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

FORM 10-Q

☒ **Quarterly Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the quarterly period ended September 30, 2022

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: 001-37985

ANAPTYSBIO, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-3828755**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

10770 Wateridge Circle, Suite 210
San Diego, CA 92121
(Address of principal executive offices and zip code)

(858) 362-6295
(Registrant's telephone number, including area code)

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, $0.001 par value	ANAB	The Nasdaq Stock Market LLC

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

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

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

Large Accelerated Filer	☐	Accelerated Filer	☐
Non-accelerated Filer	☒	Smaller Reporting Company	☒
		Emerging Growth Company	☐

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

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

As of November 4, 2022, there were 28,431,632 shares of the Registrant’s Common Stock outstanding.

AnaptysBio, Inc.
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PART I. FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements (unaudited)

AnaptysBio, Inc.
Consolidated Balance Sheets
(in thousands, except par value data)
(unaudited)

	September 30, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 58,547	$ 495,729
Receivables from collaborative partners	1,180	876
Short-term investments	384,419	52,368
Prepaid expenses and other current assets	6,298	4,903
Total current assets	450,444	553,876
Property and equipment, net	1,972	2,283
Operating lease right-of-use assets	18,320	19,558
Long-term investments	147,511	67,097
Other long-term assets	256	256
Total assets	$ 618,503	$ 643,070
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 3,006	$ 1,741
Accrued expenses	16,453	12,853
Current portion of operating lease liability	1,604	1,505
Total current liabilities	21,063	16,099
Liability related to sale of future royalties	301,586	251,093
Operating lease liability, net of current portion	18,235	19,450
Stockholders' equity:		
Preferred stock, $0.001 par value, 10,000 shares authorized and no shares, issued or outstanding at September 30, 2022 and December 31, 2021, respectively	—	—
Common stock, $0.001 par value, 500,000 shares authorized, 28,354 shares and 27,647 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively	28	28
Additional paid in capital	707,662	678,575
Accumulated other comprehensive loss	(6,007)	(422)
Accumulated deficit	(424,064)	(321,753)
Total stockholders' equity	277,619	356,428
Total liabilities and stockholders' equity	$ 618,503	$ 643,070

See accompanying notes to unaudited consolidated financial statements.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Collaboration revenue	$ 1,293	$ 20,890	$ 3,479	$ 62,164
Operating expenses:				
Research and development	22,064	22,221	65,424	71,720
General and administrative	8,862	5,432	27,236	16,101
Total operating expenses	30,926	27,653	92,660	87,821
Loss from operations	(29,633)	(6,763)	(89,181)	(25,657)
Other income (expense), net:				
Interest income	2,262	64	3,711	363
Non-cash interest expense for the sale of future royalties	(6,135)	—	(16,857)	—
Other income, net	4	33	16	36
Total other income (expense), net	(3,869)	97	(13,130)	399
Net loss	(33,502)	(6,666)	(102,311)	(25,258)
Unrealized loss on available for sale securities	(2,146)	(24)	(5,585)	(196)
Comprehensive loss	$ (35,648)	$ (6,690)	$ (107,896)	$ (25,454)
Net loss per common share:				
Basic and diluted	$ (1.18)	$ (0.24)	$ (3.64)	$ (0.92)
Weighted-average number of shares outstanding:				
Basic and diluted	28,289	27,436	28,071	27,397

See accompanying notes to unaudited consolidated financial statements.

AnaptysBio, Inc.
Consolidated Statement of Stockholders' Equity
(in thousands)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2021	27,647	$ 28	$ 678,575	$ (422)	$ (321,753)	$ 356,428
Issuance of common stock from exercises of options and employee stock purchase plan	531	—	4,844	—	—	4,844
Stock-based compensation	—	—	7,742	—	—	7,742
Comprehensive loss, net	—	—	—	(2,012)	—	(2,012)
Net loss	—	—	—	—	(36,255)	(36,255)
Balance, March 31, 2022	28,178	28	691,161	(2,434)	(358,008)	330,747
Issuance of common stock from exercises of options and employee stock purchase plan	53	—	882	—	—	882
Stock-based compensation	—	—	6,658	—	—	6,658
Comprehensive loss, net	—	—	—	(1,427)	—	(1,427)
Net loss	—	—	—	—	(32,554)	(32,554)
Balance, June 30, 2022	28,231	28	698,701	(3,861)	(390,562)	304,306
Issuance of common stock from exercises of options and employee stock purchase plan	123	—	2,690	—	—	2,690
Stock-based compensation	—	—	6,271	—	—	6,271
Comprehensive loss, net	—	—	—	(2,146)	—	(2,146)
Net loss	—	—	—	—	(33,502)	(33,502)
Balance, September 30, 2022	28,354	$ 28	$ 707,662	$ (6,007)	$ (424,064)	$ 277,619

See accompanying notes to unaudited consolidated financial statements.

AnaptysBio, Inc.
Consolidated Statement of Stockholders' Equity
(in thousands)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2020	27,356	$ 27	$ 660,665	$ (4)	$ (263,957)	$ 396,731
Shares issued under employee stock plans	11	—	167	—	—	167
Stock-based compensation	—	—	3,315	—	—	3,315
Comprehensive loss, net	—	—	—	(107)	—	(107)
Net loss	—	—	—	—	(18,163)	(18,163)
Balance, March 31, 2021	27,367	27	664,147	(111)	(282,120)	381,943
Shares issued under employee stock plans	66	—	592	—	—	592
Stock-based compensation	—	—	3,690	—	—	3,690
Comprehensive loss, net	—	—	—	(65)	—	(65)
Net loss	—	—	—	—	(429)	(429)
Balance, June 30, 2021	27,433	27	668,429	(176)	(282,549)	385,731
Shares issued under employee stock plans	21	—	203	—	—	203
Stock-based compensation	—	—	4,364	—	—	4,364
Comprehensive loss, net	—	—	—	(24)	—	(24)
Net loss	—	—	—	—	(6,666)	(6,666)
Balance, September 30, 2021	27,454	$ 27	$ 672,996	$ (200)	$ (289,215)	$ 383,608

See accompanying notes to unaudited consolidated financial statements.

AnaptysBio, Inc.
Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2022	**2021**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (102,311)	$ (25,258)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	491	454
Stock-based compensation	20,671	11,369
Accretion/amortization of investments, net	(784)	393
Amortization of right-of-use assets – operating	1,238	1,251
Non-cash interest expense	16,857	—
Gain on disposal of property and equipment	—	(15)
Changes in operating assets and liabilities:		
Receivables from collaborative partners	(304)	(761)
Prepaid expenses and other assets	(2,518)	(8,541)
Accounts payable and other liabilities	4,868	581
Operating lease liabilities	(1,116)	(92)
Net cash used in operating activities	(62,908)	(20,619)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of investments	(674,925)	(26,482)
Sales and maturities of investments	258,766	133,348
Proceeds from the sale of property and equipment	—	15
Purchases of property and equipment	(183)	(1,352)
Net cash (used in) provided by investing activities	(416,342)	105,529
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of common stock	8,408	962
Proceeds from the sale of future royalties	35,000	—
Repayment of liability for sale of future royalties	(1,050)	—
Payments for debt issuance costs	(290)	—
Net cash provided by financing activities	42,068	962
Net (decrease) increase in cash and cash equivalents	(437,182)	85,872
Cash, cash equivalents and restricted cash, beginning of period	495,729	250,516
Cash, cash equivalents and restricted cash, end of period	$ 58,547	$ 336,388
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Non-cash investing and financing activities:		
Amounts accrued for property and equipment	$ 28	$ 11
Amounts accrued for issuance costs related to the sale of future royalties	$ 24	$ —
Receivable related to issuance of common stock, upon exercise of stock options	$ 8	$ —
Leased assets obtained in exchange for operating lease liabilities	$ —	$ 20,685

See accompanying notes to unaudited consolidated financial statements.

1. Description of the Business

AnaptysBio, Inc. ("we," "us," "our," or the "Company") was incorporated in the state of Delaware in November 2005. We are a clinical-stage biotechnology company focused on delivering innovative immunology therapeutics. We are developing immune cell modulators, including two checkpoint agonists in clinical-stage development, for autoimmune and inflammatory disease: rosnilimab, our anti-PD-1 agonist program, previously referred to as ANB030, which is currently in a Phase 2 clinical trial for the treatment of moderate-to-severe alopecia areata; and ANB032, our anti-BTLA agonist program. In addition, we are developing imsidolimab, our anti-IL-36R antibody, which is currently in a Phase 3 clinical trial for the treatment of generalized pustular psoriasis, or GPP. We also have additional preclinical programs and discovery research of potentially innovative immunology therapeutics, including ANB033, an anti-CD122 antagonist antibody for the treatment of inflammatory diseases. We have also developed multiple therapeutic antibodies in an immuno-oncology collaboration with GSK, including an anti-PD-1 antagonist antibody (JEMPERLI (dostarlimab-gxly)), an anti-TIM-3 antagonist antibody (cobolimab, GSK4069889) and an anti-LAG-3 antagonist antibody (GSK4074386). We currently generate revenue from milestones and royalties achieved under our immuno-oncology collaboration with GSK. Our antibody pipeline has been developed using our proprietary somatic hypermutation, or SHM platform, which uses *in vitro* SHM for antibody discovery and is designed to replicate key features of the human immune system to overcome the limitations of competing antibody discovery technologies.

