire breadth of developments in one or more of our targeted therapeutics programs;

- it is possible that one or more of our pending patent applications will not become an issued patent or, if issued, that the patent(s) claims will have sufficient scope to protect any one of our targeted therapeutics, provide us with commercially viable patent protection or provide us with any competitive advantages;

- if our pending applications issue as patents, they may be challenged by third parties as invalid or unenforceable under United States or foreign laws;

- we may not successfully commercialize our targeted therapeutics, if approved, before our relevant patents expire;

- we may not be the first to make the inventions covered by our patent portfolio; or

- we may not develop additional proprietary technologies or targeted therapeutics that are separately patentable.

In addition, to the extent that we are unable to obtain and maintain patent protection for our targeted therapeutics, or in the event that such patent protection expires, it may no longer be cost-effective to extend our portfolio by pursuing additional development of any of our targeted therapeutics for follow-on indications.

Obtaining and maintaining our 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 for non-compliance with these requirements.

In order to obtain and maintain our patents, we are required to pay application fees, periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents or applications to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned and in-licensed patents or applications and any patent rights we may own or in-license in the future. The USPTO and various non-U.S. government patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply with these requirements, and we are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our in-licensed intellectual property. 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 non-compliance 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 with similar or identical products or platforms, which could have a material adverse effect on our business prospects and financial condition.

Patent terms may not be able to protect our competitive position for an adequate period of time with respect to our current or future targeted therapeutics.

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 U.S. non-provisional or international Patent Corporation Treaty filing date. The patent term of a U.S. patent may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the USPTO in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent.

Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new commercial products arising from our discovery and ADC platforms, patents protecting such products might expire before or shortly after such products are commercialized.

In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a Patent Term Extension, or PTE, of up to five years beyond the normal expiration of the patent to compensate patent owners for loss of an enforceable patent term due to the lengthy regulatory approval process. A PTE grant cannot extend the remaining term of a patent beyond a total of 14 years from the date of the product approval. Further, PTE may only be applied once per product, and only with respect to an approved indication - in other words, only one patent (for example, covering the product itself, an approved use of said product, or a method of manufacturing said product) can be extended by PTE. We anticipate applying for PTE in the United States. Similar extensions may be available in other countries where we are prosecuting patents, and we likewise anticipate applying for such extensions.

The granting of a PTE is not guaranteed and is subject to numerous requirements. We might not be granted an extension because of, for example, failure to apply within applicable periods, failure to apply prior to the expiration of relevant patents or otherwise failure to satisfy any of the numerous applicable requirements. In addition, to the extent we wish to pursue a PTE based on a patent that we in-license from a third party, we would need the cooperation of that third party. Moreover, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to obtain approval of competing products following our patent expiration by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case. If this were to occur, it could have a material adverse effect on our ability to generate revenue.

Changes in U.S. patent law or the patent law of other countries or jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our current or any future targeted therapeutics.

The U.S. Congress is responsible for passing laws establishing patentability standards. As with any laws, implementation is left to federal agencies and the federal courts based on their interpretations of the laws. Interpretation of patent standards can vary significantly within the USPTO and across the various federal courts, including the U.S. Supreme Court. Recently, the U.S. Supreme Court has ruled on several patent cases, generally limiting the types of inventions that can be patented. Further, there are open questions regarding interpretation of patentability standards that the U.S. Supreme Court has yet to decisively address. Absent clear guidance from the U.S. Supreme Court, the USPTO has become increasingly conservative in its interpretation of patent laws and standards.

In addition to increasing uncertainty with regard to our ability to obtain patents in the future, the legal landscape in the United States has created uncertainty with respect to the value of patents. Depending on any actions by the U.S. Congress, and future decisions by the lower federal courts and the U.S. Supreme Court, along with interpretations by the USPTO, the laws and regulations governing patents could change in unpredictable ways and could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

The U.S. Supreme Court has ruled on several patent cases in recent years; these cases often narrow the scope of patent protection available to inventions in the biotechnology and pharmaceutical spaces. For example, in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, or *Myriad*, the Supreme Court ruled that a "naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated," and invalidated Myriad Genetics' claims on the isolated BRCA1 and BRCA2 genes. To the extent that any of our patent application claims are deemed to be directed to natural products, or to lack an inventive concept above and beyond an isolated natural product, a court may decide the claims are directed to patent-ineligible subject matter and are invalid. The application of *Myriad* to biotechnology inventions has continued to develop and may continue to change over time. Subsequent rulings in cases or guidance or procedures issued by the USPTO relating to patent eligibility may have a negative impact on our business.

In *Amgen Inc. v. Sanofi*, or *Amgen*, the U.S. Supreme Court held that certain of Amgen's patent claims defined a class of antibodies by their function of binding to a particular antigen. The Court further wrote that because the patent claims defined the claimed class of antibodies only by their function of binding to a particular antigen, a skilled artisan would have to use significant trial and error to identify and make all of the molecules in that class. The Court ultimately held that Amgen failed to properly enable its patent claims. Certain claims of our patent portfolio relate to broad classes of therapeutic agents, antibodies or antigen binding fragments. To the extent that a court finds that the skilled artisan would need significant trial and error to identify all the species in that class, the court may find the claims invalid under *Amgen*. Depending on future actions by the U.S. Congress, the U.S. 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 ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

Further, a new court system recently became operational in the European Union. The Unified Patent Court, or UPC, began accepting patent cases on June 1, 2023. The UPC is a common patent court with jurisdiction over patent infringement and revocation proceedings effective for multiple member states of the European Union. The broad geographic reach of the UPC could enable third parties to seek revocation of any of our European patents in a single proceeding at the UPC rather than through multiple proceedings in each of the individual European Union member states in which the European patent is validated. Under the UPC, a successful revocation proceeding for a European Patent under the UPC would result in loss of patent protection in those European Union countries. Accordingly, a single proceeding under the UPC could result in the partial or complete loss of patent protection in numerous European Union countries. 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. Moreover, the controlling laws and regulations of the UPC will develop over time and we cannot predict what the outcomes of cases tried before the UPC will be. The case law of the UPC may adversely affect our ability to enforce or defend the validity of our European patents. Patent owners have the option to opt-out their European patents from the jurisdiction of the UPC, defaulting to pre-UPC enforcement mechanisms. We have decided to opt out certain European patents and patent applications from the UPC. However, if certain formalities and requirements are not met, our European patents and patent applications could be subject to the jurisdiction of the UPC. We cannot be certain that our European patents and patent applications will avoid falling under the jurisdiction of the UPC, if we decide to opt out of the UPC.

We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.

Filing, prosecuting, enforcing and defending patents protecting our current or future targeted therapeutics in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. The requirements for patentability may differ in certain countries, particularly in developing countries; thus, even in countries where we do pursue patent protection, there can be no assurance that any patents will issue with claims that cover our targeted therapeutics.

Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. Additionally, the laws of some foreign jurisdictions do not protect intellectual property rights to the same extent as the laws in the United States and Europe. Many companies have encountered significant difficulties in protecting and defending such rights in such jurisdictions. The legal systems of certain countries, including certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our owned and in-licensed patents or the marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our owned or in-licensed intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and could divert our efforts and attention from other aspects of our business. Such proceedings could also put our owned or in-licensed patents at risk of being invalidated or interpreted narrowly, could put our owned or in-licensed patent applications at risk of not issuing, and could provoke third parties to assert claims against us or our licensors. We or our licensors may not prevail in any lawsuits or other adversarial proceedings that we or our licensors initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our and our licensors' efforts to enforce such intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or in-license.

Further, many countries 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. In these countries, the patent owner may have limited remedies, which could materially diminish the value of its patents. If we or any of our licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position in the relevant jurisdiction may be impaired and our business prospects may be materially adversely affected.

Proceedings to enforce our patent rights, whether successful or not, could result in substantial costs and divert our efforts and resources from other aspects of our business. Further, such proceedings could put our patents at risk of being invalidated, held unenforceable or interpreted narrowly; put our pending patent applications at risk of not issuing; and provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Furthermore, while we intend to protect our intellectual property rights in major markets for our targeted therapeutics, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our products, if approved. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

In order to protect our competitive position around our future products, we may become involved in lawsuits to enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful and which may result in our patents being found invalid or unenforceable.

Competitors may seek to commercialize competitive products to our current or future targeted therapeutics. In order to protect our competitive position, we may become involved in lawsuits asserting infringement of our patents, or misappropriation or other violations of our intellectual property rights. Litigation is expensive and time-consuming and would likely divert the time and attention of our management and scientific personnel. There can be no assurance 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.

If we or our licensors file a patent infringement lawsuit against a perceived infringer, such a lawsuit could provoke the defendant to counterclaim that we infringe their patents and/or that our patents are invalid and/or unenforceable. In patent litigation in the United States, it is commonplace for a defendant to counterclaim alleging invalidity and/or unenforceability. In any patent litigation there is a risk that a court will decide that the asserted patents are invalid or unenforceable, in whole or in part, and that we do not have the right to stop the defendant from using the invention at issue. With respect to a counterclaim of invalidity, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution. There is also a risk that, even if the validity of such patent is upheld, the court will construe the patent 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 patent claims do not cover the invention. If any of our patents are found invalid or unenforceable, or construed narrowly, our ability to stop the other party from launching a competitive product would be materially impaired. Further, such adverse outcomes could limit our ability to assert those patents against future competitors. Loss of patent protection would have a material adverse impact on our business.

Even if we establish infringement of any of our patents by a competitive product, a court may decide not to grant an injunction against further infringing activity, thus allowing the competitive product to continue to be marketed by the competitor. It is difficult to obtain an injunction in U.S. litigation and a court could decide that the competitor should instead pay us a "reasonable royalty" as determined by the court, and/or other monetary damages. A reasonable royalty or other monetary damages may or may not be an adequate remedy. Loss of exclusivity and/or competition from a related product would have a material adverse impact on our business.

Litigation often involves significant amounts of public disclosures. Such disclosures could have a materially adverse impact on our competitive position or our stock prices. During any litigation we would be required to produce voluminous records related to our patents and our research and development activities in a process called discovery. The discovery process may result in the disclosure of some of our confidential information. 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 our common stock.

Litigation is inherently expensive, and the outcome is often uncertain. Any litigation likely would substantially increase our operating losses and reduce our resources available for development activities. Further, we may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. As a result, we may conclude that even if a competitor is infringing any of our patents, the risk-adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution.

If in the future, we in-license any patent rights, we may not have the right to file a lawsuit for infringement and may have to rely on a licensor to enforce these rights for us. If we are not able to directly assert our licensed patent rights against infringers or if a licensor does not vigorously prosecute any infringement claims on our behalf, we may have difficulty competing in certain markets where such potential infringers conduct their business, and our commercialization efforts may suffer as a result.

Concurrently with an infringement litigation, third parties may also be able to challenge the validity of our patents before administrative bodies in the United States or abroad. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our products, potentially negatively impacting any concurrent litigation.

We may need to acquire or license additional intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property, including patent rights, that are important or necessary to the development of our targeted therapeutics. It may be necessary for us to use the patented or proprietary technology of one or more third parties to commercialize our current and future targeted therapeutics.

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. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development. If we are unable to acquire such intellectual property outright, or obtain licenses to such intellectual property from such third parties when needed or on commercially reasonable terms, our ability to commercialize any of our targeted therapeutics, if approved, would likely be delayed or we may have to abandon development of that targeted therapeutic and our business and financial condition could suffer. Further, we may be required to expend significant time and resources to redesign our targeted therapeutics or the methods for manufacturing them, or to develop or license replacement technology, all of which may not be commercially or technically feasible. In such events, there could be a material adverse effect on our ability to commercialize and on our business, financial condition, results of operations and prospects.

If we in-license additional targeted therapeutics in the future, we might become dependent on proprietary rights from third parties with respect to those targeted therapeutics. Any termination of such licenses could result in the loss of significant rights and would cause material adverse harm to our ability to develop and commercialize any targeted therapeutics subject to such licenses. Even if we are able to in-license any such necessary intellectual property, it could be on nonexclusive terms, including with respect to the use, field or territory of the licensed intellectual property, thereby giving our competitors and other third parties access to the same intellectual property licensed to us. In-licensing intellectual property rights could require us to make substantial licensing and royalty payments. Patents licensed to us could be put at risk of being invalidated or interpreted narrowly in litigation filed by or against our licensors or another licensee or in administrative proceedings. If any in-licensed patents are invalidated or held unenforceable, we may not be able to prevent competitors or other third parties from developing and commercializing competitive products.

We may not have the right to control the prosecution, maintenance, enforcement or defense of patents and patent applications that we license from third parties. In such cases, we would be reliant on the licensor to take any necessary actions. We cannot be certain that such licensor would act with our best interests in mind, or in compliance with applicable laws and regulations, or that their actions would result in valid and enforceable patents. For example, it is possible that a licensor's actions in enforcing and/or defending a patent licensed by us may be less vigorous than had we conducted them ourselves. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Disputes may also arise between us and our licensors regarding intellectual property subject to a license 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;
- whether and the extent to which our technology and processes infringe intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of licensed technology in relation to our development and commercialization of our targeted therapeutics and what activities satisfy those diligence obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected targeted therapeutics.

The risks described elsewhere pertaining to our intellectual property rights also apply to the intellectual property rights that we may own or in-license now or in the future, and any failure by us or our licensors to obtain, maintain, defend and enforce these rights could have an adverse effect on our business. In some cases we may not have control over the prosecution, maintenance or enforcement of the patents that we license, and may not have sufficient ability to provide input into the patent prosecution, maintenance and defense process with respect to such patents, and potential future licensors may fail to take the steps that we believe are necessary or desirable in order to obtain, maintain, defend and enforce the licensed patents.

If we fail to comply with our obligations under any license, collaboration or other intellectual property-related agreements, we may be required to pay damages and could lose intellectual property rights that may be necessary for developing, commercializing and protecting our current or future targeted therapeutics, or we could lose certain rights to grant sublicenses.*

We are reliant upon in-licenses to certain patent rights and proprietary technology from third parties, including BMS, Zentalis, and Purdue University, or Purdue, that are or may become important or necessary to our discovery and ADC platforms or targeted therapeutics pipeline.

Our current license agreements impose, and any future license agreements we enter into are likely to impose, various development, commercialization, funding, milestone, royalty, diligence, sublicensing, insurance, patent prosecution, and enforcement or other obligations on us. In addition, certain of our license agreements require us to bear the costs of filing and maintaining patent applications. If we are in breach of our license agreements, we may be required to pay damages and the licensor may have the right to terminate the license. License termination could result in a material adverse effect on our ability to use our discovery and ADC platforms and/or targeted therapeutics and our ability to develop, manufacture, and sell products that are discovered using or are covered by the licensed technology or could enable a competitor to gain access to the licensed technology.

Under our current and future license agreements, we may not have all intellectual property rights necessary for developing, commercializing, and protecting our current or future targeted therapeutics.*

We may not have the right to control the preparation, filing, prosecution, maintenance, enforcement and defense of patents and patent applications that we license from third parties. For example, pursuant to certain of our license agreements, while we may comment on patent applications and may lead enforcement of the patents and patent applications, the licensing institution is responsible for the preparation, filing, prosecution and maintenance and defense of the patents and patent applications. While we may provide input on patent strategy, including strategy relating to patent drafting and prosecution, we cannot be certain that the in-licensed patents and patent applications will be prepared, filed, prosecuted, maintained, and defended in a manner consistent with the best interests of our business. If our licensors and future licensors lose rights to licensed patents or patent applications, our right to develop and commercialize any of our targeted therapeutics that is the subject of such licensed rights could be materially adversely affected.

Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing, misappropriating or otherwise violating the licensor's intellectual property rights. In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products if infringement or misappropriation were found, those amounts could be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to disagreement regarding 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 technology or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse impact on our business and ability to achieve profitability. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize any affected targeted therapeutics, which could have a material adverse effect on our business and financial conditions.