Since our inception, we have devoted our primary effort to research and development activities. Our financial support has been provided primarily from the sale of our common stock, royalty monetizations, as well as through funds received under our collaborative research and development agreements. Going forward, as we continue our expansion, we may seek additional financing and/or strategic investments. However, there can be no assurance that any additional financing or strategic investments will be available to us on acceptable terms, if at all. If events or circumstances occur such that we do not obtain additional funding, we will most likely be required to reduce our plans and/or certain discretionary spending, which could have a material adverse effect on our ability to achieve our intended business objectives. Our management believes our currently available resources will provide sufficient funds to enable us to meet our operating plans for at least the next twelve months from the issuance of our consolidated financial statements. The accompanying consolidated financial statements do not include any adjustments that might be necessary if we are unable to continue as a going concern.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"). Certain information and note disclosures normally included in annual financial statements prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") have been omitted. The accompanying unaudited consolidated financial statements include all known adjustments necessary for a fair presentation of the results of interim periods as required by U.S. GAAP. These adjustments consist primarily of normal recurring accruals and estimates that impact the carrying value of assets and liabilities. Operating results for the nine months ended September 30, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022. The financial statements should be read in conjunction with our audited financial statements for the year ended December 31, 2021 included in our Annual Report on Form 10-K.

Basis of Consolidation

The accompanying consolidated financial statements include us and our wholly-owned Australian subsidiary. All intercompany accounts and transactions have been eliminated in consolidation. We operate in one reportable segment, and our functional and reporting currency is the U.S. dollar.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with U.S. GAAP requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenues and expenses during

the reporting periods. Actual results could differ from those estimates. We base our estimates and assumptions on historical experience when available and on various factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. The full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations, and financial condition, including expenses, reserves and allowances, manufacturing, clinical trials, research and development costs, and employee-related amounts, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain or treat it, as well as the economic impact on local, regional, national and international markets. Our actual results could differ from these estimates under different assumptions or conditions.

Net Loss Per Common Share

Basic net loss per common share is computed by dividing net loss by the weighted-average number of common shares outstanding during the period. Diluted net loss per share is computed by dividing net loss by the weighted-average number of common equivalent shares outstanding for the period, as well as any dilutive effect from outstanding stock options and warrants using the treasury stock method. For each period presented, there is no difference in the number of shares used to calculate basic and diluted net loss per share.

The following table sets forth the weighted-average outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because to do so would be anti-dilutive (in common stock equivalent shares):

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2022**	**2021**	**2022**	**2021**
Options to purchase common stock	3,871	3,717	3,953	3,655

3. Balance Sheet Accounts and Supplemental Disclosures

Property and Equipment, net

Property and equipment, net consist of the following:

(in thousands)	**September 30, 2022**	**December 31, 2021**
Laboratory equipment	$ 5,759	$ 5,683
Office furniture and equipment	1,422	1,319
Leasehold improvements	203	203
Property and equipment, gross	7,384	7,205
Less: accumulated depreciation and amortization	(5,412)	(4,922)
Total property and equipment, net	$ 1,972	$ 2,283

Accrued Expenses

Accrued expenses consist of the following:

(in thousands)	**September 30, 2022**	**December 31, 2021**
Accrued compensation and related expenses	$ 3,904	$ 4,177
Accrued professional fees	1,000	569
Accrued research, development and manufacturing expenses	11,412	7,953
Other	137	154
Total accrued expenses	$ 16,453	$ 12,853

4. Collaborative Research and Development Agreements

GlaxoSmithKline Collaboration

In March 2014, we entered into a Collaboration and Exclusive License Agreement (the "GSK Agreement") with TESARO, Inc. ("Tesaro"), an oncology-focused biopharmaceutical company now a part of GlaxoSmithKline (Tesaro and GlaxoSmithKline are hereinafter referred to, collectively, as "GSK"). Under the terms of the GSK Agreement, we agreed to perform certain discovery and early preclinical development of therapeutic antibodies with the goal of generating immunotherapy antibodies for subsequent preclinical, clinical, regulatory, and commercial development to be performed by GSK. Under the terms of the GSK Agreement, GSK paid an upfront license fee of $17.0 million in March 2014 and agreed to provide funding to us for research and development services related to antibody discovery programs for three specific targets. In November 2014, Amendment No. 1 to the GSK Agreement was agreed by both parties to add an additional antibody discovery program for an upfront license fee of $2.0 million. Currently, under the GSK Agreement, GSK is developing JEMPERLI (dostarlimab), an anti-PD-1 antagonist antibody, as a monotherapy and in combination with additional therapies, for various solid tumor indications. In addition, under the collaboration, GSK is developing dostarlimab in combination with two other development programs form the GSK Agreement: cobolimab, an anti-TIM-3 antibody, and GSK40974386, an anti-LAG-3 antibody, for various solid tumor indications.

For each development program, we are eligible to receive milestone payments of up to $18.0 million if certain preclinical and clinical trial events are achieved by GSK, up to an additional $90.0 million if certain U.S. and European regulatory submissions and approvals in multiple indications are achieved, and up to an additional $165.0 million upon the achievement of specified levels of annual worldwide net sales. We will also be eligible to receive tiered 4-8% royalties related to worldwide net sales of products developed under the collaboration. Unless earlier terminated by either party upon specified circumstances, the GSK Agreement will terminate, with respect to each specific developed product, upon the later of the 12th anniversary of the first commercial sale of the product or the expiration of the last to expire of any patent. Prior to the adoption of ASC 606, *Revenue from Contracts with Customers*, we determined that the upfront license fees and research funding under the GSK Agreement, as amended, should be accounted for as a single unit of accounting and that the upfront license fees should be deferred and recognized as revenue over the same period that the research and development services are performed. In February 2016, Amendment No. 2 to the GSK Agreement was agreed by both parties to define the effective dates of the development programs of the GSK Agreement. We determined that the research and development services would be extended through December 31, 2016. As a result, the period over which the unrecognized license fees and discovery milestones were recognized was extended through December 31, 2016 and have since been recognized in full.

We assessed these arrangements in accordance with ASC 606 and concluded that the contract counterparty, GSK, is a customer. We identified the following material promises under the GSK Agreement: (1) the licenses under certain patent rights relating to six discovery programs (four targets) and transfer of certain development and regulatory information, (2) research and development ("R&D") services, and (3) joint steering committee meetings. We considered the research and discovery capabilities of GSK for these specific programs and the fact that the discovery and optimization of these antibodies is proprietary and could not, at the time of contract inception, be provided by other vendors, to conclude that the license does not have stand-alone functionality and is therefore not distinct. Additionally, we determined that the joint steering committee participation would not have been provided without the R&D services and GSK Agreement. Based on these assessments, we identified all services to be interrelated and therefore concluded that the promises should be combined into a single performance obligation at the inception of the arrangement.

On October 23, 2020, Amendment No. 3 to the GSK Agreement (the "Amendment") was agreed to by both parties to permit GSK to conduct development and commercialization in combination with any third-party molecules of Zejula, an oral, once-daily poly (ADP-ribose) polymerase (PARP) inhibitor. Under the Amendment, we were granted increased royalties upon sales of JEMPERLI, equal to 8% of Net Sales (as defined in the GSK Agreement) below $1.0 billion and from 12% up to 25% of Net Sales above $1.0 billion. The Amendment also provided for a one-time, non-refundable cash payment of $60.0 million that we received and recognized as revenue in the fourth quarter of 2020. The $1.1 billion in cash milestone payments due under the GSK Agreement remain unchanged. Additionally, under the terms of the Amendment, GSK has agreed to certain diligence commitments with respect to the future development of JEMPERLI, and the parties have agreed to review such commitments under regular joint review committee meetings going forward.

We assessed this Amendment in accordance with ASC 606 and concluded the Amendment was a contract modification to the GSK Agreement. Based on our assessment, we identified the terms of the Amendment to be interrelated to the GSK Agreement's single performance obligation, noting completion and delivery of terms under the Amendment were satisfied by both parties with the execution of the Amendment.

As of September 30, 2022, the transaction price for the GSK Agreement and Amendment includes the upfront payment, research reimbursement revenue, one-time payment associated with the Amendment, and milestones and royalties earned to date, which are allocated in their entirety to the single performance obligation.

We earned and recognized $1.3 million and $3.5 million in royalty revenue during the three and nine months ended September 30, 2022 related to GSK's net sales of Zejula and JEMPERLI during the period based on estimates of GSK's sales historical experience. Of the royalty revenue recognized during the three and nine months ended September 30, 2022, $0.3 million and $1.2 million is JEMPERLI non-cash revenue related to the JEMPERLI Royalty Monetization Agreement, see Note 5. Of the royalty revenue recognized during both the three and nine months ended September 30, 2022, $0.7 million is Zejula non-cash revenue related to the Zejula Royalty Monetization Agreement, see Note 5. GSK reports sales information to us on a one quarter lag and differences between actual and estimated royalty revenues will be adjusted in the following quarter. We earned and recognized $0.9 million and $2.2 million in royalty revenue during the three and nine months ended September 30, 2021 related to GSK's net sales of Zejula and JEMPERLI during the period. All royalty revenue related to Zejula global net sales starting July 2022 will be paid directly to a wholly-owned subsidiary of DRI Healthcare Trust pursuant to the Zejula Royalty Monetization Agreement, see Note 5.

No clinical milestones were earned or recognized during the three and nine months ended September 30, 2022. No other future clinical or regulatory milestones have been included in the transaction price, as all milestone amounts were subject to the revenue constraint. As part of the constraint evaluation, we considered numerous factors including the fact that the receipt of milestones is outside of our control and contingent upon success in future clinical trials, an outcome that is difficult to predict, and GSK's efforts. Any consideration related to sales-based milestones, including royalties, will be recognized when the related sales occur as they were determined to relate predominantly to the intellectual property license granted to GSK and therefore have also been excluded from the transaction price. We will re-evaluate the variable transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Milestones under the GSK Agreement are as follows:

Milestone Event	Anti-PD-1 (JEMPERLI/Dostarlimab)		Anti-TIM-3 (GSK4069889A/Cobolimab)		Anti-LAG-3 (GSK40974386)	
	Amount	Quarter Recognized	Amount	Quarter Recognized	Amount	Quarter Recognized
Initiated *in vivo* toxicology studies using good laboratory practices (GLPs)	$1.0M	Q2'15	$1.0M	Q4'15	$1.0M	Q3'16
IND clearance from the FDA	$4.0M	Q1'16	$4.0M	Q2'16	$4.0M	Q2'17
Phase 2 clinical trial initiation	$3.0M	Q2'17	$3.0M	Q4'17	$3.0M	Q4'19
Phase 3 clinical trial initiation - first indication	$5.0M	Q3'18	$5.0M	—	$5.0M	—
Phase 3 clinical trial initiation - second indication	$5.0M	Q2'19	$5.0M	—	$5.0M	—
Filing of the first BLA[(1)] - first indication	$10.0M	Q1'20	$10.0M	—	$10.0M	—
Filing of the first MAA[(2)] - first indication	$5.0M	Q1'20	$5.0M	—	$5.0M	—
Filing of the first BLA - second indication	$10.0M	Q1'21	$10.0M	—	$10.0M	—
First BLA approval - first indication	$20.0M	Q2'21	$20.0M	—	$20.0M	—
First MAA approval - first indication	$10.0M	Q2'21	$10.0M	—	$10.0M	—
First BLA approval - second indication	$20.0M	Q3'21	$20.0M	—	$20.0M	—
Filing of the first MAA - second indication[(3)]	$5.0M	—	$5.0M	—	$5.0M	—
First MAA approval - second indication[(3)]	$10.0M	—	$10.0M	—	$10.0M	—
First commercial sales milestone[(3)]	$15.0M	—	$15.0M	—	$15.0M	—
Second commercial sales milestone[(3)]	$25.0M	—	$25.0M	—	$25.0M	—
Third commercial sales milestone[(3)]	$50.0M	—	$50.0M	—	$50.0M	—
Fourth commercial sales milestone	$75.0M	—	$75.0M	—	$75.0M	—
Milestones recognized through September 30, 2022	$93.0M	—	$8.0M	—	$8.0M	—
Milestones that may be recognized in the future	$180.0M	—	$265.0M	—	$265.0M	—

(1) Biologics License Application (“BLA”)

(2) Marketing Authorization Application (“MAA”)

(3) For JEMPERLI, the filing and approval of the first MAA for a second indication and first three commercial sales milestones are included as part of the royalty monetization agreement with Sagard, see Note 5

Milestones achieved during the discovery period were recognized as revenue pro-rata through December 31, 2016. Milestones achieved during fiscal 2017 were recognized as revenue in the period earned, while milestones after December 31, 2017 are recognized upon determination that a significant reversal of revenue would not be probable. Cash is generally received within 30 days of milestone achievement.

We recognized $1.3 million and $3.5 million in revenue under the GSK Agreement during the three and nine months ended September 30, 2022, respectively, and $20.9 million and $62.2 million during the three and nine months ended September 30, 2021, respectively.

Antibody Generation Agreement with Bristol-Myers Squibb

In December 2011, we entered into a license and collaboration agreement (the “BMS Agreement”) with Celgene, now a part of Bristol-Myers Squibb (Celgene and Bristol-Myers Squibb are hereinafter referred to, collectively, as “BMS”), to develop therapeutic antibodies against multiple targets. We granted BMS the option to obtain worldwide commercial rights to antibodies generated against each of the targets under the agreement, which option was triggered on a target-by-target basis by our delivery of antibodies meeting certain pre-specified parameters pertaining to each target under the agreement.

The BMS Agreement provided for an upfront payment of $6.0 million from BMS, which we received in 2011 and recognized through 2014, milestone payments of up to $53.0 million per target, low single-digit royalties on net sales of antibodies against each target, and reimbursement of specified research and development costs.

There was no revenue recognized under this agreement during the three and nine months ended September 30, 2022 and 2021. Revenue was last recognized under this agreement in 2016.

5. Sale of Future Royalties

JEMPERLI Royalty Monetization Agreement

In October 2021, we signed a royalty monetization agreement ("JEMPERLI Royalty Monetization Agreement") with Sagard Healthcare Royalty Partners, LP ("Sagard"). Under the terms of the JEMPERLI Royalty Monetization Agreement, we received $250.0 million in exchange for royalties and milestones payable to us under our GSK collaboration on annual global net sales of JEMPERLI below $1.0 billion starting in October 2021. The aggregate JEMPERLI royalties and milestones to be received by Sagard under the JEMPERLI Royalty Monetization Agreement is capped at certain fixed multiples of the upfront payment based on time. Once Sagard receives an aggregate amount of either $312.5 million (125% of the upfront) by the end of 2026, or $337.5 million (135% of the upfront) during 2027, or $412.5 million (165% of the upfront) at any time after 2027, the JEMPERLI Royalty Monetization Agreement will expire resulting in us regaining all subsequent JEMPERLI royalties and milestones. As of September 30, 2022, Sagard has received a total of $1.1 million in royalties and milestones.

The JEMPERLI Royalty Monetization Agreement includes a call option pursuant to which at any time after December 1, 2024, we may reacquire our interest in the specified royalties by paying Sagard (in cash) a specified amount described as (a) in the case of a Reacquisition Date that falls within the period from (but excluding) December 1, 2024 to (and including) December 31, 2026, the greater of (i) $312.5 million minus the total Net Amount actually received by Purchaser prior to such Reacquisition Date, and (ii) an amount that, when paid to Sagard on such Reacquisition Date, will generate an internal rate of return ("IRR") for Sagard of 9.0% over the Relevant Period; (b) in the case of a Reacquisition Date that falls within the period from (and including) January 1, 2027 to (and including) December 31, 2027, the greater of (i) $337.5 million minus the total Net Amount actually received by Purchaser prior to such Reacquisition Date and (ii) an amount that, when paid to Sagard on such Reacquisition Date, will generate an IRR for Sagard of 10% over the Relevant Period; and (c) in the case of a Reacquisition Date that occurs on or after January 1, 2028, the greater of (i) $412.5 million minus the total Net Amount actually received by Purchaser prior to such Reacquisition Date and (ii) an amount that, when paid to Sagard on such Reacquisition Date, will generate an IRR for Sagard of 10% over the Relevant Period.

The proceeds received from Sagard of $250.0 million were recorded as a liability, net of transaction costs of $0.4 million, which will be amortized over the estimated life of the arrangement using the effective interest rate method. Royalty and milestone revenue will be recognized as earned on net sales of JEMPERLI, and we will record the royalty payments to Sagard as a reduction of the liability when paid. As such payments are made to Sagard, the balance of the liability will be effectively repaid over the life of the JEMPERLI Royalty Monetization Agreement.

We estimate the effective interest rate used to record non-cash interest expense under the JEMPERLI Royalty Monetization Agreement based on the estimate of future royalty payments to be received by Sagard. As of September 30, 2022, the estimated effective rate under the agreement was 9.1%. Over the life of the arrangement, the actual effective interest rate will be affected by the amount and the timing of the royalty payments received by Sagard and changes in our forecasted royalties. At each reporting date, we will reassess our estimate of total future royalty payments to be received and if such payments are materially different than our original estimates, we will prospectively adjust the imputed interest rate and the related amortization of the royalty obligation.

We recognized JEMPERLI non-cash royalty revenue of approximately $0.3 million and $1.2 million for the three and nine months ended September 30, 2022, respectively, and non-cash interest expense of approximately $5.9 million and $16.7 million for the three and nine months ended September 30, 2022, respectively. The interest and amortization of issuance costs is reflected as non-cash interest expense for the sale of future royalties in the Consolidated Statements of Operations.

The following table shows the activity within the liability account for the nine months ended September 30, 2022:

(in thousands)	September 30, 2022
Liability related to sale of future JEMPERLI royalties and milestones - balance at 12/31/2021	$ 251,093
Issuance costs related to the sale of future royalties	(130)
Amortization of issuance costs	45
Royalty and milestone payments to Sagard	(1,050)
Non-cash interest expense recognized	16,658
Liability related to sale of future royalties and milestones - ending balance	$ 266,616

Zejula Royalty Monetization Agreement

In October 2020, in connection with Amendment No. 3 to the GSK Agreement, GSK agreed, under the terms of a settlement agreement (the "GSK Settlement Agreement"), to pay us a royalty on all GSK net sales of Zejula starting January 1, 2021. Under the GSK Settlement Agreement, the royalty is paid at a rate of 1.0% but is subject to reduction due to royalties paid to third parties, with a minimum royalty payable under the GSK Settlement Agreement of 0.5% of global net sales of Zejula. The current effective royalty rate is 0.5%.