Intellectual property rights of third parties could adversely affect our ability to commercialize our targeted therapeutics, and we might be required to obtain licenses from third parties to engage in development or marketing efforts, which may not be available on commercially reasonable terms or at all.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our targeted therapeutics without infringing, misappropriating or otherwise violating the intellectual property and other proprietary rights of third parties. However, our research, development and commercialization activities may be subject to claims that we infringe, misappropriate or otherwise violate patents or other intellectual property rights owned or controlled by third parties. Third parties may have U.S. and non-U.S. issued patents and pending patent applications relating to targeted therapeutics or components thereof, methods of manufacturing our targeted therapeutics or components thereof, and/or methods of use for the treatment of the disease indications for which we are developing our targeted therapeutics. If any third-party patents or patent applications are found to cover any of our targeted therapeutics, or their methods of use or manufacture, we may not be free to manufacture or market such targeted therapeutics as planned without obtaining a license, which may not be available on commercially reasonable terms, or at all. We or our licensors, or any future strategic partners, may be party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights. In some instances, we may be required to indemnify our licensors for the costs associated with any such adversarial proceedings or litigation.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our targeted therapeutics, including patent infringement lawsuits in the U.S. or abroad. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the composition, use or manufacture of our targeted therapeutics. Our competitive position may materially suffer if patents issued to third parties or other third-party intellectual property rights cover our targeted therapeutics or elements thereof or our manufacture or uses relevant to our development plans. In such cases, we may not be in a position to develop or commercialize current or future targeted therapeutics unless we successfully pursue litigation to nullify or invalidate the third-party intellectual property right concerned or enter into a license agreement with the intellectual property right holder, if available on commercially reasonable terms. There may be issued patents of which we are not aware, held by third parties that, if found to be valid and enforceable, could be alleged to be infringed by our current or future targeted therapeutics. There also may be pending patent applications of which we are not aware that may result in issued patents, which could be alleged to be infringed by our current or future targeted therapeutics. Additionally, claims in pending patent applications, subject to certain limitations, can be amended in a manner that could cover our targeted therapeutics. If a third-party infringement claim should successfully be brought, we may be required to pay substantial damages or be forced to abandon our current or future targeted therapeutics or to seek a license from any patent holders. No assurances can be given that a license will be available on commercially reasonable terms, if at all.

Third parties may assert infringement claims against us based on patents that exist now or may arise in the future, regardless of the merit of such patents or infringement claims. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The pharmaceutical and biotechnology industries have produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use or manufacture. The scope of protection afforded by a patent is subject to interpretation by the courts, and the interpretation is not always uniform. If we were sued for patent infringement, we would need to demonstrate that the relevant product or methods of using the product either do not infringe the patent claims of the relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could significantly harm our business and operating results. In addition, parties making claims against us may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources, and we may not have sufficient resources to bring these actions to a successful conclusion.

While we perform periodic searches for relevant patents and patent applications with respect to our programs and development candidates, and uses thereof, we cannot guarantee the completeness or thoroughness of any of our patent searches or analyses including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, nor can we be certain that we have identified each and every patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of any of our targeted therapeutics in any jurisdiction. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that any of our targeted therapeutics may be accused of infringing. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Accordingly, third parties may assert infringement claims against us based on intellectual property rights that exist now or arise in the future.

Numerous third-party U.S. and foreign issued patents and pending patent applications exist which are related to our targeted therapeutics or components of our targeted therapeutics. For example, we are aware of patent portfolios related to compounds containing FAP targeting ligands that are owned by 3B Pharmaceuticals, Cornell University, Institute of Organic Chemistry and Biochemistry of the Czech Academy of Sciences, and Johns Hopkins University. There may also be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our targeted therapeutics.

If our defenses to such assertions of infringement were unsuccessful, we could be liable for a court-determined reasonable royalty on our existing sales and further damages to the patent owner (or licensee), such as lost profits. Such royalties and damages could be significant. If we are found to have willfully infringed the claims of a third party's patent, the third party could be awarded treble damages and attorney's fees. Further, if we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product. We might, if possible, also be forced to redesign current or future targeted therapeutics so that we no longer infringe, misappropriate or violate the third-party intellectual property rights. Alternatively, we may be required to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product. If we were required to obtain a license to continue to manufacture or market the affected product, we may be required to pay substantial royalties or grant cross-licenses to our patents. Even if we were able to obtain a license, it could be nonexclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us. We cannot assure you that any such license will be available on acceptable terms, if at all. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations as a result of claims of patent infringement or violation of other intellectual property rights, Further, the outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance, including the demeanor and credibility of witnesses and the identity of any adverse party. This is especially true in intellectual property cases that may turn on the testimony of experts as to technical facts upon which experts may reasonably disagree. Furthermore, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us; alternatively or additionally, it could include terms that impede or destroy our ability to compete successfully in the commercial marketplace. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing a product or force us to cease some of our business operations, which could harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have material adverse effects on our ability to raise additional funds or otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business, which could have a material adverse effect on our financial condition and results of operations.

Others may challenge inventorship or claim an ownership interest in our intellectual property which could expose it to litigation and have a significant adverse effect on its prospects.

Determinations of inventorship can be subjective. While we undertake to accurately identify correct inventorship of inventions made on our behalf by our employees, consultants and contractors, an employee, consultant or contractor may disagree with our determination of inventorship and assert a claim of inventorship. Any disagreement over inventorship could result in our being forced to defend our determination of inventorship in a legal action which could result in substantial costs and be a distraction to our senior management and scientific personnel.

While we typically require employees, consultants and contractors who may develop intellectual property on our behalf to execute agreements assigning such intellectual property to us, we may be unsuccessful in obtaining execution of assignment agreements with each party who in fact develops intellectual property that we regard as our own. Moreover, even when we obtain agreements assigning intellectual property to us, the assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached. In either case, 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. Furthermore, individuals executing agreements with us may have preexisting or competing obligations to a third party, such as an academic institution, and thus an agreement with us may be ineffective in perfecting ownership of inventions developed by that individual. If we are unsuccessful in obtaining assignment agreements from an employee, consultant or contractor who develops intellectual property on our behalf, the employee, consultant or contractor may later claim ownership of the invention. Any disagreement over ownership of intellectual property could result in our losing ownership, or exclusive ownership, of the contested intellectual property, paying monetary damages and/or being enjoined from clinical testing, manufacturing and marketing of the affected product candidate(s). Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our senior management and scientific personnel.

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

We consider trade secrets, including confidential and unpatented know-how, important to the maintenance of our competitive position. We may rely on trade secrets or confidential know-how to protect certain aspects of our technology, especially where patent protection is believed by us to be of limited value. We expect to rely on third parties for future manufacturing of our targeted therapeutics, and any future targeted therapeutics. We also expect to collaborate with third parties on the development of our targeted therapeutics and any future targeted therapeutics. As a result of the aforementioned collaborations, we must, at times, share trade secrets with our collaborators. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements.

Trade secrets or confidential know-how can be difficult to maintain as confidential. We protect and plan to protect trade secrets and confidential and unpatented know-how, in part, by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements prior to beginning research or disclosing proprietary information with parties, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants under which they are obligated to maintain confidentiality and to assign their inventions to us. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. However, current or former employees, consultants, contractors and advisors may unintentionally or willfully disclose our confidential information to competitors, and confidentiality agreements may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. The need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor’s discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret or securing title to an employee- or consultant-developed invention if a dispute arises, is difficult, expensive and time-consuming, and the outcome is unpredictable.

The enforceability of confidentiality agreements may vary from jurisdiction to jurisdiction. In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our trade secrets, although our agreements may contain certain limited publication rights. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

We may be subject to claims by third parties that we or our employees or consultants have wrongfully used or disclosed their alleged trade secrets or other proprietary information.

Many of our current or former employees or consultants and our licensors' current or former employees or consultants, including our senior management, were previously employed at universities or biotechnology or biopharmaceutical companies, including some which may be competitors or potential competitors. Although we take commercially reasonable steps to ensure that our employees do not use the proprietary information, know-how or trade secrets of others in their work for us, including incorporating such intellectual property into our targeted therapeutics, we may be subject to claims that we or these employees have misappropriated the intellectual property of a third party. Litigation or arbitration may be necessary to defend against these claims.

If we fail in defending against such claims, in addition to paying monetary damages, we may sustain reputational damage, lose valuable intellectual property rights or key personnel or may be enjoined from using such intellectual property. Further, it may become necessary for us to obtain a license from such third party to commercialize any of our products. Such license(s) may not be available on commercially reasonable terms or at all. Any such proceedings and possible aftermath would likely divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. A loss of key personnel or their work product could limit our ability to commercialize, or prevent us from commercializing, our current or future targeted therapeutics, which could materially harm our business. Even if we are successful in defending against any such claims, litigation or arbitration could result in substantial costs and could be a distraction to our management.

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 trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. We rely on both registration and common law protection for our trademarks. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive and time-consuming, particularly for a company of our size. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. At times, competitors 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. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. 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, and our trademarks may not survive such proceedings. Moreover, any name we propose to use for our products 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. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed product names, we may be required to expend significant additional resources in an effort to identify a usable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

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

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

- others may be able to make products or formulations that are similar or competitive to our targeted therapeutics, but that are not covered by the claims of any patents that we own, license or control;
- we or any of our licensors or strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own, license or control;
- we or our licensors or strategic partners might not have been the first to file patent applications covering certain of our owned and in-licensed inventions;
- others may independently develop the same, similar, or alternative technologies without infringing, misappropriating or violating our owned or in-licensed intellectual property rights;
- it is possible that our owned or in-licensed pending patent applications will not lead to issued patents;
- others may have access to the same intellectual property rights licensed to us on a non-exclusive basis in the future;
- issued patents that we own, in-license, or control may not provide us with any competitive advantages, or may be narrowed or held invalid or unenforceable, including as a result of legal challenges;

- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights, and may then use the information learned from such activities to develop competitive products for sale in our major commercial markets;

- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such trade secrets or know-how;

- ownership of our patent portfolio may be challenged by third parties;

- patent enforcement is expensive and time-consuming and difficult to predict; thus, we may not be able to enforce any of our patents against a competitor; and

- the patents of third parties or pending or future patent applications of third parties, if issued, may have an adverse effect on our business.

Should any of these events occur, they could have a material adverse impact on our business and financial condition.

Risks Related to Our Business Operations and Industry

We may be unable to successfully integrate the Immunome and Morphimmune businesses and realize the anticipated benefits of the Merger.

The completed transaction involved the merger of two companies which previously operated as independent companies. We will be required to devote significant management attention and resources to integrating our business practices and operations with those of Morphimmune in order to effectively realize synergies as a combined company, including leveraging anticipated synergies across technology platforms. Potential difficulties we may encounter in the integration process include the following:

- the inability to successfully combine the two businesses in a manner that permits us to realize the technology platform synergies anticipated to result from the Merger, which would result in the anticipated benefits of the Merger not being realized in the time frame currently anticipated or at all;

- the complexities associated with managing the larger combined businesses and integrating personnel from the two companies, while at the same time attempting to (i) continue pursuing pre-clinical and clinical development of existing development candidates, (ii) researching and developing new development candidates based on each company's respective platforms, and (iii) identifying and pursuing other potential strategic transactions or collaborations;

- the additional complexities of combining two companies with different histories, operating structures and technology foundations;

- the complexities associated with and integration issues relating to reconstituting our board of directors and changing our management team;

- the failure to successfully manage relationships with the combined supplier and vendor bases of the two companies;

- the failure to retain key employees of either of the two companies;

- potential unknown liabilities and unforeseen increased expenses, delays or regulatory conditions associated with the Merger; and

- performance shortfalls at one or both of the two companies as a result of the diversion of management's attention caused by completing the Merger and integrating the companies' operations.

For all these reasons, it is possible that the integration process could result in the distraction of our management, the disruption of our ongoing business or inconsistencies in our standards, controls, procedures and policies, any of which could adversely affect our ability to maintain relationships with current and potential future vendors, regulators, collaboration partners, and employees or to achieve the anticipated benefits of the Merger, or could otherwise adversely affect our business and financial results.

Any inability to attract and retain qualified key management, technical personnel and employees would impair our ability to implement our business plan.*

Our success largely depends on the continued service of key management, advisors, consultants and other specialized personnel. While we have written employment agreements with our management team and each of our key employees, those employment arrangements are at-will and could be terminated at any time. The loss of one or more members of our management team or other key employees, advisors or consultants could delay our research and development programs and have a material and adverse effect on our business, financial condition, results of operations and prospects. We do not currently maintain "key man" insurance on any of our executive officers.

The relationships that our key management team members have cultivated within our industry make us particularly dependent upon their continued employment with us. We are dependent on the continued service of our technical personnel because of the highly technical nature of our programs, development candidates and technologies and the specialized nature of the regulatory approval process. Our future success will depend in large part on our continued ability to attract and retain other highly qualified scientific, technical and management personnel, as well as personnel with expertise in clinical testing, manufacturing, governmental regulation and commercialization. Our future success is also dependent on our ability to retain qualified advisors and consultants. We face competition for personnel from other companies, universities, public and private research institutions, government entities and other organizations.

As of March 31, 2024, we had 62 full-time employees. The continued operation of our business and execution of our plans will require material additional staffing within the next twelve months. We cannot provide assurance that we will be able to hire or retain adequate staffing levels to advance our discovery and ADC platforms, develop our programs or development candidates or run our operations or to accomplish our objectives.

We expect to continue to incur substantial expenses related to the completed Merger.

We expect to continue to incur substantial expenses in connection with the completed Merger and the related integration of businesses, operations, networks, systems, technologies, policies and procedures. While we have assumed that a certain level of transaction and integration expenses would be incurred, there are a number of factors beyond our control that could affect the total amount or the timing of our integration expenses. Many of the expenses that will be incurred, by their nature, are difficult to estimate accurately at the present time. Due to these factors, the transaction and integration expenses could be greater or could be incurred over a longer period of time than we currently expect.

We may experience difficulties in managing our growth and expanding our operations.

As our development candidates enter and advance through preclinical studies and any clinical trials, including our Phase 3 clinical trial of AL102, we will need to expand our development, regulatory and manufacturing capabilities or contract with other organizations to provide these capabilities for us. We may also experience difficulties in the discovery and development of new development candidates using our discovery and ADC platforms if we are unable to meet demand as we grow our operations. In the future, we also expect to have to manage additional relationships with collaborators, 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 and secure adequate facilities for our operational needs. 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 employees, principal investigators, vendors and commercial partners may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, vendors and commercial partners. Misconduct by employees could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we may establish, comply with federal and state health care fraud and abuse laws and regulations, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the health care 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. Such 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. For example, individuals conducting the non-interventional clinical studies that we sponsor through which we obtain antibodies for development into potential antibody-based therapeutics may violate applicable laws and regulations regarding personal information. It is not always possible to identify and deter 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 be in compliance 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 and financial condition, including the imposition of significant criminal, civil, and administrative fines or other sanctions, such as monetary penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government-funded health care programs, such as Medicare and Medicaid, integrity obligations, reputational harm and the curtailment or restructuring of our operations.

Risks Related to our Common Stock

An active trading market for our common stock may not be sustained, which may make it difficult for you to sell your shares.

The trading market for our common stock on The Nasdaq Capital Market has been limited and an active trading market for our shares may not be sustained. If an active market for our common stock is not sustained, it may be difficult for you to sell your shares at a price that is attractive to you, or at all.

The market price of our common stock is expected to be volatile, and purchasers of our common stock could incur substantial losses.*

The market price of our common stock could be subject to significant fluctuations. Market prices for securities of biotechnology, early-stage pharmaceutical and other life sciences companies have historically been particularly volatile. Some of the factors that may cause the market price of our common stock to fluctuate include:

- our ability to successfully develop and obtain regulatory approvals for our development candidates, and delays or failures to obtain such approvals;

- failure of any of our development candidates, if approved, to achieve commercial success;
- failure by us to maintain our existing third-party license and supply agreements;
- failure by us or our licensors to prosecute, maintain, or enforce our intellectual property rights;
- changes in laws or regulations applicable to our development candidates;
- any inability to obtain adequate supply of our development candidates or the inability to do so at acceptable prices;
- adverse regulatory authority decisions;
- introduction of new products, services or technologies by our competitors;
- failure to meet or exceed any projections we may provide to the public;
- failure to meet or exceed the financial and development projections of the investment community;
- the perception of the pharmaceutical industry by the public, legislatures, regulators and the investment community;
- the effects of the Merger and our financing transactions, which materially increase our public float;
- announcements of significant acquisitions, strategic collaborations, joint ventures or capital commitments by us or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- additions or departures of key personnel;
- significant lawsuits, including patent or stockholder litigation;
- if securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our business and stock;
- changes in the market valuations of similar companies;
- general market or macroeconomic conditions;
- sales of our common stock by us, including pursuant to the 2024 ATM Agreement, or our stockholders in the future;
- trading volume of our common stock;
- failure to maintain compliance with the listing requirements of The Nasdaq Capital Market;

- announcements by commercial partners or competitors of new commercial products, clinical progress or the lack thereof, significant contracts, commercial relationships or capital commitments;
- adverse publicity generally, including with respect to other products and potential products in such markets;
- the introduction of technological innovations or new therapies that compete with our potential products;
- changes in the structure of health care payment systems; and
- period-to-period fluctuations in our financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of our common stock.

In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against those companies. Such litigation, if instituted, could result in substantial costs and diversion of management attention and resources, which could significantly harm our profitability and reputation.

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

Certain of our executive officers, directors and large stockholders own a significant percentage of our outstanding capital stock. As a result of their share ownership, these stockholders will have the ability to influence us through their ownership positions. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders, acting together, may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. These stockholders' interests may not always coincide with our corporate interests or the interests of other stockholders, and these stockholders may exercise their voting and other rights in a manner with which you may not agree or that may not be in the best interests of our other stockholders. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may believe are in your best interest as one of our stockholders.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.*

We expect that significant additional capital may be needed in the future to continue our planned operations, including further development of our programs and development candidates, preparing IND filings, conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating a public company. To raise capital, we may sell common stock, preferred stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. In this regard, we filed a shelf registration statement on Form S-3, which was declared effective by the SEC on October 14, 2021, pursuant to which we may issue from time to time securities with an aggregate value of up to $200.0 million in one or more offerings at prices and terms to be determined at the time of sale. In October 2023, we completed our Merger and concurrent PIPE transaction for gross proceeds of approximately $125.0 million before deducting fees and offering expenses. An aggregate of 21,690,871 shares of our common stock at $5.75 per share were issued pursuant to the subscription agreements and have been registered for resale pursuant to a registration statement on Form S-3 filed with the SEC and made effective on November 27, 2023. In February 2024, we raised $230.0 million, before deducting underwriting discounts and commissions and estimated offering expenses payable by us, through a public offering of our common stock. In connection with the closing of the public offering, we issued and sold 11,500,000 shares of our common stock. Additionally, we have issued shares of our common stock in connection with strategic transactions, including, for example, the Zentalis License and the Ayala Asset Purchase.

We issued 2,298,586 shares to Zentalis in connection with the Zentalis License and 2,175,489 shares to Ayala in connection with the Ayala Asset Purchase, both of which are registered for resale on a Form S-3 filed with the SEC in April 2024. The shares issued to Zentalis and Ayala are subject a to (i) a six-month lock-up with respect to half of the shares and (ii) an orderly market disposition. Notwithstanding these contractual protections, any sales of these shares may cause our stock price to fall.

Additionally, on February 13, 2024, we filed an automatic shelf registration statement on Form S-3, pursuant to which we may issue from time-to-time securities in one or more offerings at prices and terms to be determined at the time of sale. For example, in May 2024, we entered into the 2024 ATM Agreement with TD Cowen, pursuant to which we may offer and sell, from time to time through TD Cowen, at our option, shares of our common stock having an aggregate offering price of up to $200.0 million. If we sell shares of common stock, preferred stock, convertible securities or other equity securities, including pursuant to sales under the 2024 ATM Agreement, investors may be materially diluted. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock.

Pursuant to our 2020 Equity Incentive Plan, or 2020 Plan, our management is authorized to grant stock options to our employees, directors and consultants. The aggregate number of shares of our common stock that may be issued pursuant to stock awards under our 2020 Plan shall not exceed 8,080,286 shares. Additionally, the number of shares of our common stock reserved for issuance under our 2020 Plan will automatically increase on January 1 of each year, beginning on January 1, 2021 and continuing through and including January 1, 2030, by 4% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution, which could cause our stock price to fall. Additionally, pursuant to Morphimmune Inc.'s 2020 Equity Incentive Plan, or the Morphimmune Plan, the aggregate number of shares that may be issued pursuant to stock awards under the Morphimmune Plan is 2,429,630 shares. We do not currently intend to issue any further awards under the Morphimmune Plan.

We are an "emerging growth company" and our election of reduced reporting requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act, or JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, or Section 404, reduced disclosure obligations regarding executive compensation in this Quarterly Report and our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. In addition, as an emerging growth company, we are only required to provide two years of audited financial statements and two years of selected financial data in this Quarterly Report. We could be an emerging growth company for up to five years following the completion of our initial public offering, although circumstances could cause us to lose that status earlier, including if we are deemed to be a "large accelerated filer," which occurs when the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30, or if we have total annual gross revenue of $1.235 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following December 31, or if we issue more than $1.0 billion in non-convertible debt during any three-year period before that time, in which case we would no longer be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we could still qualify as a "smaller reporting company," which would allow us to take advantage of many of the same exemptions from disclosure requirements including not being required to comply with the auditor attestation requirements of Section 404 and reduced disclosure obligations regarding executive compensation in this Quarterly Report and our other periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our share price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of an exemption that allows us to delay adopting new or revised accounting standards until such time as those standards apply to private companies. As a result, we will not be subject to the same new or revised accounting standards as other public companies that comply with the public company effective dates, including the new lease accounting standard. We have also elected to take advantage of certain of the reduced disclosure obligations in this Quarterly Report and may elect to take advantage of other reduced reporting requirements in future filings. As a result of these elections, the information that we provide to our stockholders may be different than you might receive from other public reporting companies. However, if we later decide to opt out of the extended period for adopting new accounting standards, we would need to disclose such decision and it would be irrevocable.

Our ability to use net operating loss carryforwards and other tax attributes may be limited.

We have incurred losses during our history, and we do not expect to become profitable in the near future and may never achieve profitability. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire, if at all. Under current law, U.S. federal net operating loss, or NOL, carryforwards generated in taxable periods beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such NOL carryforwards is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to federal law. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, federal NOL carryforwards and other tax attributes may become subject to an annual limitation in the event of certain cumulative changes in ownership. An "ownership change" pursuant to Section 382 of the Code generally occurs if one or more stockholders or groups of stockholders who own at least 5% of a company's stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Our ability to utilize our NOL carryforwards and other tax attributes to offset future taxable income or tax liabilities may be limited as a result of ownership changes, including changes in connection with the Merger and potential changes due to other transactions. Similar rules may apply under state tax laws. If we earn taxable income, such limitations could result in increased future income tax liability to us, and our future cash flows could be adversely affected.

Capital appreciation, if any, will be a stockholder's sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. As a result, capital appreciation, if any, of our common stock will be our stockholder's sole source of gain for the foreseeable future.

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

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws may delay or prevent an acquisition of our company or a change in our management. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. These provisions include:

- a prohibition on actions by our stockholders by written consent;
- a requirement that special meetings of stockholders, which our company is not obligated to call more than once per calendar year, be called only by the chairman of our board of directors, our chief executive officer, or our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors;
- advance notice requirements for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings;
- division of our board of directors into three classes, serving staggered terms of three years each; and
- the authority of the board of directors to issue preferred stock with such terms as the board of directors may determine.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, as amended, or the DGCL, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. These provisions would apply even if the proposed merger or acquisition could be considered beneficial by some stockholders.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the federal district courts of the United States will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty; (iii) any action or proceeding asserting a claim against us or any of our current or former directors, officers or other employees, arising out of or pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws; and (iv) any action asserting a claim against us or any of our directors, officers or other employees, governed by the internal affairs doctrine; provided, that, this provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction.

Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation further provides that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

These exclusive-forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees and may discourage these types of lawsuits against us and our directors, officers, and other employees. While the Delaware courts have determined that such choice of forum provisions are facially valid, and several state trial courts have enforced such provisions and required that suits asserting Securities Act claims be filed in federal court, there is no guarantee that courts of appeal will affirm the enforceability of such provisions and a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instances, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions. If a court were to find either exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with litigating Securities Act claims in state court, both state and federal court, or other jurisdictions which could seriously harm our business, financial condition, results of operations, and prospects.

We could be subject to securities class action litigation or stockholder derivative litigation.

Securities litigation or stockholder derivative litigation frequently follows the announcement of certain significant business transactions, such as the sale of a business division or announcement of a business combination transaction. Additionally, in the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because pharmaceutical companies have experienced significant stock price volatility in recent years. If we face any litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

General Risk Factors

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

The results of our operations could be adversely affected by general conditions in the global economy, the global financial markets and the global political conditions. The United States and global economies are facing growing inflation, higher interest rates and potential recession. Furthermore, a severe or prolonged economic downturn, including a recession or depression or political disruption such as the war between Ukraine and Russia and the conflicts in the Middle East could result in a variety of risks to our business, including weakened demand for our development candidates, if approved, relationships with any vendors or business partners located in affected geographies and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or political disruption, including any international trade disputes, could also strain our manufacturers or suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our potential products. Any of the foregoing could seriously harm our business, and we cannot anticipate all of the ways in which the political or economic climate and financial market conditions could seriously harm our business.

In addition, actual events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. Furthermore, 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 to acquire financing on acceptable terms or at all. Any decline in available funding or access to cash and liquidity resources could, among other risks, adversely impact our and our vendors', collaborators' and other business relations' ability to meet operating expenses, financial obligations or fulfill other obligations, potentially resulting in breaches of financial and/or contractual obligations and/or result in violations of federal or state wage and hour laws. Any of these impacts could have material adverse impacts on our business operations, financial condition and results of operations.

Future changes in financial accounting standards or practices may cause adverse and unexpected revenue fluctuations and adversely affect our reported results of operations.

Future changes in financial accounting standards may cause adverse, unexpected revenue fluctuations and affect our reported financial position or results of operations. Financial accounting standards in the United States are constantly under review and new pronouncements and varying interpretations of pronouncements have occurred with frequency in the past and are expected to occur again in the future. As a result, we may be required to make changes in our accounting policies. Those changes could affect our financial condition and results of operations or the way in which such financial condition and results of operations are reported. We intend to invest resources to comply with evolving standards, and this investment may result in increased general and administrative expenses and a diversion of management time and attention from business activities to compliance activities. See the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II of this Quarterly Report.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, legislation informally titled 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 of such legislation could be repealed or modified in future legislation. The Biden administration and the U.S. Congress could also enact other tax law changes that could have an adverse effect on our operations, cash flows and results from operations and contribute to overall market volatility. In addition, it is uncertain if and to what extent various states will conform to federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future U.S. tax expense.

If we unable to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.

As a public company, we are subject to requirements of the Sarbanes-Oxley Act, the regulations of The Nasdaq Capital Market, the rules and regulations of the SEC, expanded disclosure requirements, accelerated reporting requirements and more complex accounting rules. Company responsibilities required by the Sarbanes-Oxley Act include, among other things, that we maintain corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. This will require that we incur substantial professional fees and internal costs to expand our accounting and finance functions and that we expend significant management efforts. We may experience difficulty in meeting these reporting requirements in a timely manner.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. Further, weaknesses in our disclosure controls and internal control over financial reporting may be discovered in the future. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could harm our results of operations or cause us to fail to meet our reporting obligations and may result in a restatement of our consolidated financial statements for prior periods. Any failure to implement and maintain effective internal control over financial reporting could also adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we will eventually be required to include in our periodic reports that will be filed with the SEC. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in our reported financial and other information, which would likely have a negative effect on the trading price of our common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on The Nasdaq Capital Market.

If we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed, investors could lose confidence in our reported financial information and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Any failure to maintain effective disclosure controls and internal control over financial reporting could have a material and adverse effect on our business, results of operations and financial condition and could cause a decline in the trading price of our common stock.

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

We are subject to certain reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

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

As a public company listed on The Nasdaq Capital Market, we incur significant expenses for director and officer insurance, legal services, accounting services and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, as well as rules subsequently implemented by the SEC, and The Nasdaq Capital Market have imposed various requirements on public companies. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that required the SEC to adopt rules and regulations in these areas such as "say on pay" and proxy access. Recent legislation permits smaller "emerging growth companies" to implement many of these requirements over a longer period and up to five years from the pricing of our initial public offering. We intend to continue to take advantage of this legislation but cannot guarantee that we will not be required to implement these requirements sooner than budgeted or planned and thereby incur unexpected expenses. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costlier. For example, these rules and regulations make it more difficult and more expensive for us to obtain director and officer liability insurance and we are required to incur substantial costs to maintain our current levels of such coverage.

If securities or industry analysts publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. If only very few securities analysts commence coverage of us, or if industry analysts cease coverage of us, the trading price for our common stock would be negatively affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our common stock price and trading volume to decline.

If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research, development and manufacturing involve the use of hazardous and radioactive materials and various flammable and toxic chemicals. We are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous and radioactive materials and waste products. Although we believe our procedures for storing, handling and disposing of these materials in our facilities comply with the relevant guidelines of the Commonwealth of Pennsylvania, the State of Washington and the Occupational Safety and Health Administration of the U.S. Department of Labor, the risk of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for substantial resulting damages. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of animals and biohazardous materials. Our workers' compensation insurance may not provide adequate coverage against costs and expenses we may incur due to injuries to our employees resulting from the use of these materials. Our current environmental liability insurance covering certain of our facilities could be inadequate for all environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials and waste products. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

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

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine and Safety Disclosures

Not applicable.

Item 5. Other Information

On May 9 , 2 0 2 4 , the Company's board of directors appointed Max Rosett as Chief Financial Officer ("CFO") of the Company.

Mr. Rosett, age 34, has served as the Company's Interim Chief Financial Officer, EVP, Operations since December 2023 and Senior Vice President, Operations since October 2023. Before joining the Company, Mr. Rosett held positions of increasing responsibility with Morphimmune from January 2022 until October 2023, last serving as Morphimmune Acting Chief Operating Officer from March 2022 until October 2023. Mr. Rosett also served as Principal at Research Bridge Partners, a life science investment firm, from March 2021 until October 2023. He was previously Director of Data Science at Research Bridge Partners from February 2018 to February 2021. He has also worked as an engineer at Google, and he started his career at the Boston Consulting Group, where he served clients in the pharmaceutical industry. Mr. Rosett earned a M.S. in Computer Science from Georgia Institute of Technology and a B.A. in Mathematics from Yale University.

Mr. Rosett has not entered into any material plan, contract or arrangement with the Company in connection with his appointment as the Company's CFO.

There are no family relationships between Mr. Rosett and any of the Company's current or former directors or executive officers. Mr. Rosett is not a party to any transaction that would require disclosure under Item 404(a) of Regulation S-K promulgated under the Securities Act of 1933, as amended.