In September 2022, we signed a purchase and sale agreement (the "Zejula Royalty Monetization Agreement") with a wholly-owned subsidiary of DRI Healthcare Trust ("DRI") to monetize all of our future royalties on global net sales of Zejula under the GSK Settlement Agreement. Under the terms of the Zejula Royalty Monetization Agreement, we received $35.0 million in exchange for all royalties payable by GSK to us under the GSK Settlement Agreement on global net sales of Zejula starting in July 2022 (the "Purchased Royalty Interest"). In addition, under the Zejula Royalty Monetization Agreement, we are entitled to receive an additional $10.0 million payment from DRI if Zejula is approved by the U.S. Food and Drug Administration for the treatment of endometrial cancer on or prior to December 31, 2025.

The proceeds received from DRI of $35.0 million were recorded as a liability, net of transaction costs of $0.2 million, which will be amortized over the estimated life of the arrangement using the effective interest rate method. Royalty revenue will be recognized as earned on net sales of Zejula, and we will record the royalty payments to DRI as a reduction of the liability when paid. As such payments are made to DRI, the balance of the liability will be effectively repaid over the life of the Zejula Royalty Monetization Agreement.

We estimate the effective interest rate used to record non-cash interest expense under the Zejula Royalty Monetization Agreement based on the estimate of future royalty payments to be received by DRI. As of September 30, 2022, the estimated effective rate under the agreement was 7.6%. Over the life of the arrangement, the actual effective interest rate will be affected by the amount and the timing of the royalty payments received by DRI and the changes in our forecasted royalties. At each reporting date, we will reassess our estimate of total future royalty payments to be received and if such payments are materially different than our original estimates, we will prospectively adjust the imputed interest rate and the related amortization of the royalty obligation.

We recognized Zejula non-cash royalty revenue of approximately $0.7 million for both the three and nine months ended September 30, 2022, and non-cash interest expense of approximately $0.2 million for both the three and nine months ended September 30, 2022. The interest and amortization of issuance costs is reflected as non-cash interest expense for the sale of future royalties in the Consolidated Statements of Operations.

The following table shows the activity within the liability account for the nine months ended September 30, 2022:

(in thousands)	September 30, 2022
Liability related to sale of future Zejula royalties and milestones - balance at 12/31/2021	$ —
Proceeds from sale of future royalties	35,000
Issuance costs related to the sale of future royalties	(184)
Amortization of issuance costs	1
Non-cash interest expense recognized	153
Liability related to sale of future royalties and milestones - ending balance	$ 34,970

6. Fair Value Measurements and Available for Sale Investments

Fair Value Measurements

Our financial instruments consist principally of cash, cash equivalents, short-term and long-term investments, receivables, and accounts payable. Certain of our financial assets and liabilities have been recorded at fair value in the consolidated balance sheet in accordance with the accounting standards for fair value measurements.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. Accounting guidance also establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1 - Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 - Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities 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 related assets or liabilities; and

Level 3 - Unobservable inputs that are supported by little or no market activities, therefore requiring an entity to develop its own assumptions.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following table summarizes our assets and liabilities that require fair value measurements on a recurring basis and their respective input levels based on the fair value hierarchy:

		Fair Value Measurements at End of Period Using:		
(in thousands)	Fair Value	Quoted Market Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
At September 30, 2022				
Money market funds[1]	$ 46,030	$ 46,030	$ —	$ —
Mutual funds[1]	12,610	12,610	—	—
U.S. Treasury securities[2]	414,774	414,774	—	—
Certificates of deposit[2]	2,845	—	2,845	—
Agency securities[2]	59,223	—	59,223	—
Commercial and corporate obligations[1][2]	55,088	—	55,088	—
At December 31, 2021				
Money market funds[1]	$ 445,647	$ 445,647	$ —	$ —
Mutual funds[1]	50,326	50,326	—	—
U.S. Treasury securities[2]	87,831	87,831	—	—
Certificates of deposit[2]	3,766	—	3,766	—
Agency securities[2]	5,814	—	5,814	—
Commercial and corporate obligations[2]	22,054	—	22,054	—

[1] Included in cash and cash equivalents in the accompanying consolidated balance sheets.

[2] Included in short-term or long-term investments in the accompanying consolidated balance sheets depending on the respective maturity date.

The following methods and assumptions were used to estimate the fair value of our financial instruments for which it is practicable to estimate that value:

Marketable Securities. For fair values determined by Level 1 inputs, which utilize quoted prices in active markets for identical assets, the level of judgment required to estimate fair value is relatively low. For fair values determined by Level 2 inputs, which utilize quoted prices in less active markets for similar assets, the level of judgment required to estimate fair value is also considered relatively low.

Fair Value of Other Financial Instruments

The carrying amounts of certain of our financial instruments, including cash and cash equivalents, accounts payable, and accrued expenses approximate fair value due to their short-term nature.

Available for Sale Investments

We invest our excess cash in agency securities, debt instruments of financial institutions and corporations, commercial obligations, and U.S. Treasury securities, which we classify as available for sale investments. These investments are carried at fair value and are included in the tables above. The aggregate market value, cost basis, and gross unrealized gains and losses of available for sale investments by security type, classified in cash equivalents, short-term and long-term investments as of September 30, 2022 are as follows:

(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Fair Value
Agency securities[1]	$ 60,174	$ 4	$ (955)	$ 59,223
Certificates of deposit[2]	2,920	—	(75)	2,845
Commercial and corporate obligations[3]	56,140	—	(1,052)	55,088
U.S. Treasury securities[4]	418,496	1	(3,723)	414,774
Total available for sale investments	$ 537,730	$ 5	$ (5,805)	$ 531,930

[1] Of our outstanding agency securities, $40.3 million have maturity dates of less than one year and $18.9 million have maturity dates between one to two years as of September 30, 2022.

[2] Of our outstanding certificates of deposit, $2.1 million have maturity dates of less than one year and $0.7 million have a maturity date of between one to two years as of September 30, 2022.

[3] Of our outstanding commercial and corporate obligations, $30.7 million have maturity dates of less than one year and $24.4 million have a maturity date of between one to two years as of September 30, 2022.

[4] Of our outstanding U.S. Treasury securities, $311.3 million have maturity dates of less than one year and $103.5 million have a maturity date of between one to two years as of September 30, 2022.

The aggregate market value, cost basis, and gross unrealized gains and losses of available for sale investments by security type, classified in short-term and long-term investments as of December 31, 2021 are as follows:

(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Fair Value
Agency securities[1]	$ 5,821	$ —	$ (7)	$ 5,814
Certificates of deposit[2]	3,770	—	(4)	3,766
Commercial and corporate obligations[3]	22,094	2	(42)	22,054
US Treasury securities[4]	87,995	—	(164)	87,831
Total available for sale investments	$ 119,680	$ 2	$ (217)	$ 119,465

[1] Of our outstanding agency securities, $1.0 million have maturity dates of less than one year and $4.8 million have a maturity date of between one to two years as of December 31, 2021.

[2] Of our outstanding certificates of deposit, $1.3 million have a maturity date of less than one year and $2.5 million have a maturity date of between one to two years as of December 31, 2021.

[3] Of our outstanding commercial and corporate obligations, $4.8 million have maturity dates of less than one year and $17.3 million have a maturity date of between one to two years as of December 31, 2021.

[4] Of our outstanding U.S. Treasury securities, $45.3 million have maturity dates of less than one year and $42.5 million have a maturity date of between one to two years as of December 31, 2021.

The following tables present gross unrealized losses and fair values for those investments that were in an unrealized loss position as of September 30, 2022 and December 31, 2021, aggregated by investment category and the length of time that individual securities have been in a continuous loss position:

	September 30, 2022					
	Less than 12 Months		12 Months or Greater		Total	
(in thousands)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Agency securities	$ 54,218	$ (955)	$ —	$ —	$ 54,218	$ (955)
Commercial and corporate obligations	51,400	(982)	3,688	(70)	55,088	(1,052)
Certificates of deposit	2,146	(56)	699	(19)	2,845	(75)
US Treasury Securities	389,766	(3,723)	—	—	389,766	(3,723)
Total	$ 497,530	$ (5,716)	$ 4,387	$ (89)	$ 501,917	$ (5,805)

	December 31, 2021					
	Less than 12 Months		12 Months or Greater		Total	
(in thousands)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Agency securities	$ 4,477	$ (7)	$ —	$ —	$ 4,477	$ (7)
Certificates of Deposit	2,870	(4)	—	—	2,870	(4)
Commercial and corporate obligations	18,524	(42)	—	—	18,524	(42)
US Treasury Securities	82,823	(164)	—	—	82,823	(164)
Total	$ 108,694	$ (217)	$ —	$ —	$ 108,694	$ (217)

As of September 30, 2022 and December 31, 2021, unrealized losses on available for sale investments were $5.8 million and $0.2 million, respectively. Unrealized losses of $0.1 million, on available for sale investments that were in an unrealized loss position for greater than 12 months as of September 30, 2022, were considered immaterial. We do not intend to sell the investments and it is not more likely than not that we will be required to sell the investments before recovery of their amortized cost basis, accordingly, no allowance for credit losses were recorded.