Item 6. Exhibits

EXHIBIT INDEX

Exhibit No.	Description of Exhibit
1.1*	Sales Agreement, by and between Immunome, Inc. and TD Securities (USA) LLC, dated May 14, 2024.
2.1	Asset Purchase Agreement, by and between Immunome, Inc. and Ayala Pharmaceuticals, Inc., dated February 5, 2024 (incorporated by reference to Exhibit 2.1 to our Current Report on Form 8-K filed on February 6, 2024).
3.1	Amended and Restated Certificate of Incorporation of Immunome, Inc. (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8K filed October 6, 2020).
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Immunome, Inc., dated October 2, 2023, to implement Officer Exculpation (incorporated by reference to Exhibit 3.3 to our Current Report on Form 8-K filed October 4, 2023).
3.3	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Immunome, Inc., dated October 2, 2023, to implement Authorized Share Increase (incorporated by reference to Exhibit 3.4 to our Current Report on Form 8-K filed October 4, 2023).
3.4	Amended and Restated Bylaws of Immunome, Inc. (incorporated by reference to Exhibit 3.2 to our Current Report on Form 8K filed October 6, 2020).
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.2 to our Registration Statement on Form S-1 filed September 24, 2020).
4.2	Form of Subscription Agreement, dated June 29, 2023 (Incorporated by reference to Exhibit 10.4 to our Current Report on Form 8-K filed on June 29, 2023).
4.3	Stock Issuance Agreement, dated January 5, 2024, by and between Immunome, Inc. and Zentalis Pharmaceuticals, Inc. (incorporated by reference to Exhibit 4.3 to out Registration Statement on Form S-3 filed with the SEC on February 13, 2024).
5.1*	Opinion of Cooley LLP (with respect to the ATM Shares).
10.1†	License Agreement, dated January 5, 2024, by and between Immunome, Inc. and Zentalis Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.30 to our Annual Report on Form 10-K filed March 28, 2024).
10.2†	License Agreement, dated November 29, 2017, by and between Immunome, Inc. (as assignee) and Bristol-Myers Squibb Company, as amended (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on March 26, 2024).
10.3#	Employment Offer Letter dated February 7, 2024, by and between Immunome, Inc. and Kinney Horn (incorporated by reference to Exhibit 10.23 to our Annual Report on Form 10-K filed March 28, 2024).
23.1*	Consent of Cooley LLP (included in Exhibit 5.1)
31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

Exhibit No.	Description of Exhibit
32.2*	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	Interactive Data File (Form 10-Q for the Quarterly Period ended March 31, 2024 filed in XBRL). The financial information contained in the XBRL-related documents is "unaudited" and "unreviewed." The instance document does not appear in the interactive file because its XBRL tags are embedded within the Inline XBRL document.
104	Cover Page Interactive File (embedded within the Inline XBRL document).

* Filed or furnished herewith.
# Management contracts or compensatory plans or arrangements
† Certain portions of this exhibit (indicated by asterisks) have been omitted because they are not material and would likely cause competitive harm to Immunome, Inc. if publicly disclosed.

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.

IMMUNOME, INC.
(Registrant)

Date: May 14, 2024

By: /s/ Clay B. Siegall, Ph. D.
Name: Clay B. Siegall, Ph. D.
Title: President and Chief Executive Officer
(Principal Executive Officer)

Date: May 14, 2024

By: /s/ Max Rosett
Name: Max Rosett
Title: Chief Financial Officer
(Principal Financial and Accounting Officer)

IMMUNOME, INC.

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SALES AGREEMENT

May 14, 2024

TD Securities (USA) LLC (dba TD Cowen)
1 Vanderbilt Avenue
New York, New York 10017

Ladies and Gentlemen:

Immunome, Inc., a Delaware corporation (the "**Company**"), confirms its agreement (this "**Agreement**") with TD Securities (USA) LLC ("**TD Cowen**"), as follows:

1. Issuance and Sale of Shares. The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein, it may issue and sell through TD Cowen, acting as agent and/or principal, shares (the "**Placement Shares**") of the Company's common stock, par value $0.0001 per share (the "**Common Stock**"), having an aggregate offering price of up to $200,000,000 (the "**Maximum Amount**"). Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitation set forth in this Section 1 on the number of shares of Common Stock issued and sold under this Agreement shall be the sole responsibility of the Company, and TD Cowen shall have no obligation in connection with such compliance. The issuance and sale of the Placement Shares through TD Cowen will be effected pursuant to the Registration Statement (as defined below) filed by the Company and automatically declared effective by the Securities and Exchange Commission (the "**Commission**"), although nothing in this Agreement shall be construed as requiring the Company to use the Registration Statement (as defined below) to issue the Common Stock. The Company acknowledges and agrees that sales of Placement Shares under this Agreement may be made through affiliates of TD Cowen, and that TD Cowen may otherwise fulfill its obligations pursuant to this Agreement to or through an affiliated broker-dealer.

The Company has filed, in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the "**Securities Act**"), with the Commission a registration statement on Form S-3 (File No. 333-277036), including a base prospectus, relating to certain securities, including the Common Stock, to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the "**Exchange Act**"). The Company has prepared a prospectus supplement specifically relating to the Placement Shares (the "**Prospectus Supplement**") to the base prospectus included as part of such registration statement. The Company has furnished to TD Cowen, for use by TD Cowen, copies of the prospectus included as part of such registration statement, as supplemented by the Prospectus Supplement, relating to the Placement Shares. Except where the context otherwise requires, such registration statement, and any post-effective amendment thereto, as amended when it became effective, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the Commission pursuant to Rule 424(b) under the Securities Act or deemed to be a part of such registration statement pursuant to Rule 430B or 462(b) of the Securities Act, or any subsequent registration statement on Form S-3 filed pursuant to Rule 415(a)(6) under the Securities Act by the Company with respect to the Placement Shares, is herein called the "**Registration Statement**." Any registration statement and amendments thereto filed pursuant to Rule 462(b) of the Securities Act and relating to the offering covered by the Registration Statement is herein called a "**Rule 462(b) Registration Statement**" and, after such filing, the "**Registration Statement**" shall include any Rule 462(b) Registration Statement. The base prospectus, including all documents incorporated therein by reference, included in the Registration Statement, as it may be supplemented by the Prospectus Supplement, in the form in which such prospectus and/or Prospectus Supplement have most recently been filed by the Company with the Commission pursuant to Rule 424(b) under the Securities Act, together with any "issuer free writing prospectus," as defined in Rule 433 under the Securities Act ("**Rule 433**"), relating to the Placement Shares that (i) is consented to by TD Cowen, hereinafter referred to as a "**Permitted Free Writing**

Prospectus," (ii) is required to be filed with the Commission by the Company or (iii) is exempt from filing pursuant to Rule 433(d)(5)(i), in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g), is herein called the "**Prospectus**." Any reference herein to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms "amend," "amendment" or "supplement" with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission deemed to be incorporated by reference therein. For purposes of this Agreement, all references to the Registration Statement, the Prospectus or to any amendment or supplement thereto shall be deemed to include any copy filed with the Commission pursuant to the Electronic Data Gathering Analysis and Retrieval System ("**EDGAR**").

2. Placements. Each time that the Company wishes to issue and sell the Placement Shares hereunder (each, a "**Placement**"), it will notify TD Cowen by email notice (or other method mutually agreed to in writing by the parties) (a "**Placement Notice**") containing the parameters in accordance with which it desires the Placement Shares to be sold, which shall at a minimum include the number or dollar value of Placement Shares to be issued, the time period during which sales are requested to be made, any limitation on the number of Placement Shares that may be sold in any one Trading Day (as defined in Section 3) and any minimum price below which sales may not be made, a form of which containing such minimum sales parameters necessary is attached hereto as **Schedule 1**. The Placement Notice shall originate from any of the individuals from the Company set forth on **Schedule 2** (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from TD Cowen set forth on **Schedule 2**, as such **Schedule 2** may be amended from time to time. The Placement Notice shall be effective upon receipt by TD Cowen unless and until (i) in accordance with the notice requirements set forth in Section 4, TD Cowen declines to accept the terms contained therein for any reason, in its sole discretion, which declination must occur within two (2) Business Days of the receipt of the Placement Notice, (ii) the entire amount of the Placement Shares thereunder have been sold, (iii) in accordance with the notice requirements set forth in Section 4, the Company suspends or terminates the Placement Notice, which it may do for any reason, in its sole discretion, (iv) the Company issues a subsequent Placement Notice with parameters superseding or amending those in the earlier dated Placement Notice, which it may do for any reason, in its sole discretion, or (v) this Agreement has been terminated under the provisions of Section 11. The amount of any discount, commission or other compensation to be paid by the Company to TD Cowen in connection with the sale of the Placement Shares shall be calculated in accordance with the terms set forth in **Schedule 3**. It is expressly acknowledged and agreed that neither the Company nor TD Cowen will have any obligation whatsoever with respect to a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to TD Cowen and TD Cowen does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control. The Company's obligations under this Agreement to furnish, provide, deliver or make available (and all other similar references) copies of any document shall be deemed satisfied if the same is filed with the Commission through EDGAR.

3. Sale of Placement Shares by TD Cowen. Subject to the terms and conditions herein set forth, upon the Company's delivery of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, TD Cowen, for the period specified in the Placement Notice, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Nasdaq Stock Market, Inc. ("**Nasdaq**") to sell such Placement Shares up to the amount specified, and otherwise in accordance with the terms of such Placement Notice. TD Cowen will provide written confirmation to the Company (including by email correspondence to each of the individuals of the Company set forth on **Schedule 2**, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) no later than the opening of the Trading Day (as defined below) immediately following the Trading Day on which it has made sales of Placement Shares hereunder setting forth the number of Placement Shares sold on such day, the volume-weighted average price of the Placement Shares sold, and the Net Proceeds (as defined below) payable to the Company. In the event the Company engages TD Cowen for a sale of Placement Shares that would constitute a "block" within the meaning of Rule 10b-18(a)(5) under the Exchange Act (a "**Block Sale**"), the Company will provide TD Cowen, at TD Cowen's request and upon reasonable advance notice to the Company, on or prior to the Settlement Date (as defined below), the opinions of counsel, accountant's letter and officers' certificates set forth in Section 8 hereof, each dated the Settlement Date, and such other documents and information as TD Cowen shall

reasonably request. TD Cowen may sell Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415(a)(4) of the Securities Act, including without limitation sales made through Nasdaq or on any other existing trading market for the Common Stock. TD Cowen shall not purchase Placement Shares for its own account as principal unless expressly authorized to do so by the Company in a Placement Notice. The Company acknowledges and agrees that (i) there can be no assurance that TD Cowen will be successful in selling Placement Shares, and (ii) TD Cowen will incur no liability or obligation to the Company or any other person or entity if it does not sell Placement Shares for any reason other than a failure by TD Cowen to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such Placement Shares as required under this Section 3. For the purposes hereof, "**Trading Day**" means any day on which the Company's Common Stock is purchased and sold on the principal market on which the Common Stock is listed or quoted.

Notwithstanding any other provision of this Agreement, the Company shall not offer, sell or deliver, or request the offer or sale, of any Placement Shares pursuant to this Agreement and, by notice to TD Cowen given by telephone (confirmed promptly by email), shall cancel any instructions for the offer or sale of any Placement Shares, and TD Cowen shall not be obligated to offer or sell any Placement Shares, (i) during any period in which the Company is, or could be deemed to be, in possession of material non-public information, or (ii) at any time from and including the date on which the Company shall issue a press release containing, or shall otherwise publicly announce, its earnings, revenues or other results of operations (an "**Earnings Announcement**") through and including the time that the Company files a Quarterly Report on Form 10-Q or an Annual Report on Form 10-K that includes consolidated financial statements as of and for the same period or periods, as the case may be, covered by such Earnings Announcement.

4. Suspension of Sales.

(a) The Company or TD Cowen may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on **Schedule 2**, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by verifiable facsimile transmission or email correspondence to each of the individuals of the other party set forth on **Schedule 2**), suspend any sale of Placement Shares; *provided, however*, that such suspension shall not affect or impair either party's obligations with respect to any Placement Shares sold hereunder prior to the receipt of such notice. While a suspension is in effect any obligation under section 7(m), 7(n) and 7(o) with respect to delivery of certificates, opinion, or comfort letters to TD Cowen, shall be waived; *provided* that such certificates, opinions, or comfort letters shall be delivered to TD Cowen prior to the resumption of sales of any Placement Shares. Each of the parties agrees that no such notice under this Section 4 shall be effective against the other unless it is made to one of the individuals named on **Schedule 2** hereto, as such schedule may be amended from time to time.

(b) If either TD Cowen or the Company has reason to believe that the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are not satisfied with respect to the Common Stock, it shall promptly notify the other party, and TD Cowen may, at its sole discretion, suspend sales of the Placement Shares under this Agreement.

(c) The Registration Statement was automatically declared effective upon its filing on February 13, 2024. Notwithstanding any other provision of this Agreement, during any period in which the Registration Statement is no longer effective under the Securities Act, the Company shall promptly notify TD Cowen, the Company shall not request the sale of any Placement Shares, and TD Cowen shall not be obligated to sell or offer to sell any Placement Shares.

5. Settlement.

(a) Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares made (i) prior to May 28, 2024 will occur on the second (2nd) Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made and (ii) on or following May 28, 2024 will occur on the first (1st) Trading Day following the date on which such sales are made (each, a "**Settlement Date**" and the first such settlement date, the "**First Delivery Date**"). The amount of

proceeds to be delivered to the Company on a Settlement Date against receipt of the Placement Shares sold (the "**Net Proceeds**") will be equal to the aggregate sales price received by TD Cowen at which such Placement Shares were sold, after deduction for (i) TD Cowen's commission, discount or other compensation for such sales payable by the Company pursuant to Section 2 hereof, (ii) any other amounts due and payable by the Company to TD Cowen hereunder pursuant to Section 7(g) (Expenses) hereof; provided that TD Cowen shall provide reasonable documentation of such amounts, and (iii) any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales.

(b) Delivery of Placement Shares. On or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Placement Shares being sold by crediting TD Cowen's or its designee's account (provided TD Cowen shall have given the Company written notice of such designee prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which in all cases shall be freely tradeable, transferable, registered shares in good deliverable form. On each Settlement Date, TD Cowen will deliver the related Net Proceeds in same day funds to an account designated by the Company on, or prior to, the Settlement Date. The Company agrees that if the Company, or its transfer agent (if applicable), defaults in its obligation to deliver duly authorized Placement Shares on a Settlement Date (other than as a result of a failure by TD Cowen to provide instructions for delivery), in addition to and in no way limiting the rights and obligations set forth in Section 9(a) (Indemnification and Contribution) hereto, it will (i) hold TD Cowen harmless against any loss, claim, damage, or expense (including reasonable and documented legal fees and expenses), as incurred, arising out of or in connection with such default by the Company and (ii) pay to TD Cowen (without duplication) any commission, discount, or other compensation to which it would otherwise have been entitled absent such default.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, TD Cowen that, unless such representation, warranty or agreement specifies a different time, as of (i) the date of this Agreement, (ii) each Time of Sale (as defined below), (iii) each Settlement Date, and (iv) each Bring-Down Date (as defined below) (each such date included in (i) through (iv), a "**Representation Date**"):

(a) Compliance with Registration Requirements. The Registration Statement and any Rule 462(b) Registration Statement have been declared effective by the Commission under the Securities Act. The Company has complied to the Commission's satisfaction with all requests of the Commission for additional or supplemental information. No stop order suspending the effectiveness of the Registration Statement or any Rule 462(b) Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the knowledge of the Company, contemplated or threatened by the Commission. The Company meets the requirements for use of Form S-3 under the Securities Act. The sale of the Placement Shares hereunder meets the requirements of General Instruction I.B.1 of Form S-3.

(b) No Misstatement or Omission. The Prospectus when filed complied and, as amended or supplemented, if applicable, will comply in all material respects with the Securities Act. Each of the Registration Statement, any Rule 462(b) Registration Statement, the Prospectus and any post-effective amendments or supplements thereto, at the time it became effective or its date, as applicable, complied and as of each Representation Date, complied and will comply in all material respects with the Securities Act and did not and, as of each Representation Date, did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus, as amended or supplemented, as of its date, did not and, as of each Representation Date, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the two immediately preceding sentences do not apply to statements in or omissions from the Registration Statement, any Rule 462(b) Registration Statement, or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to Agent's Information (as defined below). There are no contracts or other documents required to be described in the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required. As used herein, "**Time of Sale**" means with respect to each offering of Placement Shares pursuant to this Agreement, the time of TD Cowen's initial entry into contracts with purchasers for the sale of such Placement Shares.

(c) Offering Materials Furnished to TD Cowen. The Company has delivered to TD Cowen one complete copy of the Registration Statement and a copy of each consent and certificate of experts filed as a part thereof, and conformed copies of the Registration Statement (without exhibits) and the Prospectus, as amended or supplemented, in such quantities and at such places as TD Cowen has reasonably requested. The Registration Statement, the Prospectus and any Permitted Free Writing Prospectus (to the extent any such Permitted Free Writing Prospectus was required to be filed with the Commission) delivered to TD Cowen for use in connection with the public offering of the Placement Shares contemplated herein have been and will be identical to the versions of such documents transmitted to the Commission for filing via EDGAR, except to the extent permitted by Regulation S-T.

(d) Emerging Growth Company. The Company is an "emerging growth company," as defined in Section 2(a) of the Securities Act. If the Company is an emerging growth company on or after January 1, 2025, the Company agrees to notify TD Cowen promptly upon the Company ceasing to be an emerging growth company.

(e) Not an Ineligible Issuer. The Company currently is not an "ineligible issuer," and is a well-known seasoned issuer, in each case as defined in Rule 405 under the Securities Act. The Company agrees to notify TD Cowen promptly upon the Company becoming an "ineligible issuer."

(f) Distribution of Offering Material By the Company. The Company has not distributed and will not distribute, prior to the full distribution of the Placement Shares by TD Cowen pursuant to this Agreement, any offering material in connection with the offer and sale of the Placement Shares other than the Prospectus or the Registration Statement.

(g) The Sales Agreement. This Agreement has been duly authorized, executed and delivered by, and, assuming the due authorization, execution and delivery by TD Cowen, is a valid and binding agreement of, the Company, enforceable in accordance with its terms, except as rights to indemnification hereunder may be limited by applicable law and except as the enforcement hereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. This Agreement conforms in all material respects to the description thereof contained in the Registration Statement and the Prospectus.

(h) Authorization of the Common Stock. The Placement Shares, when issued and delivered, will be duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be duly authorized, validly issued, fully paid and nonassessable, free and clear of any pledge, lien, encumbrance, security interest or other claim, and the issuance and sale of the Placement Shares by the Company is not subject to any preemptive or other similar rights that have not been duly waived or satisfied.

(i) No Applicable Registration or Other Similar Rights. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement, except for such rights as have been duly waived.

(j) No Material Adverse Change. Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement and the Prospectus, (i) there has not been any change in the capital stock (other than the issuance of shares of Common Stock upon exercise of stock options and warrants described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement and the Prospectus), short-term debt or long-term debt of the Company or any of its subsidiaries, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole; (ii) neither the Company nor any of its subsidiaries has entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company and its subsidiaries taken as a whole or incurred any liability or obligation, direct or contingent, that is material to the Company and its subsidiaries taken as a whole; and (iii) neither the Company nor any of its subsidiaries has sustained any loss or interference with its business that is material to the Company and its subsidiaries taken as a whole and that is either from fire, explosion, flood or other calamity, whether or not covered

by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, except in each case as otherwise disclosed in the Registration Statement and the Prospectus.

(k) Independent Accountants. Ernst & Young LLP, who has expressed its opinion with respect to the consolidated financial statements (which term as used in this Agreement includes the related notes thereto) and supporting schedules filed with the Commission or contained or incorporated by reference as a part of the Registration Statement and included in the Prospectus, is an independent registered public accounting firm with respect to the Company and its subsidiaries within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(l) Financial Statements. The financial statements (including the related notes thereto) of the Company and its consolidated subsidiaries included or incorporated by reference in the Registration Statement and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of the Company and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles ("**GAAP**") in the United States applied on a consistent basis throughout the periods covered thereby, except in the case of unaudited interim financial statements, which are subject to normal year-end adjustments, the effect of which would not individually or in the aggregate, be materially adverse, and do not contain certain footnotes as permitted by the applicable rules of the Commission, and any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein; and the other financial information included or incorporated by reference in the Registration Statement and the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly in all material respects the information shown thereby; all disclosures included or incorporated by reference in the Registration Statement and the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission), if any, comply with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Securities Act, to the extent applicable; and the pro forma financial information and the related notes thereto included or incorporated by reference in the Registration Statement and the Prospectus have been prepared in accordance with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and the assumptions underlying such pro forma financial information are reasonable and are set forth in the Registration Statement and the Prospectus. There is no pro forma or as adjusted financial information or other financial statements or supporting schedules or exhibits which are required to be included in the Registration Statement and the Prospectus or a document incorporated by reference therein in accordance with Regulation S-X which has not been included or incorporated as so required.

(m) eXtensible Business Reporting Language. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(n) Organization and Good Standing. The Company and each of its subsidiaries have been duly organized and are validly existing and in good standing under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect on the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole or on the performance by the Company of its obligations under this Agreement (a "**Material Adverse Effect**"). The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiary listed in Exhibit 21.1 of the Company's Annual Report on Form 10-K for the most recently ended fiscal year for as long as it remains in existence and other than those subsidiaries not required to be listed on Exhibit 21.1 by Item 601 of Regulation S-K under the Exchange Act.

(o) Capitalization. The Company has an authorized capitalization as set forth in the Registration Statement and the Prospectus; all the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and are not subject to any pre-emptive or similar rights that have not been duly waived or satisfied; except as described in or expressly contemplated by the Registration Statement and the Prospectus, there are no outstanding rights (including, without limitation, pre-emptive rights that have not been duly waived or satisfied), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any such subsidiary, any such convertible or exchangeable securities or any such rights, warrants or options; the capital stock of the Company conforms in all material respects to the description thereof contained in the Registration Statement and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary owned, directly or indirectly, by the Company have been duly and validly authorized and issued, are fully paid and non-assessable (except as otherwise described in the Registration Statement and the Prospectus) and are owned directly or indirectly by the Company, free and clear of any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party.

(p) Stock Options. With respect to the stock options (the "**Stock Options**") granted pursuant to the stock-based compensation plans of the Company (the "**Company Stock Plans**") and with respect to inducement awards granted outside of the Company Stock Plans (the "**Inducement Awards**"), except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect (i) each Stock Option intended to qualify as an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended (the "**Code**") so qualifies, (ii) each grant of a Stock Option and Inducement Award was duly authorized no later than the date on which the grant of such Stock Option or Inducement Award was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and, to the knowledge of the Company (other than with respect to due execution and delivery by the Company) the award agreement governing such grant (if any) was duly executed and delivered by each party thereto, (iii) each such grant was made in accordance with the terms of the Company Stock Plans (as applicable), the Exchange Act and all other applicable laws and regulatory rules or requirements, including the rules of the Nasdaq Capital Market ("**Nasdaq Market**") and any other exchange on which Company securities are traded, and (iv) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company. Each Company Stock Plan is accurately described in all material respects in the Registration Statement and the Prospectus. The Company has not knowingly granted, and there is no and has been no policy or practice of the Company of granting, Stock Options prior to, or otherwise coordinating the grant of Stock Options with, the release or other public announcement of material information regarding the Company or its subsidiaries or their results of operations or prospects.

(q) No Violation or Default. Neither the Company nor any of its subsidiaries is (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any property or asset of the Company or any of its subsidiaries is subject; or (iii) in violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority having jurisdiction over the Company or its subsidiaries, as applicable, except, in the case of clauses (ii) and (iii) above, for any such default or violation that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(r) No Conflicts. The execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Placement Shares and the consummation of the transactions by the Company contemplated by this Agreement and the Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, result in the termination, modification or acceleration of, or result in the creation or imposition of any lien, charge or encumbrance upon any property, right or asset of the Company or any of its subsidiaries pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound

or to which any property, right or asset of the Company or any of its subsidiaries is subject, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Company or any of its subsidiaries or (iii) result in the violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority having jurisdiction over the Company, except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, individually or in the aggregate, have a Material Adverse Effect.

(s) No Consents Required. No consent, filing, approval, authorization, order, license, registration or qualification of or with any court or arbitrator or governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Placement Shares and the consummation by the Company of the transactions contemplated by this Agreement , except for the registration of the Placement Shares under the Securities Act and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority, Inc. ("**FINRA**"), the Nasdaq Market and under applicable state securities laws in connection with the sale of the Placement Shares by TD Cowen.

(t) Legal Proceedings. There are no legal, governmental or regulatory investigations, actions, demands, claims, suits, arbitrations, inquiries or proceedings ("**Actions**") pending to which the Company or any of its subsidiaries is or may reasonably be expected to become a party or to which any property of the Company or any of its subsidiaries is or may reasonably be expected to be the subject that, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, would reasonably be expected to have a Material Adverse Effect; to the knowledge of the Company, no such Actions that would reasonably be expected, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, to have a Material Adverse Effect are threatened or contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending Actions that are required under the Securities Act to be described in the Registration Statement or the Prospectus that are not so described in the Registration Statement and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement and the Prospectus.

(u) Licenses and Permits. The Company and its subsidiaries possess, and are in compliance with the terms of, all licenses, sub-licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in each of the Registration Statement and the Prospectus ("**Licenses**"), except where failures to so possess or comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; neither the Company nor any of its subsidiaries has received written notice of any revocation or suspension of any such License or has any reason to believe that any such License will not be renewed in the ordinary course, except where such revocation or suspension would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Each of the Company and its subsidiaries has fulfilled and performed all of its respective obligations with respect to the Licenses, and, to the Company's knowledge, no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other impairment of the rights of the holder, except where such revocation, termination or impairment would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries have filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission) as required for maintenance of their Licenses that are necessary for the conduct of their respective businesses.

(v) Taxes. The Company and its subsidiaries have paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof and there is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of its subsidiaries or any of their respective properties or assets, in each case, except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(w) Investment Company Act. The Company is not and, after receipt of payment for the Placement Shares and the application of the proceeds thereof as described in the Registration Statement and the Prospectus, will not be required to register as an "investment company" or an entity "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder (collectively, the "**Investment Company Act**").

(x) Insurance. The Company and its subsidiaries have insurance covering their respective properties, operations, personnel and businesses, including business interruption insurance, which insurance is in amounts and insures against such losses and risks as generally maintained by similarly situated companies and which the Company believes are reasonably adequate to protect the Company and its subsidiaries and their respective businesses, except where the failure to maintain such insurance would not reasonably be expected to have a Material Adverse Effect; and neither the Company nor any of its subsidiaries has (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage at reasonable cost from similar insurers as may be necessary to continue its business.

(y) No Price Stabilization or Manipulation. The Company has not taken and will not take, directly or indirectly, any action designed to or that would be reasonably expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares.

(z) Related Party Transactions. There are no business relationships or related-party transactions involving the Company or any subsidiary or any other person required to be described in the Prospectus which have not been described as required.

(aa) Incorporated Documents. The documents incorporated or deemed to be incorporated by reference in the Prospectus, at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the Exchange Act, and, when read together with the other information in the Prospectus, at the Settlement Dates, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(bb) No Unlawful Contributions or Other Payments. None of the Company, any of its subsidiaries, or any director, officer, or employee of the Company or any of its subsidiaries or, to the knowledge of the Company, any agent, affiliate, representative, or other person associated with or acting on behalf of the Company or any of its subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken, or will take, an act in furtherance of an offer, payment, promise or authorization or approval of any direct or indirect unlawful payment of money, property, gifts, any benefit, or anything of value to any foreign or domestic government or regulatory official, officer or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. The Company and each of its subsidiaries and affiliates have conducted their businesses in compliance with applicable anti-corruption laws and have instituted and maintained and will continue to maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein. Neither the Company nor any of its subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-bribery or anti-corruption laws.

(cc) Compliance with Anti-Money Laundering Laws. The operations of the Company and each of its subsidiaries are and have been conducted at all times in compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable money laundering statutes of all jurisdictions where the Company or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental or regulatory agency (collectively, the "**Anti-Money Laundering Laws**") and no action, suit or proceeding by or before any court or governmental or regulatory agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(dd) No Conflicts with Sanctions Laws. Neither the Company nor any of its subsidiaries, directors, officers or employees, nor, to the knowledge of the Company, any agent, affiliate, representative, or other person associated with or acting on behalf of the Company or any of its subsidiaries is or is owned or controlled by one or more persons that are currently the subject or the target of any sanctions administered or enforced by the U.S. government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company or any of its subsidiaries, directors, officers, or employees, or, to the knowledge of the Company, any agent, affiliate, representative, or other person associated with or acting on behalf of the Company or any of its subsidiaries, or owned or controlled by one or more persons that are, located, organized or resident in a country or territory that is the subject or target of Sanctions, including, without limitation, Cuba, Iran, North Korea, Syria, the Crimea, Donetsk People's Republic, and Luhansk People's Republic regions of Ukraine, or any other Covered Region of Ukraine identified pursuant to Executive Order 14065 (each, a "**Sanctioned Country**"); and the Company will not directly or indirectly use the proceeds of the offering of the Placement Shares hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. The Company and its subsidiaries have not knowingly engaged in, are not now knowingly engaged and will not knowingly engage in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(ee) Accounting Controls. The Company and its subsidiaries maintain systems of "internal control over financial reporting" (as defined in Rule 13a-15(f) of the Exchange Act) that have been designed to comply with the applicable requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company and its subsidiaries maintain internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto. No material weaknesses in the Company's internal controls have been identified by the Company or its auditors (it being understood that this subsection (mm) shall not require the Company to comply with Section 404 of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith (the "**Sarbanes-Oxley Act**") as of an earlier date than it would otherwise be required to so comply under applicable law). The Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting known to the Company which have adversely affected or are reasonably likely to adversely affect the Company's ability to record, process, summarize and report

financial information; and (ii) any fraud known to the Company, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting.

(ff) Disclosure Controls. The Company and its subsidiaries maintain an effective system of "disclosure controls and procedures" (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the applicable requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure.

(gg) Certain Environmental Matters. (i) The Company and its subsidiaries (x) are in compliance with all, and have not violated any, applicable federal, state, local and foreign laws (including common law), rules, regulations, requirements, decisions, judgments, decrees, orders and other legally enforceable requirements relating to pollution or the protection of human health or safety, the environment, natural resources, hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "**Environmental Laws**"); (y) have received and are in compliance with all, and have not violated any, permits, licenses, certificates or other authorizations or approvals required of them under any Environmental Laws to conduct their respective businesses; and (z) have not received notice of any actual or potential liability or obligation under or relating to, or any actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) (x) there is no proceeding that is pending, or that is known by the Company to be contemplated, against the Company or any of its subsidiaries under any Environmental Laws in which a governmental entity is also a party, other than such proceeding regarding which the Company reasonably believes no monetary sanctions of $100,000 or more will be imposed, (y) the Company and its subsidiaries are not aware of any facts or issues regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws or concerning hazardous or toxic substances or wastes, pollutants or contaminants, that would reasonably be expected to have a Material Adverse Effect, and (z) none of the Company or its subsidiaries anticipates material capital expenditures relating to any Environmental Laws.

(hh) Hazardous Materials. There has been no storage, generation, transportation, use, handling, treatment, Release (as defined below) or threat of Release of Hazardous Materials (as defined below) by, relating to or caused by the Company or any of its subsidiaries (or, to the knowledge of the Company and its subsidiaries, any other entity (including any predecessor) for whose acts or omissions the Company or any of its subsidiaries is or could reasonably be expected to be liable) at, on, under or from any property or facility now or previously owned, operated or leased by the Company or any of its subsidiaries, or to the knowledge of the Company, at, on, under or from any other property or facility, in violation of any Environmental Laws or in a manner or amount or to a location that could reasonably be expected to result in any liability under any Environmental Law, except for any violation or liability which would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. "**Hazardous Materials**" means any material, chemical, substance, waste, pollutant, contaminant, compound, mixture, or constituent thereof, in any form or amount, including petroleum (including crude oil or any fraction thereof) and petroleum products, natural gas liquids, asbestos and asbestos containing materials, naturally occurring radioactive materials, brine, and drilling mud, regulated or which can give rise to liability under any Environmental Law. "**Release**" means any spilling, leaking, seepage, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, disposing, depositing, dispersing, or migrating in, into or through the environment, or in, into from or through any building or structure.