7. Stockholders' Equity

Common Stock

Of the 500,000,000 shares of common stock authorized, 28,354,167 shares were issued and outstanding as of September 30, 2022. Common stock reserved for future issuance upon the exercise, issuance or conversion of the respective equity instruments at September 30, 2022 are as follows:

Issued and Outstanding:	
Stock options	3,711,635
Restricted stock units	1,030,443
Shares Reserved For:	
2017 Equity Incentive Plan	2,406,404
2017 Employee Stock Purchase Plan	1,507,549
Total	8,656,031

8. Equity Incentive Plans

2017 Equity Incentive Plan

On January 12, 2017, our board of directors and stockholders approved and adopted the 2017 Equity Incentive Plan (the "2017 Plan"). The 2017 Plan became effective upon the execution and delivery of the underwriting agreement for our initial public offering on January 26, 2017, and replaced our existing 2006 Equity Incentive Plan. Under the 2017 Plan, we may grant stock options, stock appreciation rights, restricted stock, restricted stock units and other awards to individuals who are then our employees, officers, directors or consultants. In addition, the number of shares of stock available for issuance under the 2017 Plan will be automatically increased each January 1, beginning on January 1, 2018, by 4% of the aggregate number of outstanding shares of our common stock as of the immediately preceding December 31 or such lesser number as determined by our board of directors. The 2017 Plan automatically increased by 1,105,890 shares as of January 1, 2022.

Employee Stock Purchase Plan

On January 12, 2017, our board of directors and stockholders approved and adopted the 2017 Employee Stock Purchase Plan or the ESPP. The ESPP became effective upon the execution and delivery of the underwriting agreement for our initial public offering on January 26, 2017. In addition, the number shares of stock available for issuance under the ESPP will be automatically increased each January 1, beginning on January 1, 2018, by 1% of the aggregate number of outstanding shares of our common stock as of the immediately preceding December 31 or such lesser number as determined by our board of directors. The ESPP automatically increased by 276,472 shares as of January 1, 2022. The initial six month offering period for the ESPP was completed in November 2021 with a subsequent six month offering period commencing thereafter. These offering periods are expected to continue starting in May and November of each year. As of September 30, 2022, 40,160 shares have been issued under the ESPP.

Stock Options

Stock options granted to employees and non-employees generally vest over a four-year period while stock options granted to directors vest over a one year period. Each stock option award has a maximum term of 10 years from the date of grant, subject to earlier cancellation prior to vesting upon cessation of service to us. A summary of the activity related to stock option awards during the nine months ended September 30, 2022 is as follows:

	Shares Subject to Options	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2022	3,460,295	$ 28.84	7.17	$ 42,987
Granted	1,339,720	$ 29.44		
Exercises	(685,970)	$ 11.72		
Forfeitures and cancellations	(402,410)	$ 31.26		
Outstanding at September 30, 2022	3,711,635	$ 31.96	6.24	$ 10,248
Exercisable at September 30, 2022	1,761,210	$ 36.71	5.43	$ 6,713

Time-based Restricted Stock Units

Each Restricted Stock Unit ("RSUs") represents one equivalent share of our common stock to be issued after satisfying the applicable continued service-based vesting criteria over a specified period. The fair value of these RSUs is based on the closing price of our common stock on the date of the grant. We measure compensation expense over the expected vesting period on a straight-line basis. The RSUs do not entitle the participants to the rights of holders of common stock, such as voting rights, until the shares are issued.

	Number of Shares	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2022	—	$ —		$ —
Granted	1,030,443	$ 26.14		
Vested	—	$ —		
Cancelled	—	$ —		
Outstanding at September 30, 2022	1,030,443	$ 26.14	1.43	$ 26,287
Restricted Stock Units expected to vest at September 30, 2022	1,030,443	$ 26.14	1.43	$ 26,287

Stock-Based Compensation Expense

We recognize stock-based compensation expense for awards issued to employees and non-employees over the requisite service period based on the estimated grant-date fair value of such awards. We record the expense for stock-based compensation awards subject to performance-based milestone vesting over the requisite service period when management determines that achievement of the milestone is probable. Management evaluates when the achievement of a performance-based milestone is probable based on the expected satisfaction of the performance conditions at each reporting date. The estimated fair values of stock option awards granted to employees were determined on the date of grant using the Black-Scholes option valuation model with the following weighted-average assumptions:

	Nine Months Ended September 30,	
	2022	2021
Risk-free interest rate	2.2 %	0.7 %
Expected volatility	88.2 %	93.0 %
Expected dividend yield	— %	— %
Expected term (in years)	6.15	6.18
Weighted-average grant date fair value per share	$ 21.89	$ 22.32

We determine the appropriate risk-free interest rate, expected term for employee stock-based awards, contractual term for non-employee stock-based awards, and volatility assumptions. The weighted-average expected option term for employee and non-employee stock-based awards reflects the application of the simplified method, which defines the life as the average of the contractual term of the options and the weighted-average vesting period for all option tranches. Expected volatility for 2022 and 2021 incorporates the historical volatility of our stock price. The risk-free interest rate is based upon U.S. Treasury securities with remaining terms similar to the expected or contractual term of the stock-based payment awards. The assumed dividend yield is based on our expectation of not paying dividends in the foreseeable future.

Total non-cash stock-based compensation expense for all stock awards that was recognized in the consolidated statements of operations and comprehensive loss is as follows:

(in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Research and development	$ 1,547	$ 1,773	$ 4,997	$ 4,402
General and administrative	4,724	2,591	15,674	6,967
Total	$ 6,271	$ 4,364	$ 20,671	$ 11,369

On March 20, 2022, our then Chief Executive Officer ("former CEO"), resigned by mutual agreement with the Board of Directors. In connection with his separation agreement, we modified certain equity awards and recognized approximately $3.2 million in non-cash stock-based compensation expense. Given the former CEO had substantially rendered the required services per his separation agreement, we recorded the full expense related to the modification in the period ending March 31, 2022. Additionally, on March 21, 2022, we awarded our newly appointed Interim President and Chief Executive Officer RSUs for 887,043 shares of the company's common stock. The fair value of the award will be recognized as part of compensation cost, occurring ratably over the stated 24-month requisite service period. During the three and nine months ended September 30, 2022, we recognized $3.0 million and $6.2 million of non-cash stock-based compensation cost related to the award.

At September 30, 2022, there was $28.0 million of unrecognized compensation cost related to unvested stock option awards, which is expected to be recognized over a remaining weighted-average vesting period of 2.39 years, $20.2 million of unrecognized cost related to unvested RSUs awards, which is expected to be recognized over a period of 1.49 years and $0.1 million of unrecognized compensation cost related to the ESPP, which is expected to be recognized over a remaining weighted-average vesting period of 0.13 years.

9. Commitments and Contingencies

Operating Leases

On May 4, 2020, we entered into a lease agreement with Wateridge Property Owner, LP, with respect to facilities in the building at 10770 Wateridge Circle, San Diego, California 92121 (the "Lease Agreement"). Under the Lease Agreement, we agreed to lease approximately 45,000 square feet of space for a term of 124 months, beginning on April 5, 2021. The terms of the Lease Agreement provide us with an option to extend the term of the lease for an additional five years, as well as a one-time option to terminate the lease after seven years with the payment of a termination fee. The exercise of the lease option is at our sole discretion, which we currently do not anticipate exercising and as such was not recognized as part of the ROU asset and lease liability. The monthly base rent will be $4.20 per rentable square foot and will be increased by 3% annually. Under the Lease Agreement, we are also responsible for our pro rata share of real estate taxes, building insurance, maintenance, direct expenses, and utilities. Upon lease commencement, on April 5, 2021, we recognized an ROU asset of $20.6 million, with a corresponding lease liability of $20.7 million on the consolidated balance sheets. The ROU asset includes adjustments for prepayments, initial direct costs, and lease incentives. As of September 30, 2022, we have recorded $0.3 million as a security deposit in accordance with the terms of the Lease Agreement.

Our lease payments are fixed, and we recognize lease expense for leases on a straight-line basis over the lease term. Operating lease ROU assets and lease liabilities are recorded based on the present value of the future minimum lease payments over the lease term at commencement date. As our lease does not provide an implicit rate, we used our incremental borrowing rate based on the information available at effective date of adoption in determining the present value of future payments. The weighted-average discount rate used was 4.0% and the weighted-average remaining lease term is approximately 8.9 years.

The following non-cancellable office lease costs are included in our consolidated statements of cash flow (in thousands):

Leases	Classification on the Cash Flow	Nine Months Ended September 30, 2022	2021
Operating lease cost	Operating	$ 1,858	$ 1,594
Cash paid for amounts included in the measurement of lease liabilities	Operating	1,732	516

At September 30, 2022, the future minimum annual obligations for the Company's operating lease liabilities are as follows (in thousands):

Years Ending December 31,	
2022	$ 585
2023	2,386
2024	2,457
2025	2,531
2026	2,607
Thereafter	13,239
Total minimum payments required	23,805
Less imputed interest	(3,966)
Total	$ 19,839

10. Subsequent Events

Milestone Revenue

In October 2022, GSK initiated the first Phase 3 clinical trial for the treatment of advanced non-small cell lung cancer with cobolimab, triggering a milestone payment to us of $5.0 million.