(ii) Title to Real and Personal Property. The Company and its subsidiaries have good and marketable title in fee simple to, or have valid rights to lease or otherwise use, all items of real and personal property that are necessary to the respective businesses of the Company and its subsidiaries, in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the

use made and proposed to be made of such property by the Company and its subsidiaries or (ii) would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(jj) Intellectual Property. Except as otherwise described in the Prospectus, to the Company's knowledge, the Company and its subsidiaries own, or possess valid and enforceable licenses or other sufficient rights to practice under or to use, all material patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, trade dress, designs, technical data, database rights, Internet domain names, copyrights, works of authorship, proprietary information and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) (collectively, "**Intellectual Property**") and used in or is necessary for their respective businesses as currently conducted and as proposed to be conducted as described in the Registration Statement and the Prospectus. To the Company's knowledge, the conduct of its and its subsidiaries' respective businesses as described in the Registration Statement and the Prospectus do not currently and will not upon commercialization infringe, or misappropriate or otherwise conflict with any valid intellectual property rights of a third party, except any such infringement, misappropriation or other conflict that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. To the Company's knowledge, the Intellectual Property owned or licensed by the Company has not been adjudged by a court of competent jurisdiction (excluding ordinary course patent prosecution activities) to be invalid or unenforceable, in whole or in part. Except as disclosed in the Registration Statement and the Prospectus: (i) to the Company's knowledge there are no third parties who have rights to any Intellectual Property owned or licensed by the Company, except for customary reversionary rights of third-party licensors with respect to Intellectual Property as owned or licensed by the Company or its subsidiaries; and (ii) to the Company's knowledge there is no infringement by third parties of any Intellectual Property owned or licensed by the Company except any such infringement that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. Except as disclosed in the Registration Statement and the Prospectus, the Company has not, received any notice of any claim relating to Intellectual Property, and there is no such claim pending, or to the knowledge of the Company, threatened by any third party: (A) challenging the Company's rights in or to any Intellectual Property owned or licensed by the Company, except any such claim that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect; or (B) challenging the validity, enforceability or scope of any Intellectual Property owned or licensed by the Company, except any such claim that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. Except as disclosed in the Registration Statement and the Prospectus, the Company and its subsidiaries have complied with the material terms of each material agreement pursuant to which Intellectual Property has been licensed to the Company, and all such agreements are in full force and effect, except any non-compliance that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. To the Company's knowledge, except as disclosed in the Registration Statement and the Prospectus, there are no material defects of form in the preparation or filing of any of the issued patents or patent applications included in the Intellectual Property owned or licensed by the Company. The Company and its subsidiaries have taken commercially reasonable steps to obtain executed nondisclosure, confidentiality agreements and invention assignment agreements with their employees, and except as disclosed in the Registration Statement and the Prospectus. To the Company's knowledge no employee of the Company, is in or has been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement, or any restrictive covenant to or with a former employer where the basis of such violation relates to the Intellectual Property owned or purported to be owned by the Company and such employee's employment with the Company, except any non-compliance by such employees would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. To the Company's knowledge, the duty of candor and disclosure as required by the United States Patent and Trademark Office during the prosecution of the United States patents and patent applications included in the Intellectual Property owned or licensed by the Company have been complied with; and in all foreign offices having similar requirements during the prosecution of the United States and foreign patents and patent applications, as applicable, included in the Intellectual Property owned or licensed by the Company have been complied with. Except as disclosed in the Registration Statement and the Prospectus, no government funding, facilities or resources of a university, college, other educational institution or research center was used in the development of any Intellectual Property that is owned or purported to be owned by the Company or its subsidiaries, that would confer any governmental agency or body, university, college, other educational institution or research center any claim or right of ownership to any such Intellectual Property.

(kk) Trade Secrets. To the Company's knowledge, the Company and its subsidiaries have taken commercially reasonable actions designed to protect their rights in and prevent the unauthorized use and disclosure of

material trade secrets and confidential business information (including confidential source code, ideas, research and development information, know-how, formulas, compositions, technical data, designs, drawings, specifications, research records, records of inventions, test information, financial, marketing and business data, customer and supplier lists and information, pricing and cost information, business and marketing plans and proposals) owned by the Company and its subsidiaries ("**Confidential Information**") and there has been no unauthorized use or disclosure of such Confidential Information, except as any such unauthorized use or disclosure would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(ll) Data Protection. Except as otherwise described in the Prospectus and except where the failure to so comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company is, and at all times during the past three (3) years, has been in compliance with applicable data privacy and security laws and regulations (the "**Data Protection Laws**"), contractual obligations legally binding on the Company, or legally binding industry standards regarding the collection, use, transfer, storage, processing, protection, disposal or disclosure (collectively, "**Process**" or "**Processing**") of Personal Data (defined below) in the Company's possession, custody, or control, including, to the extent applicable to the Company, the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679), HIPAA as amended by the Health Information Technology for Economic and Clinical Health Act ("**HITECH**") and the regulations implemented thereunder, and the California Consumer Privacy Act ("**CCPA**") of 2018 (collectively, the " **Privacy and Security Obligations**"). "**Personal Data**" has the same meaning as the term "personal data," "personal information," "protected health information," or the equivalent under applicable Data Protection Laws. The Company has in place, complies with, and takes steps designed to ensure material compliance with its policies and procedures relating to data privacy and security and the Processing of Personal Data. To the extent required by Data Protection Laws, the Company has contractually required third parties Processing Personal Data on behalf of the Company to comply with applicable Privacy and Security Obligations. The Company has not received written notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy and Security Obligations, and, is not (i) currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action conducted or ordered by any governmental body pursuant to any Privacy and Security Obligation; or (ii) a party to any written order, decree, or agreement imposed or issued by any governmental body that imposes any material obligation or liability under any Privacy and Security Obligation. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect: (i) the Company's information technology assets and equipment, computers, technology systems and other systems, networks, hardware, software, websites, applications, and databases owned or leased by, or licensed to, the Company (collectively, "**IT Systems**") operate and perform as required in connection with the operation of the business of the Company as currently conducted, and, to the Company's knowledge, are free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other malicious code, (ii) the Company has implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards designed to maintain and protect Personal Data and the integrity, continuous operation, redundancy and security of all IT Systems used in connection with the operation of the Company, (iii) the Company has established commercially reasonable disaster recovery and security plans, procedures and facilities for the business, including, without limitation, for the IT Systems and Confidential Information and (iv) to the Company's knowledge, during the past three (3) years, there have been no security breaches, outages or unauthorized uses of or accesses to the Personal Data or IT Systems.

(mm) No Complaints. During the past three (3) years, the Company has not received written notice of any complaint or audit, proceeding, investigation (formal or informal) demand or claim made against the Company or its subsidiaries, by any person, government entity, regulator, group or other party in respect of the collection, use, disclosure, transfer, or other processing of Confidential Information by the Company or its subsidiaries.

(nn) FDA Compliance. During the past three (3) years, the Company: (A) is and has been in compliance in all material respects with all applicable statutes, rules or regulations of the U.S. Food and Drug Administration ("**FDA**") and other comparable governmental entities applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product under development, manufactured or distributed by the Company (collectively, "**Applicable Laws**"); (B) has not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other written correspondence or written notice from the FDA or any governmental entity alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws or applicable

Health Care Laws ("**Authorizations**"); (C) possesses all material Authorizations and such Authorizations are valid and in full force and effect and the Company is not in material violation of any term of any such Authorizations; (D) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any applicable governmental entity alleging that any product, operation, or activity is in material violation of any Applicable Laws or Authorizations and has no knowledge that the FDA or any governmental entity is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (E) has not received written notice that the FDA or any governmental entity has taken, is taking or to the knowledge of the Company, intends to take action to materially limit, suspend or revoke any Authorizations; and (F) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission).

(oo) Test and Preclinical and Clinical Trials. The studies, tests and preclinical and clinical trials conducted by or on behalf of the Company, were and, if still ongoing, are being conducted in all material respects in accordance with all Authorizations and Applicable Laws; the descriptions of the results of such studies, tests and trials contained in the Registration Statement and the Prospectus are accurate in all material respects, and the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test, or trial results described or referred to in the Registration Statement and the Prospectus when viewed in the context in which such results are described and the clinical state of development; and the Company has not received any written notices or correspondence from the FDA or any governmental entity requiring the termination or suspension of any studies, tests or preclinical or clinical trials currently being conducted or proposed to be conducted by or on behalf of the Company, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials.

(pp) Compliance with Health Care Laws. The Company is, and during the past three (3) years has been in compliance with all applicable Health Care Laws (as defined below), except where the failure to so comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. For purposes of this Agreement, "**Health Care Laws**" means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.) and the regulations promulgated thereunder, the Public Health Service Act (21 U.S.C. Section 201 et seq.); (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Statements Law (42 U.S.C. Section 1320a-7b(a)), all criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286, 287 and 1349, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (42 U.S.C. § 17921 et seq.), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusions law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C Section 1320-7h), and the laws governing U.S. government funded or sponsored healthcare programs. During the past three (3) years, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, neither the Company nor any of its subsidiaries has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority that any product, operation, or activity is in violation of any Health Care Laws nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. Neither the Company nor any of its subsidiaries is a party to any corporate integrity agreements, deferred or non-prosecution agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority or body. Additionally, during the past three (3) years, none of the Company, any of its subsidiaries or any of their respective employees, officers, directors or, to the Company's knowledge, independent contractors, affiliates or agents has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or is subject to a governmental inquiry, investigation, proceeding, or other similar action that would reasonably be expected to result in debarment, suspension, or exclusion.

(qq) No Undisclosed Relationships. No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries, on the one hand, and the directors, officers, stockholders, customers, suppliers or other affiliates of the Company or any of its subsidiaries, on the other, that is required by the Securities Act to be described in each of the Registration Statement and the Prospectus and that is not so described in such documents.

(rr) No Labor Disputes. No labor disturbance by or dispute with employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its or its subsidiaries' principal suppliers, contractors or customers, except as would not have a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of cancellation or termination with respect to any collective bargaining agreement to which it is a party.

(ss) Compliance with ERISA. (i) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), for which the Company or any member of its "**Controlled Group**" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b), (c), (m) or (o) of the Code) would have any liability (each, a "**Plan**") has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 of the Code) applicable to such Plan; (iv) no Plan is, or is reasonably expected to be, in "at risk status" (within the meaning of Section 303(i) of ERISA) and no Plan that is a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA is in "endangered status" or "critical status" (within the meaning of Sections 304 and 305 of ERISA) (v) the fair market value of the assets of each Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (vi) no "reportable event" (within the meaning of Section 4043(c) of ERISA and the regulations promulgated thereunder) has occurred or is reasonably expected to occur; (vii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and to the knowledge of the Company, nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification; (viii) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guarantee Corporation, in the ordinary course and without default) in respect of a Plan (including a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA); and (ix) none of the following events has occurred or is reasonably likely to occur: (A) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company's and its Controlled Group affiliates' most recently completed fiscal year; or (B) a material increase in the Company and its subsidiaries' "accumulated post-retirement benefit obligations" (within the meaning of Accounting Standards Codification Topic 715-60) compared to the amount of such obligations in the Company and its subsidiaries' most recently completed fiscal year, except in each case with respect to the events or conditions set forth in (i) through (ix) hereof, as would not, individually or in the aggregate, have a Material Adverse Effect.

(tt) Listing. The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) or Section 12(g) of the Exchange Act and is listed on the Nasdaq, and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from Nasdaq, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing. All of the Placement Shares that have been or may be sold under this Agreement have been approved for listing on the Nasdaq, subject to official notice of issuance; the Company has taken all necessary actions to ensure that, upon and at all times after the Nasdaq shall have approved the Placement Shares for listing, it will be in compliance with all applicable corporate governance requirements set forth in the Nasdaq's listing rules that are then in effect.

(uu) Brokers. Except for TD Cowen, there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(vv) No Outstanding Loans or Other Indebtedness. Except as described in the Prospectus, there are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of the members of any of them.

(ww) No Restrictions on Subsidiaries. No subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock or similar ownership interest, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's properties or assets to the Company or any other subsidiary of the Company.

(xx) No Reliance. The Company has not relied upon TD Cowen or legal counsel for TD Cowen for any legal, tax or accounting advice in connection with the offering and sale of the Placement Shares.

(yy) Lending Relationship. The Company does not intend to use any of the proceeds from the sale of the Placement Shares to repay any outstanding debt owed to TD Cowen or any affiliate of TD Cowen.

(zz) FINRA Exemption. The Company qualifies as an "experienced issuer" (within the meaning of FINRA Conduct Rule 5110(j)(6)) for purposes of the exemption from filing under FINRA Conduct Rule 5110(h)(1)(C).

(aaa) Compliance with Laws. The Company has not been advised, and has no reason to believe, that it and each of its subsidiaries are not conducting business in compliance with all applicable laws, rules and regulations of the jurisdictions in which it is conducting business, except where failure to be so in compliance would not result in a Material Adverse Effect.

(bbb) Export and Import Laws. Each of the Company and its subsidiaries, and, to the Company's knowledge, each of their affiliates and any director, officer, agent or employee of, or other person associated with or acting on behalf of, the Company has acted at all times in compliance with applicable Export and Import Laws (as defined below) and there are no claims, complaints, charges, investigations or proceedings pending or expected or, to the knowledge of the Company, threatened between the Company or any of its subsidiaries and any Governmental Authority under any Export or Import Laws. The term "**Export and Import Laws**" means the Arms Export Control Act, the International Traffic in Arms Regulations, the Export Administration Act of 1979, as amended, the Export Administration Regulations, and all other laws and regulations of the United States government regulating the provision of services to non-U.S. parties or the export and import of articles or information from and to the United States of America, and all similar laws and regulations of any foreign government regulating the provision of services to parties not of the foreign country or the export and import of articles and information from and to the foreign country to parties not of the foreign country.

(ccc) Other At The Market Sales Agreements. The Company is not a party to any agreement with an agent or underwriter for any other "at the market" offering.

(ddd) No Registration Rights. No person has the right to require the Company or any of its subsidiaries to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Placement Shares, except for such rights that have been duly satisfied or waived as of the date of this Agreement with respect to such filing or issuance and sale of Placement Shares pursuant to this Agreement.

(eee) Margin Rules. Neither the issuance, sale and delivery of the Placement Shares nor the application of the proceeds thereof by the Company as described in the Registration Statement and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(fff) Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) included or incorporated by reference in any of the Registration Statement or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(ggg) Statistical and Market Data. Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included or incorporated by reference in each of the Registration Statement and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(hhh) Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply with any applicable provision of the Sarbanes-Oxley Act, including Section 402 related to loans and Sections 302 and 906 related to certifications.

(iii) No Ratings. There are no debt securities, convertible securities or preferred stock issued or guaranteed by the Company or any of its subsidiaries that are rated by a "nationally recognized statistical rating organization", as such term is defined in Section 3(a)(62) under the Exchange Act.

(jjj) Actively-Traded Security. The Common Stock is an "actively-traded" security exempted from the requirements of Rule 101 of Regulation M under the Exchange Act by subsection (c)(1) of such rule.

Any certificate signed by an officer of the Company and delivered to TD Cowen or to counsel for TD Cowen pursuant to or in connection with this Agreement shall be deemed to be a representation and warranty by the Company to TD Cowen as to the matters set forth therein.

The Company acknowledges that TD Cowen and, for purposes of the opinions to be delivered pursuant to Section 7 hereof, counsel to the Company and counsel to TD Cowen, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

7. Covenants of the Company. The Company covenants and agrees with TD Cowen that:

(a) Registration Statement Amendments. After the date of this Agreement and during any period in which a Prospectus relating to any Placement Shares is required to be delivered by TD Cowen under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act), (i) the Company will notify TD Cowen promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus or for additional information, (ii) the Company will prepare and file with the Commission, promptly upon TD Cowen's request, any amendments or supplements to the Registration Statement or Prospectus that, in TD Cowen's reasonable opinion, may be necessary or advisable in connection with the distribution of the Placement Shares by TD Cowen (*provided, however*, that the failure of TD Cowen to make such request shall not relieve the Company of any obligation or liability hereunder, or affect TD Cowen's right to rely on the representations and warranties made by the Company in this Agreement, *provided further*, that the only remedy TD Cowen shall have with respect to the failure by the Company to make such a filing (other than TD Cowen's rights under Section 9 hereof) shall be to cease making sales under this Agreement until such amendment or supplement is filed); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus, other than documents incorporated by reference, relating to the Placement Shares or a security convertible into the Placement Shares unless a copy thereof has been submitted to TD Cowen within a reasonable period of time before the filing and TD Cowen has not reasonably objected thereto (*provided, however*, that (A) the failure of TD Cowen to make such objection shall not relieve the Company of any obligation or liability hereunder, or affect TD Cowen's right to rely on the representations and warranties made by the Company in this Agreement, (B) the Company has no obligation to provide TD Cowen any advance copy of such filing or to provide TD Cowen an opportunity to object to such filing if the filing does not name Cowen and does not relate to the transactions herein, and (C) the only remedy that Cowen shall have with respect to the failure by the Company to

provide TD Cowen with such copy or the filing of such amendment or supplement despite TD Cowen's objection shall be to cease making sales under this Agreement) and the Company will furnish to TD Cowen at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; (iv) the Company will cause each amendment or supplement to the Prospectus, other than documents incorporated by reference, to be filed with the Commission as required pursuant to the applicable paragraph of Rule 424(b) of the Securities Act, and (v) prior to the termination of this Agreement, the Company will notify TD Cowen if at any time the Registration Statement shall no longer be effective as a result of the passage of time pursuant to Rule 415 under the Securities Act or otherwise. Prior to the initial sale of any Placement Shares, the Company shall file a final Prospectus Supplement pursuant to Rule 424(b) relating to the Placement Shares.

(b) Notice of Commission Stop Orders. The Company will advise TD Cowen, promptly after it receives notice or obtains knowledge thereof, of the issuance or threatened issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement, of the suspension of the qualification of the Placement Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and it will promptly use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued.

(c) Delivery of Prospectus; Subsequent Changes. During any period in which a Prospectus relating to the Placement Shares is required to be delivered by TD Cowen under the Securities Act with respect to a pending sale of the Placement Shares, (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act), the Company will comply with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates (taking into account any extensions available under the Exchange Act) all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act. If during such period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify TD Cowen to suspend the offering of Placement Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance provided, that, the Company may delay the filing of any amendment or supplement, if in the judgment of the Company, it is in the best interest of the Company, during which time of delay of TD Cowen shall be under no obligation to make any sales of the Placement Shares hereunder.

(d) Listing of Placement Shares. During any period in which the Prospectus relating to the Placement Shares is required to be delivered by TD Cowen under the Securities Act with respect to a pending sale of the Placement Shares (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act), the Company will use its commercially reasonable efforts to cause the Placement Shares to be listed on Nasdaq and to qualify the Placement Shares for sale under the securities laws of such jurisdictions as TD Cowen reasonably designates and to continue such qualifications in effect so long as required for the distribution of the Placement Shares; *provided, however,* that the Company shall not be required in connection therewith to qualify as a foreign corporation or dealer in securities or file a general consent to service of process in any jurisdiction.

(e) Delivery of Registration Statement and Prospectus. The Company will furnish to TD Cowen and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during any period in which a Prospectus relating to the Placement Shares is required to be delivered under the Securities Act (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as TD Cowen may from time to time reasonably request and, at TD Cowen's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Placement Shares may be made; *provided, however,* that the Company shall not be required to furnish any document (other than the Prospectus) to TD Cowen to the extent such document is available on EDGAR.

(f) Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) and Rule 158 of the Securities Act, which requirement may be satisfied by publicly filing the required information on EDGAR.

(g) Expenses. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, in accordance with the provisions of Section 11 hereunder, will pay the following expenses all incident to the performance of its obligations hereunder, including, but not limited to, expenses relating to (i) the preparation, printing and filing of the Registration Statement and each amendment and supplement thereto, of each Prospectus and of each amendment and supplement thereto, (ii) the preparation, issuance and delivery of the Placement Shares, (iii) the qualification of the Placement Shares under securities laws in accordance with the provisions of Section 7(d) of this Agreement, including filing fees (provided, however, that any fees or disbursements of counsel for TD Cowen in connection therewith shall be paid by TD Cowen except as set forth in (vii) below), (iv) the printing and delivery to TD Cowen of copies of the Prospectus and any amendments or supplements thereto, and of this Agreement, (v) the fees and expenses incurred in connection with the listing or qualification of the Placement Shares for trading on Nasdaq, (vi) the filing fees and expenses, if any, of the Commission, (vii) the costs, fees and expenses incurred by TD Cowen in connection with determining their compliance with the rules and regulations of FINRA related to TD Cowen's participation in the offering and distribution of the Placement Shares, including any related filing fees and the legal fees of, and disbursements by, counsel to TD Cowen, such legal fee expense reimbursement not to exceed $20,000 and, (viii) the reasonable fees and disbursements of TD Cowen's counsel in an amount not to exceed $75,000 in connection with the execution of this Agreement.

(h) Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "**Use of Proceeds.**"

(i) Notice of Other Sales. During the pendency of any Placement Notice given hereunder, and for two (2) Trading Days following the termination of any Placement Notice given hereunder, the Company shall provide TD Cowen notice as promptly as reasonably possible before it offers to sell, contracts to sell, sells, grants any option to sell or otherwise disposes of any shares of Common Stock (other than Placement Shares offered pursuant to the provisions of this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire Common Stock; *provided*, that such notice shall not be required in connection with the (i) issuance, grant or sale of Common Stock, options to purchase shares of Common Stock or Common Stock issuable upon the exercise of options or other equity awards pursuant to any equity incentive plan, stock option, stock bonus or other stock plan or arrangement whether now in effect or hereafter implemented, including pursuant to any qualifying inducement award under Nasdaq rules (and the issuance by the Company of shares of Common Stock upon the exercise or vesting thereof), (ii) the issuance of securities in connection with an acquisition, merger or sale or purchase of assets, (iii) the issuance or sale of Common Stock pursuant to any dividend reinvestment plan that the Company may adopt from time to time provided the implementation of such is disclosed to TD Cowen in advance (iv) any shares of common stock issuable upon the exchange, conversion or redemption of securities or the exercise of warrants, options or other rights in effect or outstanding as disclosed in filings by the Company available on EDGAR, or (v) the issuance of Common Stock, securities convertible into or exercisable for Common Stock or other securities offered and sold in a privately negotiated transaction to vendors, customers, strategic partners or other investors conducted or in connection with a transaction that includes a commercial relationship (including joint ventures, marketing or distribution agreements, collaboration agreements or intellectual property license agreements) in a manner so as not to be integrated with the offering of the Placement Shares hereby. For the avoidance of doubt, nothing herein shall be construed to restrict the Company's ability, or require the Company to provide notice to TD Cowen, to file a registration statement with the Commission.

(j) Change of Circumstances. The Company will, at any time during a fiscal quarter in which the Company intends to tender a Placement Notice or sell Placement Shares, advise TD Cowen promptly after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document provided to TD Cowen pursuant to this Agreement.

(k) Due Diligence Cooperation. The Company will cooperate with any reasonable due diligence review conducted by TD Cowen or its agents in connection with the transactions contemplated hereby, including, without

limitation, providing information and making available documents and senior corporate officers, during regular business hours and at the Company's principal offices, as TD Cowen may reasonably request.

(l) Required Filings Relating to Placement of Placement Shares. The Company agrees that on such dates as the Securities Act shall require, the Company will (i) file a prospectus supplement with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act, and (ii) deliver such number of copies of each such prospectus supplement to each exchange or market on which such sales were effected as may be required by the rules or regulations of such exchange or market. The Company shall disclose in its quarterly reports on Form 10-Q and in its annual report on Form 10-K, the number of the Placement Shares sold through TD Cowen under this Agreement, and the gross proceeds and Net Proceeds to the Company from the sale of the Placement Shares and the compensation paid by the Company with respect to sales of the Placement Shares pursuant to this Agreement during the relevant quarter or, in the case of an Annual Report on Form 10-K, during the fiscal year covered by such Annual Report and the fourth quarter of such fiscal year.

(m) Bring-Down Dates; Certificate. On or prior to the First Delivery Date and each time thereafter during the term of this Agreement (i) the Company files the Prospectus relating to the Placement Shares or amends or supplements the Registration Statement or the Prospectus relating to the Placement Shares (other than a prospectus supplement filed in accordance with Section 7(l) of this Agreement) by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of document(s) by reference to the Registration Statement or the Prospectus relating to the Placement Shares; (ii) the Company files an annual report on Form 10-K under the Exchange Act; (iii) the Company files its quarterly reports on Form 10-Q under the Exchange Act; or (iv) the Company files a current report on Form 8-K containing amended financial information (other than an earnings release or other information "furnished" under Items 2.02 or 7.01 of Form 8-K) under the Exchange Act (each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a "**Bring-Down Date**"); the Company shall furnish TD Cowen with a certificate, in the form attached hereto as Exhibit 7(m) within one (1) Trading Day of any Bring-Down Date if requested by TD Cowen. The requirement to provide a certificate under this Section 7(m) shall be waived for any Bring-Down Date occurring at a time at which no Placement Notice is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Bring-Down Date) and the next occurring Bring-Down Date; *provided*, *however*, that such waiver shall not apply for any Bring-Down Date on which the Company files its annual report on Form 10-K. Notwithstanding the foregoing, if the Company subsequently decides to sell Placement Shares following a Bring-Down Date when the Company relied on such waiver and did not provide TD Cowen with a certificate under this Section 7(m), then before the Company delivers the Placement Notice or TD Cowen sells any Placement Shares, the Company shall provide TD Cowen with a certificate, in the form attached hereto as Exhibit 7(m), dated the date of the Placement Notice.

(n) Legal Opinion. On or prior to the First Delivery Date and within one (1) Trading Day of each Bring-Down Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(m) for which no waiver is applicable, the Company shall cause to be furnished to TD Cowen (i) a written opinion and negative assurance letter of Cooley LLP ("**Company Counsel**"), or other counsel satisfactory to TD Cowen, each in form and substance satisfactory to TD Cowen and its counsel, (ii) a written opinion of Goodwin Procter LLP, intellectual property counsel to the Company, in form and substance satisfactory to TD Cowen and its counsel,(iii) a written opinion of Pearl Cohen Zedek Latzer Baratz LLP, intellectual property counsel to the Company, in form and substance satisfactory to TD Cowen and its counsel, and (iv) a written opinion of Morrison Foerster LLP (together with Goodwin Proctor LLP and Pearl Cohen Zedek Latzer Baratz LLP, collectively, "**Company IP Counsel**"), intellectual property counsel to the Company, in form and substance satisfactory to TD Cowen and its counsel, each dated the date that the opinion is required to be delivered, respectively, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented; *provided*, *however*, that in lieu of such opinions for subsequent Bring-Down Dates, counsel may furnish TD Cowen with a letter (a "**Reliance Letter**") to the effect that TD Cowen may rely on prior opinions or negative assurance letter delivered under this Section 7(n) to the same extent as if it were dated the date of such letter (except that statements in such prior opinion or negative assurance letter shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented at such Bring-Down Date).

(o) Comfort Letter. On or prior to the First Delivery Date and within one (1) Trading Day of each Bring-Down Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(m) for which no waiver is applicable, the Company shall cause its independent accountants to furnish TD Cowen letters (the "**Comfort Letters**"), dated the date the Comfort Letter is delivered, in form and substance satisfactory to TD Cowen, (i) confirming that they are an independent registered public accounting firm within the meaning of the Securities Act and the PCAOB, (ii) stating, as of such date, the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants' "comfort letters" to TD Cowen in connection with registered public offerings (the first such letter, the "**Initial Comfort Letter**") and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter.

(p) Market Activities. The Company will not, directly or indirectly, (i) take any action designed to cause or result in, or that constitutes or might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares or (ii) sell, bid for, or purchase the Placement Shares to be issued and sold pursuant to this Agreement, or pay anyone any compensation for soliciting purchases of the Placement Shares other than TD Cowen; provided, however, that the Company may bid for and purchase shares of its Common Stock in accordance with Rule 10b-18 under the Exchange Act.

(q) Insurance. The Company and its subsidiaries shall maintain, or cause to be maintained, insurance in such amounts and covering such risks as is reasonable and customary for the business for which it is engaged.

(r) Compliance with Laws. The Company and each of its subsidiaries shall maintain, or cause to be maintained, all material environmental permits, licenses and other authorizations required by federal, state and local law in order to conduct their businesses as described in the Prospectus, and the Company and each of its subsidiaries shall conduct their businesses, or cause their businesses to be conducted, in substantial compliance with such permits, licenses and authorizations and with applicable Environmental Laws, except where the failure to maintain or be in compliance with such permits, licenses and authorizations would not reasonably be expected to result in a Material Adverse Effect.

(s) Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor its subsidiaries will be or become, at any time prior to the termination of this Agreement, an "investment company," as such term is defined in the Investment Company Act, assuming no change in the Commission's current interpretation as to entities that are not considered an investment company.

(t) Securities Act and Exchange Act. The Company will use its reasonable best efforts to comply with all requirements imposed upon it by the Securities Act and the Exchange Act as from time to time in force, so far as necessary to permit the continuance of sales of, or dealings in, the Placement Shares as contemplated by the provisions hereof and the Prospectus.

(u) No Offer to Sell. Other than the Prospectus or a Permitted Free Writing Prospectus, neither TD Cowen nor the Company (including its agents and representatives, other than TD Cowen in its capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405 under the Securities Act), required to be filed with the Commission, that constitutes an offer to sell or solicitation of an offer to buy the Placement Shares hereunder.

(v) Sarbanes-Oxley Act. The Company and its subsidiaries will use their best efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act.

(w) Affirmation. Each Placement Notice delivered by the Company to TD Cowen shall be deemed to be (i) an affirmation that the representations, warranties and agreements of the Company herein contained and contained in any certificate delivered to TD Cowen pursuant hereto are true and correct at the time of delivery of such Placement Notice, and (ii) an undertaking that such representations, warranties and agreements will be true and correct on any applicable Time of Sale and Settlement Date, as though made at and as of each such time (it being understood

that such representations, warranties and agreements shall relate to the Registration Statement and the Prospectus as amended and supplemented to the time of such Placement Notice acceptance).

(x) Renewal. If immediately prior to the third anniversary (the "**Renewal Deadline**") of the initial effective date of the Registration Statement, the aggregate gross sales price of Placement Shares sold by the Company is less than the Maximum Amount and this Agreement has not expired or been terminated, the Company will, prior to the Renewal Deadline, use reasonable efforts to file, if it has not already done so and is eligible to do so, a new shelf registration statement relating to the Placement Shares, in a form reasonably satisfactory to TD Cowen, and, if not automatically effective, will use its reasonable best efforts to cause such registration statement to be declared effective within 60 days after the Renewal Deadline. The Company will take all other action it reasonably determines to be necessary or appropriate to permit the issuance and sale of the Placement Shares to continue as contemplated in the expired registration statement relating to the Placement Shares. References herein to the Registration Statement shall include such new shelf registration statement.

8. Conditions to TD Cowen's Obligations. The obligations of TD Cowen hereunder with respect to a Placement Notice will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein, to the due performance by the Company of its obligations hereunder and thereunder, to the completion by TD Cowen of a due diligence review satisfactory to TD Cowen in its reasonable judgment, and to the continuing satisfaction (or waiver by TD Cowen in its sole discretion) of the following additional conditions:

(a) Registration Statement Effective. The Registration Statement shall be effective and shall be available for (i) all sales of Placement Shares issued pursuant to all prior Placement Notices and (ii) the sale of all Placement Shares contemplated to be issued pursuant to any Placement Notice.