Open Market Sales Agreements

In December 2021, we entered into an Open Market Sales Agreement with Jefferies LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Jefferies LLC as our sales agent. This agreement was terminated effective November 8, 2022.

In November 2022, we entered into a Sales Agreement with Cowen and Company, LLC (the "Cowen Sales Agreement"), through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Cowen and Company, LLC as our sales agent.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q ("Quarterly Report") contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and section 27A of the Securities Act of 1933, as amended (the "Securities Act"). The words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," and "expect," and similar expressions that convey uncertainty of future events or outcomes, are intended to identify forward-looking statements.

The forward-looking statements in this report include, among other things, statements about:

- the success, cost, and timing of our product candidate development activities and ongoing and planned clinical trials;
- our plans to develop and commercialize antibodies, including our two checkpoint agonists in clinical-stage development: rosnilimab and ANB032;
- our plans to develop and outlicense imsidolimab;
- the impact of the coronavirus ("COVID-19") pandemic on our business and the United States ("U.S.") and global economies;
- the likelihood that the clinical data generated in any study we performed, are performing, or plan to perform in a non-U.S. jurisdiction will be subsequently accepted by the U.S. Food and Drug Administration ("FDA") and/or by foreign regulatory authorities outside of the jurisdiction where the study was being performed;
- the timing and ability of our collaborators to develop and commercialize our partnered product candidates;
- the potential benefits and advantages of our product candidates and approaches versus those of our competitors;
- our ability to execute on our strategy, including advancing our product candidates, identifying emerging opportunities in key therapeutic areas, continuing to expand our wholly-owned pipeline, seeking a licensing partner for imsidolimab, and retaining rights to strategic products in key commercial markets;
- our ability to obtain funding for our operations on favorable terms or at all, including funding necessary to complete further development and commercialization of our product candidates;
- general macro-economic factors, including volatility in equity markets, and fluctuations in interest rates and foreign exchange rates;
- the timing of and the ability to obtain and maintain regulatory approvals for our product candidates, partnered product candidates and/or product candidates for which we may receive royalties;
- our ability to develop our product candidates;
- the rate and degree of market acceptance and clinical utility of any approved product candidates;
- the size and growth potential of the markets for any approved product candidates, and our ability to serve those markets;
- our commercialization, marketing, and manufacturing capabilities and strategy;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates;
- regulatory developments in the U.S., the United Kingdom, Australia, and other foreign countries;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- our use of the net proceeds from our public offerings and other financing transactions;
- our ability to identify additional products or product candidates with significant commercial potential that are consistent with our commercial objectives; and
- our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing.

These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including those described in Part II, Item 1A, “Risk Factors,” and elsewhere in this Quarterly Report. Moreover, we operate in a competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties, and assumptions, the forward-looking events and circumstances discussed in this Quarterly Report may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance, or events and circumstances reflected in the forward-looking statements will be achieved or occur. We undertake no obligation to update publicly any forward-looking statements to conform these statements to actual results or to changes in our expectations, except as required by law.

You should read this Quarterly Report with the understanding that our actual future results, levels of activity, performance, and events and circumstances may be materially different from what we expect.

Unless the context indicates otherwise, as used in this Quarterly Report, the terms “AnaptysBio,” “company,” “we,” “us” and “our” refer to AnaptysBio, Inc., a Delaware corporation, and its subsidiaries taken as a whole, unless otherwise noted. AnaptysBio is our common law trademark. This Quarterly Report contains additional trade names, trademarks, and service marks of other companies, which are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

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 unaudited consolidated financial statements and related notes for the nine months ended September 30, 2022, included in Part I, Item 1 of this report and with our audited consolidated financial statements and related notes thereto for the year ended December 31, 2021 included in our Annual Report on Form 10-K. This discussion and other sections of this Quarterly Report contain forward-looking statements that involve risks and uncertainties, such as our plans, objectives, expectations, intentions, and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section entitled "Risk Factors" included in Part II, Item 1A of this Quarterly Report. You should also carefully read "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical-stage biotechnology company focused on delivering innovative immunology therapeutics. We are developing immune cell modulators, including two checkpoint agonists in clinical-stage development, for autoimmune and inflammatory disease: rosnilimab, our anti-PD-1 agonist program, previously referred to as ANB030, which is currently in a Phase 2 clinical trial for the treatment of moderate-to-severe alopecia areata; and ANB032, our anti-BTLA agonist program. In addition, we are developing imsidolimab, our anti-IL-36R antibody, which is currently in a Phase 3 clinical trial for the treatment of generalized pustular psoriasis, or GPP. We also have additional preclinical programs and discovery research of potentially innovative immunology therapeutics, including ANB033, an anti-CD122 antagonist antibody for the treatment of inflammatory diseases. We have also developed multiple therapeutic antibodies in an immuno-oncology collaboration with GSK, including an anti-PD-1 antagonist antibody (JEMPERLI (dostarlimab-gxly)), an anti-TIM-3 antagonist antibody (cobolimab, GSK4069889) and an anti-LAG-3 antagonist antibody (GSK4074386). We currently generate revenue from milestones and royalties achieved under our immuno-oncology collaboration with GSK. Our antibody pipeline has been developed using our proprietary somatic hypermutation, or SHM platform, which uses *in vitro* SHM for antibody discovery and is designed to replicate key features of the human immune system to overcome the limitations of competing antibody discovery technologies.

Our immune cell modulators, including anti-inflammatory checkpoint agonists for PD-1 and BTLA, treat inflammatory disorders by down regulating immune responses mediated by multiple immune cell types including T-cells, B-cells, and dendritic cells. We believe these molecules have potential applicability across a broad range of autoimmune and inflammatory disorders including dermatology, rheumatology, gastroenterology, respiratory, and neurology therapeutic areas.

Rosnilimab, previously referred to as ANB030, is our wholly-owned anti-PD-1 agonist antibody program designed to suppress aberrant T-cell driven inflammation by augmenting signaling through PD-1 or targeted depletion of PD-1+ T-cells.

Rosnilimab binds to PD-1 on a membrane proximal epitope that is on the opposite side of the receptor to that utilized by PD-L1 for binding, and thus preserves the ability of PD-L1 to agonize PD-1. In the setting of T cell activation, rosnilimab binding has been shown to induce agonistic signaling and the recruitment of SHP2 to PD-1, in a manner similar to that by PD-L1. In preclinical assays, rosnilimab prevented T cell expansion in antigen-specific response assays to numerous antigens, demonstrating prevention of T cell expansion and reduction in the secretion of inflammatory cytokines associated with multiple T cell types implicated in inflammatory pathology when dysregulated. In addition to direct agonistic activity, rosnilimab is an IgG1k antibody with effector function that can drive targeted depletion of PD-1+ T cells via the induction of antibody-dependent cellular cytotoxicity (ADCC). We believe this component of the mechanism of rosnilimab may provide more durable immune modulation by effectively eliminating the most pathogenic antigen-specific T cells in the setting of autoimmunity and inflammation. Genetic mutations in the PD-1 pathway are known to be associated with increased susceptibility to human inflammatory diseases, and hence we believe that rosnilimab is applicable to diseases where PD-1 checkpoint receptor function may be insufficient to maintain immune homeostasis.

We presented preclinical data for rosnilimab at the Festival of Biologics Annual Meeting in March 2020, including translational data demonstrating *in vitro* activity of rosnilimab in alopecia areata patient samples.

We announced positive top-line data from a healthy volunteer Phase 1 clinical trial of rosnilimab in November 2021. A total of 144 subjects were enrolled in the randomized, double-blind, placebo-controlled healthy volunteer Phase 1 trial, where single ascending dose (SAD) cohorts were administered single subcutaneous or IV doses of rosnilimab ranging between 0.02mg to 600mg or placebo, while multiple ascending dose (MAD) cohorts received four weekly subcutaneous doses of

rosnilimab ranging between 60mg and 400mg or placebo. Rosnilimab was generally well-tolerated and no dose limiting toxicities were observed. Two serious adverse events were reported in single dose cohorts, including obstructive pancreatitis in a placebo-dosed subject and COVID-19 infection in a rosnilimab-dosed subject leading to discontinuation. The COVID-19 infection was deemed unrelated to treatment. No serious adverse events were reported in subjects receiving multiple doses of rosnilimab or placebo.