(b) No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company or any of its subsidiaries of any request for additional information from the Commission or any other federal or state governmental authority during the period of effectiveness of the Registration Statement, the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Placement Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; or (iv) the occurrence of any event that makes any material statement made in the Registration Statement or the Prospectus or any material document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires the making of any changes in the Registration Statement, related Prospectus or such documents so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of the Prospectus, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(c) No Misstatement or Material Omission. TD Cowen shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in TD Cowen's reasonable opinion is material, or omits to state a fact that in TD Cowen's opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

(d) Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the Commission, there shall not have been any Material Adverse Effect, on a consolidated basis, in the authorized capital stock of the Company or any Material Adverse Effect or any development that would reasonably be expected to result in a Material Adverse Effect, or any downgrading in or withdrawal of the rating assigned to any of the Company's securities (other than asset backed securities) by any rating organization or a public announcement by any rating organization that it has under surveillance or review its rating of any of the Company's securities (other than asset backed securities), the effect of which, in the case of any such action by a rating organization described above, in the reasonable judgment of TD Cowen (without relieving the Company of any obligation or liability it may

otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Placement Shares on the terms and in the manner contemplated in the Prospectus.

(e) Company Counsel and Company IP Counsel Legal Opinions. TD Cowen shall have received the opinions of Company Counsel and each Company IP Counsel required to be delivered pursuant to Section 7(n) on or before the date on which such delivery of such opinion is required pursuant to Section 7(n).

(f) TD Cowen Counsel Legal Opinion. TD Cowen shall have received from Latham & Watkins LLP, counsel for TD Cowen, such opinion or opinions, on or before the date on which the delivery of the Company Counsel legal opinion is required pursuant to Section 7(n), with respect to such matters as TD Cowen may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(g) Comfort Letter. TD Cowen shall have received the Comfort Letter required to be delivered pursuant to Section 7(o) on or before the date on which such delivery of such Comfort Letter is required pursuant to Section 7(o).

(h) Representation Certificate. TD Cowen shall have received the certificate required to be delivered pursuant to Section 7(m) on or before the date on which delivery of such certificate is required pursuant to Section 7(m).

(i) Secretary's Certificate. On or prior to the First Delivery Date, TD Cowen shall have received a certificate, signed on behalf of the Company by its corporate secretary, in form and substance satisfactory to TD Cowen and its counsel.

(j) No Suspension. Trading in the Common Stock shall not have been suspended on Nasdaq.

(k) Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(m), the Company shall have furnished to TD Cowen such appropriate further information, certificates and documents as TD Cowen may have reasonably requested. All such opinions, certificates, letters and other documents shall have been in compliance with the provisions hereof. The Company will furnish TD Cowen with such conformed copies of such opinions, certificates, letters and other documents as TD Cowen shall have reasonably requested.

(l) Securities Act Filings Made. All filings with the Commission required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder shall have been made within the applicable time period prescribed for such filing by Rule 424.

(m) Approval for Listing. The Placement Shares shall either have been (i) approved for listing on Nasdaq, subject only to notice of issuance, or (ii) the Company shall have filed an application for listing of the Placement Shares on Nasdaq at, or prior to, the issuance of any Placement Notice.

(n) No Termination Event. There shall not have occurred any event that would permit TD Cowen to terminate this Agreement pursuant to Section 11(a).

9. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless TD Cowen, its affiliates and each of their respective directors, officers, partners, employees and agents of TD Cowen and each person, if any, who (i) controls TD Cowen within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, or (ii) is controlled by or is under common control with TD Cowen from and against any and all losses, claims, liabilities, expenses and damages (including, but not limited to, any and all reasonable and documented investigative, legal and other expenses incurred in connection with, and any and all amounts paid in settlement (in accordance with Section 9(c)) of, any action, suit or proceeding between any of the indemnified parties and any indemnifying parties

or between any indemnified party and any third party, or otherwise, or any claim asserted), within 30 days of the written receipt of the documented expenses by the indemnifying party, to which TD Cowen, or any such person, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, liabilities, expenses or damages arise out of or are based, directly or indirectly, on (x) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus or in any free writing prospectus or in any application or other document executed by or on behalf of the Company or based on written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify the Common Stock under the securities laws thereof or filed with the Commission, (y) the omission or alleged omission to state in any such document a material fact required to be stated in it or necessary to make the statements in it not misleading or (z) any breach by any of the indemnifying parties of any of their respective representations, warranties and agreements contained in this Agreement; *provided*, *however*, that this indemnity agreement shall not apply to the extent that such loss, claim, liability, expense or damage arises from the sale of the Placement Shares pursuant to this Agreement and is caused directly or indirectly by an untrue statement or omission made in reliance upon and in conformity with solely Agent's Information. "**Agent's Information**" means, solely, the following information in the Prospectus: the third sentence of the eighth paragraph under the caption "**Plan of Distribution**" in the Prospectus. This indemnity agreement will be in addition to any liability that the Company might otherwise have.

(b) TD Cowen Indemnification. TD Cowen agrees to indemnify and hold harmless the Company and its directors and each officer of the Company that signed the Registration Statement, and each person, if any, who (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (ii) is controlled by or is under common control with the Company against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 9(a), as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendments thereto) or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Agent's Information.

(c) Procedure. Any party that proposes to assert the right to be indemnified under this Section 9 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 9, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 9 and (ii) any liability that it may have to any indemnified party under the foregoing provision of this Section 9 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable and documented costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable and documented fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such

indemnified party or parties. All such fees, disbursements and other charges will be reimbursed by the indemnifying party within 30 days of the written receipt of the documented expenses by the indemnifying party. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 9 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising or that may arise out of such claim, action or proceeding.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 9 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or TD Cowen, the Company and TD Cowen will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than TD Cowen, such as persons who control the Company within the meaning of the Securities Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and TD Cowen may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and TD Cowen on the other. The relative benefits received by the Company on the one hand and TD Cowen on the other hand shall be deemed to be in the same proportion as the total Net Proceeds from the sale of the Placement Shares (before deducting expenses) received by the Company bear to the total compensation received by TD Cowen from the sale of Placement Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and TD Cowen, on the other, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or TD Cowen, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and TD Cowen agree that it would not be just and equitable if contributions pursuant to this Section 9(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 9(d) shall be deemed to include, for the purpose of this Section 9(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 9(c) hereof. Notwithstanding the foregoing provisions of this Section 9(d), TD Cowen shall not be required to contribute any amount in excess of the commissions received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 9(d), any person who controls a party to this Agreement within the meaning of the Securities Act, and any officers, directors, partners, employees or agents of TD Cowen, will have the same rights to contribution as that party, and each director and each officer of the Company who signed the Registration Statement will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 9(d), will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 9(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 9(c) hereof, no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 9(c) hereof.

10. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 9 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto shall survive, as of their respective dates, regardless of (i) any investigation made

by or on behalf of TD Cowen, any controlling persons, or the Company (or any of their respective officers, directors or controlling persons), (ii) delivery and acceptance of the Placement Shares and payment therefor or (iii) any termination of this Agreement.

11. Termination.

(a) TD Cowen shall have the right by giving notice as hereinafter specified at any time to terminate this Agreement if (i) any Material Adverse Effect, or any development that could reasonably be expected to result in a Material Adverse Effect has occurred that, in the reasonable judgment of TD Cowen, may materially impair the ability of TD Cowen to sell the Placement Shares hereunder, (ii) the Company shall have failed, refused or been unable to perform any agreement on its part to be performed hereunder, or (iii) any other condition of TD Cowen's obligations hereunder is not fulfilled, or (iv), any suspension or limitation of trading in the Placement Shares or in securities generally on Nasdaq shall have occurred. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g) (Expenses), Section 9 (Indemnification and Contribution), Section 10 (Representations and Agreements to Survive Delivery), Section 16 (Applicable Law; Consent to Jurisdiction) and Section 17 (Waiver of Jury Trial) hereof shall remain in full force and effect notwithstanding such termination. If TD Cowen elects to terminate this Agreement as provided in this Section 11(a), TD Cowen shall provide the required notice as specified in Section 12 (Notices).

(b) The Company shall have the right, by giving ten (10) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement . Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(c) TD Cowen shall have the right, by giving ten (10) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement . Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(d) Unless earlier terminated pursuant to this Section 11, this Agreement shall automatically terminate upon the issuance and sale of all of the Placement Shares through TD Cowen on the terms and subject to the conditions set forth herein; *provided* that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(e) This Agreement shall remain in full force and effect unless terminated pursuant to Sections 11(a), (b), (c), or (d) above or otherwise by mutual agreement of the parties; *provided, however,* that any such termination by mutual agreement shall in all cases be deemed to provide that Section 7(g), Section 9, Section 10, Section 16 and Section 17 shall remain in full force and effect.

(f) Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided, however,* that such termination shall not be effective until the close of business on the date of receipt of such notice by TD Cowen or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Placement Shares, such Placement Shares shall settle in accordance with the provisions of this Agreement.

12. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing, unless otherwise specified in this Agreement, and if sent to TD Cowen, shall be delivered to TD Cowen at TD Securities (USA) LLC, 1 Vanderbilt Avenue, New York, NY 10017, fax no. 646-562-1130, Attention: General Counsel, email: CIBLegal@tdsecurities.com; or if sent to the Company, shall be delivered to Immunome, Inc., 18702 N. Creek Parkway, Suite 100, Bothell, WA; Attention: Chief Financial Officer, with a copy, which shall not constitute notice, to (x) Immunome, Inc., 665 Stockton Drive, Suite 300, Exton, PA 19342; Attention: Chief Legal Officer and (y) Cooley LLP, 10265 Science Center Drive, San Diego, CA 92121; Attention: Thomas A. Coll and Carlos Ramirez. Each party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally or by verifiable electronic

transmission (with an original to follow) on or before 4:30 p.m., New York City time, on a Business Day (as defined below), or, if such day is not a Business Day on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid), and (iv) when delivered by electronic communication ("**Electronic Notice**"), at the time receipt of such Electronic Notice is actually acknowledged by any of the individuals to whom the Electronic Notice is sent, other than via auto reply. For purposes of this Agreement, "**Business Day**" shall mean any day on which the Nasdaq and commercial banks in the City of New York are open for business.

13. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and TD Cowen and their respective successors and the affiliates, controlling persons, officers and directors referred to in Section 9 hereof. References to any of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party; *provided*, *however*, that TD Cowen may assign its rights and obligations hereunder to an affiliate of TD Cowen without obtaining the Company's consent.

14. Adjustments for Share Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any share split, share dividend or similar event effected with respect to the Common Stock.

15. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto) constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and TD Cowen. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement.

16. Applicable Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York without regard to the principles of conflicts of laws. Each party hereby irrevocably submits to the non-exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection with any transaction contemplated hereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof (certified or registered mail, return receipt requested) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

17. Waiver of Jury Trial. The Company and TD Cowen each hereby irrevocably waives any right it may have to a trial by jury in respect of any claim based upon or arising out of this Agreement or any transaction contemplated hereby.

18. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

(a) TD Cowen has been retained solely to act as an arm's length contractual counterparty to the Company in connection with the sale of the Placement Shares contemplated hereby and that no fiduciary, advisory or agency relationship between the Company and TD Cowen has been created in respect of any of the transactions

contemplated by this Agreement, irrespective of whether TD Cowen has advised or is advising the Company on other matters;

(b) the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) the Company has been advised that TD Cowen and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that TD Cowen has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) the Company waives, to the fullest extent permitted by law, any claims it may have against TD Cowen, for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that TD Cowen shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, partners, employees or creditors of the Company.

19. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile or other electronic transmission (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com or www.echosign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

20. Recognition of the U.S. Special Resolution Regimes .

(a) In the event that TD Cowen is a Covered Entity and becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from TD Cowen of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that TD Cowen is a Covered Entity and TD Cowen or a BHC Act Affiliate of TD Cowen becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against TD Cowen are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

(c) For purposes of this Section 20; (a) "**BHC Act Affiliate**" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k), (b) "**Covered Entity**" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b), (c) "**Default Right**" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable, and (d) "**U.S. Special Resolution Regime**" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

[Remainder of Page Intentionally Blank]

If the foregoing correctly sets forth the understanding between the Company and TD Cowen, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between the Company and TD Cowen.

Very truly yours,

TD SECURITIES (USA) LLC

By: /s/ Adriano Pierroz
Name: Adriano Pierroz
Title: Director

ACCEPTED as of the date first-above written:

IMMUNOME, INC.

By: /s/ Max Rosett
Name: Max Rosett
Title: Chief Financial Officer

Exhibit 5.1

Cooley

Thomas A. Coll
+1 858 550 6013
collta@cooley.com

May 14, 2024

Immunome, Inc.
18702 N. Creek Parkway, Suite 100,
Bothell, WA 98011

Ladies and Gentlemen:

We have acted as counsel for Immunome, Inc., a Delaware corporation (the " ***Company***"), in connection with the offering by the Company of shares of its common stock, par value $0.0001 per share (the "***Common Stock***"), having an aggregate offering price of up to $200 million (the "***Shares***") pursuant to a Registration Statement on Form S-3 (File No. 333-277036) (the "***Registration Statement***") filed with the Securities and Exchange Commission (the "***Commission***") under the Securities Act of 1933, as amended (the " ***Securities Act***"), the prospectus included in the Registration Statement (the "***Base Prospectus***") and the prospectus supplement relating to the Shares dated May 14, 2024 filed with the Commission pursuant to Rule 424(b) under the Act (together with the Base Prospectus, the "***Prospectus***"). The Shares are to be sold by the Company in accordance with that certain Sales Agreement, dated May 14, 2024, by and between the Company and TD Securities (USA), LLC (dba TD Cowen), (the "***Agreement***"), as described in the Prospectus.

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and the Prospectus, (b) the Agreement, (c) the Company's certificate of incorporation and bylaws, each as currently in effect, and (d) such other records, documents, opinions, certificates, memoranda and instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures; the authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies; the accuracy, completeness and authenticity of certificates of public officials and the due authorization, execution and delivery, of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

We have assumed (i) that each sale of Shares will be duly authorized by the Board of Directors of the Company, a duly authorized committee thereof or a person or body pursuant to an authorization granted in accordance with Section 152 of the General Corporation Law of the State of Delaware (the "***DGCL***"), (ii) that no more than 20,000,000 Shares will be sold under the Agreement pursuant to the Prospectus and (iii) that the price at which the Shares are sold will equal or exceed the par value of the Shares. We express no opinion to the extent that future issuances of securities of the Company, anti-dilution adjustments to outstanding securities of the Company or other matters cause the number of shares of Common Stock issuable under the Agreement to exceed the number of shares of Common Stock available for issuance by the Company.

Our opinion is expressed solely with respect to the DGCL. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, in reliance thereon and subject to the qualifications set forth herein, we are of the opinion that the Shares, when sold and issued against payment therefor in accordance with the Agreement, the Registration Statement and the Prospectus, will be validly issued, fully paid and nonassessable.

This opinion is limited to the matters expressly set forth in this letter, and no opinion should be implied, or may be inferred, beyond the matters expressly stated. This opinion speaks only as to law and facts in effect or existing as of the date hereof and we undertake no obligation or responsibility to update or supplement this letter to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

We consent to the reference to our firm under the heading “Legal Matters” in the Prospectus and to the filing of this opinion as an exhibit to the Company’s Current Report on Form 8-K to be filed with the Commission for incorporation by reference into the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act, or the rules and regulations of the Commission thereunder.

Very truly yours,

Cooley LLP

By: /s/ Thomas A. Coll
Thomas A. Coll

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Clay B. Siegall, Ph.D., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 of Immunome, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 14, 2024

By: /s/ Clay B. Siegall
Name: Clay B. Siegall, Ph.D.
Title: President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Max Rosett, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 of Immunome, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 14, 2024

By: /s/ Max Rosett
Name: Max Rosett
Title: Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Immunome, Inc. (the "Company") for the fiscal quarter ended March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: May 14, 2024

By: /s/ Clay B. Siegall
Name: Clay B. Siegall, Ph.D.
Title: President and Chief Executive Officer
(Principal Executive Officer)

This certification shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of Section 18 of the Exchange Act. Such certification shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of Immunome, Inc. (the "Company") for the fiscal quarter ended March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: May 14, 2024

By: /s/ Max Rosett
Name: Max Rosett
Title: Chief Financial Officer
(Principal Financial and Accounting Officer)

This certification shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of Section 18 of the Exchange Act. Such certification shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.