Pharmacokinetic analyses demonstrated a favorable profile for rosnilimab with an estimated two-week half-life for subcutaneous and IV routes of administration. Full PD-1 receptor occupancy was observed rapidly during the first week following single subcutaneous rosnilimab doses at or above 60mg, and was maintained for at least 30 days at or above 200mg single subcutaneous doses. These data support monthly subcutaneous dosing of rosnilimab for future patient trials. Rosnilimab's pharmacodynamic activity resulted in rapid and sustained reduction in the quantity and functional activity of PD-1+ T cells, which are known to be pathogenic drivers of inflammatory diseases. Conventional T (Tcon) cells (CD3+, CD25 low) PD-1+, which represented approximately 25% of peripheral T cells at baseline, were reduced by 50%, including in both CD4+ and CD8+ subsets, in a dose-dependent manner and in correlation with receptor occupancy. This effect was maximized on high-PD-1+ Tcon cells, which represented approximately 5% of peripheral T cells, with 90% reduction relative to baseline. Conversely, total T cells (CD3+), total Tcon cells (CD3+, CD25low) and total regulatory T (Treg) cells (CD3+, CD4+, CD25 bright, CD127-) were unchanged (<5% change from baseline), resulting in a consistent ratio of PD-1+ Tcon cells to total Treg cells post-treatment in healthy volunteers. No effect (<5% reduction from baseline) was observed on any of the aforementioned cell types in placebo-dosed subjects. In addition, an antigen-specific functional T cell recall response, measured as *ex vivo* interferon-gamma released in response to tetanus toxoid challenge, was inhibited in a receptor occupancy dependent manner and was consistent with the observed reduction of PD-1+ Tcon cells, to a maximum of approximately 90% relative to baseline within 30 days following single rosnilimab dose, while placebo administration had no effect. Based upon these data, we believe rosnilimab's *in vivo* mechanism has the potential to treat T-cell driven human inflammatory diseases.

During the fourth quarter of 2021, we initiated AZURE, a randomized placebo-controlled 45-patient Phase 2 proof-of-mechanism trial of rosnilimab in moderate-to-severe alopecia areata patients with at least 50% scalp hair loss for at least 6 months prior to enrollment, where the primary endpoint is change in severity of alopecia tool (SALT) relative to baseline. Additional secondary and exploratory endpoints are also being assessed to support understanding of the mechanism of action for rosnilimab in PD-1+ T cell mediated immune diseases. Top-line data from the AZURE clinical trial is anticipated during the first quarter of 2023.

Alopecia is an inflammatory disease that is driven by immune cell-mediated killing of hair follicles when the normal immune-privileged state of the area around the follicle is disrupted by a stress event precipitating potent PD-1+ T cell activation leading to excessive IFNγ secretion and aberrant hair follicle major histocompatibility complex (MHC) expression. Experimental data have shown antigen-specific T cell activation in alopecia patient peripheral blood mononuclear cells suggesting that the autoimmunity is driven by major histocompatibility complex presentation of peptides derived from keratinocytes and melanocytes in the hair follicle. We believe that the activated PD-1+ T cells, found in the vicinity of hair follicles in alopecia areata, are a crucial node in the inflammatory cycle driving the pathology of the disease, and that their suppression or clearance (and amelioration of their cytotoxic activity and IFNγ secretion) may be sufficient to restore immune homeostasis and allow the re-initiation of hair growth.

ANB032 is our wholly-owned anti-BTLA agonist antibody program designed to augment BTLA signaling, which is broadly applicable to human inflammatory diseases associated with lymphoid and myeloid immune cell dysregulation. Genetic studies have demonstrated that BTLA pathway mutations increase human susceptibility to multiple autoimmune diseases and insufficient BTLA signaling can lead to dysregulated T or B cell responses and changes in the function of dendritic cells. BTLA modulates signaling of HVEM, governing HVEM's interaction with its natural ligands, including LIGHT. Polymorphisms in BTLA or molecules in the BTLA pathway such as HVEM are associated with inflammatory diseases, including aberrant T cell activity, B cell activity and dysregulation of downstream humoral immune responses (IgE, IgG secretion). Similarly, BTLA knockout animals have spontaneous or enhanced severity of inflammatory disease, demonstrating aberrant T cell activity, B cell activity and dysregulation of pathogenic antibody responses upon immunization. ANB032 is anticipated to down-modulate the activity of T cells, B cells and dendritic cells via several potential mechanisms: BTLA agonistic activity, stabilization of the interaction of BTLA and HVEM in cis which prevents pro-inflammatory signaling mediated by HVEM ligands such as LIGHT, and abrogation of pro-inflammatory HVEM signaling mediated by BTLA in trans.

We announced positive top-line data from a healthy volunteer Phase 1 trial of ANB032, under an Australian Clinical Trial Notification (CTN), in April 2022. A total of 96 subjects were enrolled in the randomized, double-blind, placebo-

controlled healthy volunteer Phase 1 trial, where single ascending dose (SAD) cohorts received subcutaneous or IV single doses of ANB032 or placebo, while multiple ascending dose (MAD) cohorts received four weekly subcutaneous doses of ANB032 or placebo.

ANB032 was generally well-tolerated, no dose limiting toxicities were observed and there were no discontinuations due to adverse events other than one patient quarantined for potential COVID infection. No serious adverse events (SAEs) were reported. Most adverse events were considered to be mild-to-moderate, of short duration, resolved without sequelae and occurred sporadically in a dose-independent manner. Three severe adverse events (two blood creatine phosphokinase (CPK) increase and one aspartate aminotransferase (AST) increase), none of which were treatment-related, were reported in two subjects in the lowest dose MAD cohort.

Pharmacokinetic analyses demonstrated a favorable profile for ANB032 including an approximate two-week half-life for subcutaneous and IV routes of administration. ANB032 demonstrated rapid and sustained target engagement on both T cells and B cells with full BTLA receptor occupancy was observed within hours and was maintained for greater than 30 days following IV or subcutaneous ANB032 dosing. ANB032 pharmacodynamic activity resulted in reduction of cell surface BTLA expression on T cells and B cells following dosing. A portion of the cell surface BTLA was shed from the cells as soluble BTLA (sBTLA), while the residual approximately 60% of baseline BTLA on T cells and B cells remained occupied by ANB032. The duration of reduced BTLA expression correlated with receptor occupancy in a dose-dependent manner and was maintained for greater than 30 days following IV or subcutaneous ANB032 dosing. Importantly, reduction of cell surface BTLA expression and the shedding of a portion of the cell surface BTLA as soluble BTLA, which was previously demonstrated to occur with ANB032 treatment in animal models of inflammation where robust efficacy was observed, confirmed the pharmacodynamic activity of ANB032 in humans. Based upon these data, we believe ANB032's in vivo mechanism has the potential to broadly treat T and B-cell driven human inflammatory diseases. We anticipate submitting an IND for a Phase 2 clinical trial with ANB032 during the fourth quarter of 2022 and initiating a Phase 2 clinical trial in the first half of 2023.

Imsidolimab, our wholly-owned IL-36R antibody previously referred to as ANB019, inhibits the interleukin-36 receptor (IL-36R), and is being developed for the treatment of GPP. We completed a Phase 1 clinical trial in healthy volunteers, which was presented at the European Academy of Allergy and Clinical Immunology in 2018, where imsidolimab was well-tolerated by all subjects, no dose-limiting toxicities were observed, and no serious adverse events were reported among any subjects in the clinical trial. In July 2020, the FDA granted Orphan Drug Designation for imsidolimab for the treatment of patients with GPP. We completed an open-label, multi-dose, single-arm Phase 2 clinical trial of imsidolimab in 8 GPP patients, also referred to as the GALLOP clinical trial, where top-line data through week 16 was presented at the European Academy of Dermatology and Venerology (EADV) Congress on October 2, 2021. In this trial, 6 of 8 (75%) patients treated with imsidolimab monotherapy achieved the primary endpoint of response on the clinical global impression (CGI) scale at week 4 and week 16, without requiring rescue medication. Two of 8 (25%) patients were considered to have not met the primary endpoint because they dropped out of the trial prior to Day 29. The Modified Japanese Dermatology Association severity index total score (mJDA-SI), which incorporates both dermatological and systemic aspects of GPP, decreased for patients on average by 29% at week 1, 54% at week 4 and 58% at week 16. Erythema with pustules, which clinically defines GPP, decreased by 60% at week 1, 94% by week 4 and 98% by week 16. Patients achieved a reduction in the Dermatology Life Quality Index (DLQI), which is a patient-reported measure, of 6 points at week 4 and 11 points by week 16, each of which exceeded the minimal clinically importance difference (MCID) of 4 points. GPP Physician Global Assessment (GPPPGA) scale was implemented by protocol amendment during the course of the trial and was assessed in 4 of the 8 enrolled patients, where zero (clear) or 1 (almost clear) response was achieved in 2 (50%) patients at week 4 and 3 (75%) patients at week 16. Genotypic testing indicated homozygous wild-type IL-36RN, CARD14 and AP1S3 alleles for all 8 patients. Through week 16, anti-drug antibodies were only detected in one patient, which occurred at week 12 and did not impact imsidolimab pharmacokinetics or efficacy. Imsidolimab was generally well-tolerated, and most treatment-emergent adverse events were mild to moderate in severity and resolved without sequelae. No infusion or injection site reactions were observed. One patient dropped out of the clinical trial due to a diagnosis of Staphylococcal aureus bacteremia in the first week, which was a serious adverse event deemed to be possibly drug-related. Because the patient was symptomatic prior to dosing and had a prior medical history of bacteremia, a common comorbidity of GPP, we do not believe this event is likely attributable to imsidolimab. Another patient dropped out of the study on Day 22 due to investigator reported inadequate efficacy. One patient contracted COVID-19 during the course of the clinical trial, which was deemed a serious adverse event unrelated to imsidolimab, and did not lead to study discontinuation. Medical claims analyses conducted by IQVIA indicate approximately 37,000 unique patients were diagnosed with GPP at least once, and approximately 15,000 unique patients were diagnosed with GPP at least twice, by a physician between 2017 and 2019 using the International Classification of Diseases 10th Revision (ICD-10) diagnostic code pertaining to GPP.

We met with the FDA during the second quarter of 2021 for an end-of-Phase 2 meeting to review an orphan disease registration plan for imsidolimab for the treatment of GPP. We have initiated two Phase 3 trials for imsidolimab for GPP. The first, called GEMINI-1, will enroll approximately 45 moderate-to-severe GPP patients, each undergoing an active flare at baseline, which will be randomized equally to receive a single dose of 750mg intravenous ("IV") imsidolimab, 300mg IV imsidolimab, or placebo. The primary endpoint of the Phase 3 program is the proportion of patients achieving clear or almost clear skin as determined by a GPPPGA score of zero or 1 at week 4 of GEMINI-1. Patients completing the GEMINI-1 trial will subsequently be enrolled in GEMINI-2, our second Phase 3 trial for imsidolimab in GPP, where they will receive monthly doses of 200mg subcutaneous imsidolimab or placebo depending upon whether they are responders, partial responders or non-responders to treatment under GEMINI-1. The objective of GEMINI-2 is to assess the efficacy and safety of imsidolimab after 3 years of monthly dosing. Top-line data from an interim analysis of GEMINI-1 is anticipated in the fourth quarter of 2023.

We are conducting a global registry of GPP patients, also referred to as the RADIANCE study, which we anticipate will improve understanding of the patient journey and assist in enrollment of future GPP clinical trials.

We announced in August 2022 that we intend to complete execution of our Phase 3 program in GPP and outlicense imsidolimab prior to potential FDA approval.

ANB033 is our wholly-owned anti-CD122 antagonist antibody program. CD122 targets the common beta subunit shared by the IL-15 and IL-2 receptors. IL-15 signaling mediates the survival and maintenance of tissue resident memory T cells (T_{RM}). The presence of long-lived and persistent T_{RM} has been shown to drive tissue-specific immune-mediated inflammation, T_{Rm} are present in the skin in dermatologic diseases, where defined borders of inflammation often recur. T_{RM} are also observed in other tissue-specific inflammatory disorders including gastroenterology, rheumatology and respiratory. ANB033 is designed with an affinity to CD122 that inhibits IL-15 signaling, leading to death of pathogenic T_{RM} cells in diseased tissue, with the potential to achieve and maintain remission of inflammation through the elimination of these disease-causing cells. In addition, ANB033 inhibits IL-2 signaling through the low affinity IL-2 receptor (comprised of CD122 and the common gamma subunit, CD132) expressed on T cells, while sparing regulatory T cells which express the high affinity IL-2 receptor (comprised of CD122, CD132 and the alpha receptor subunit for IL-2, CD25). This drives reduction of pathogenic T cell numbers while sparing or potentially enhancing regulatory T cell numbers. We anticipate submitting an IND for a Phase 1 clinical trial with ANB033 during the first half of 2024.

We also have additional preclinical programs and discovery research of potentially innovative immunology therapeutics.

In addition to our wholly-owned antibody programs, multiple Company-developed antibody programs have been advanced to preclinical and clinical milestones under our collaborations. Our collaborations include an immuno-oncology-focused collaboration with GlaxoSmithKline, Inc. (GSK).

Under the GSK Agreement, a Biologics License Application (BLA) for our most advanced partnered program, which is an anti-PD-1 antagonist antibody called JEMPERLI (dostarlimab), was approved by the FDA in April 2021 for the treatment of advanced or recurrent deficient mismatch repair endometrial cancer (dMMREC). In addition, in April 2021 the European Medicines Agency ("EMA") granted conditional marketing authorization in the European Union ("EU") for JEMPERLI for use in women with mismatch repair deficient (dMMR)/microsatellite instability-high (MSI-H) recurrent or advanced endometrial cancer who have progressed on or following prior treatment with a platinum containing regimen, which approval makes JEMPERLI the first anti-PD-1 therapy available for endometrial cancer in Europe. A second FDA approval was received in August 2021 for JEMPERLI in pan-deficient mismatch repair tumors (PdMMRT). JEMPERLI is currently in clinical development for various solid tumor indications, including first-line advanced/recurrent endometrial cancer, first line ovarian cancer, and non-small cell lung cancer.

In addition, under the collaboration, GSK is developing dostarlimab in combination with two other development programs from the GSK Agreement: cobolimab, an anti-TIM-3 antibody, and GSK40974386, an anti-LAG-3 antibody for multiple solid tumor indications. GSK has initiated the COSTAR Lung Phase 3 trial which is a randomized, open label 3-arm trial comparing cobolimab plus dostarlimab plus docetaxel to dostarlimab plus docetaxel to docetaxel alone in patients with advanced NSCLC who have progressed on prior anti-PD-(L)1 therapy and chemotherapy.

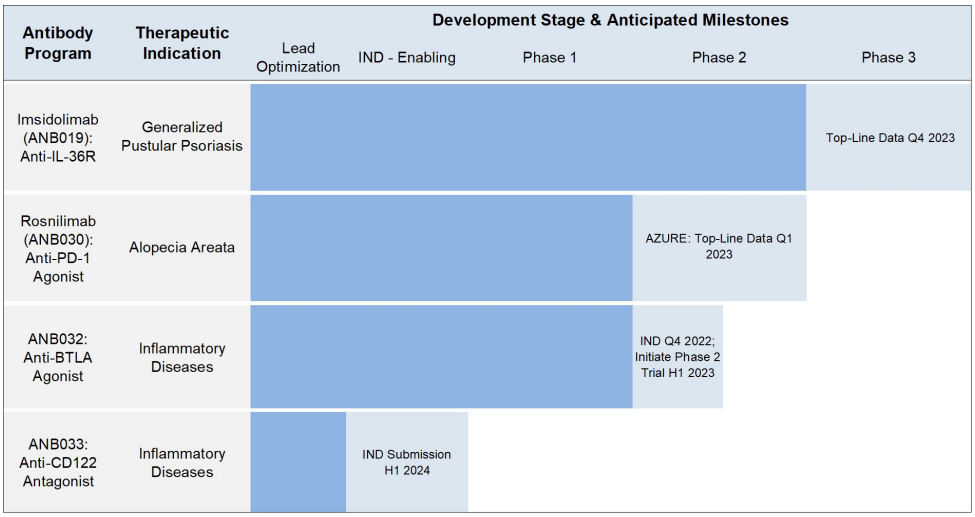
GSK is conducting additional combination trials of dostarlimab, including under separate collaborations, with Zejula, belantamab mafodotin (BCMA ADC), GSK6097608 (anti-CD96), GSK3745417 (STING agonist) and GSK4381562 (anti-PVRIG). Also, under a separate collaboration between GSK and iTeos Therapeutics, dostarlimab is being developed in combination with EOS-448 (anti-TIGIT) and inupadenant (A2A receptor antagonist) in various solid tumor indications, including registration-directed trials combining dostarlimab and EOS-448 for first -line PD-L1 high non-small cell lung cancer

(NSCLC) patients, head and neck squamous cell cancer (HNSCC) and a third undisclosed indication. In June 2021, GSK estimated potential peak annual global JEMPERLI sales on a non-risk adjusted basis of £1-£2 billion for currently approved indications and first-line use in endometrial and ovarian cancer only.

In October 2020, we amended our GSK collaboration to increase royalties on global net sales of JEMPERLI to 8% on annual global net sales below $1.0 billion and 12-25% of annual global net sales above $1.0 billion, add a 1% royalty rate on GSK's global net sales of Zejula and received a one-time cash payment of $60.0 million. In October 2021, we signed a royalty monetization agreement ("JEMPERLI Royalty Monetization Agreement") with Sagard Healthcare Royalty Partners ("Sagard"). Pursuant to this transaction, we received a $250.0 million payment upon closing in December 2021, in exchange for JEMPERLI royalties due to us on annual commercial sales below $1.0 billion and certain milestones starting in October 2021. The aggregate JEMPERLI royalties and milestones to be received by Sagard under the JEMPERLI Royalty Monetization Agreement is capped at certain fixed multiples of the upfront payment based upon time. For more information see Note 4 — Collaborative Research and Development Agreements and Note 5 — Sale of Future Royalties in the accompanying notes to the consolidated financial statements.

As referenced above, in connection with our amended GSK collaboration, in October 2020 GSK agreed, under the terms of a settlement agreement (the GSK Settlement Agreement), to pay us a royalty on all GSK net sales of Zejula starting January 1, 2021. Under the GSK Settlement Agreement, the royalty is paid at a rate of 1% but is subject to reduction due to royalties paid to third parties, with a minimum royalty payable under the GSK Settlement Agreement of 0.5% of global net sales of Zejula. The current effective royalty rate is 0.5%. In September 2022, we signed a royalty monetization agreement (the Zejula Royalty Monetization Agreement) with a wholly-owned subsidiary of DRI Healthcare Trust (DRI) to monetize all of our future royalties on global net sales of Zejula under the GSK Settlement Agreement. Under the terms of the Zejula Royalty Monetization Agreement, we received $35.0 million in exchange for all royalties payable by GSK to us under the GSK Settlement Agreement on global net sales of Zejula starting in July 2022. In addition, under the Zejula Royalty Monetization Agreement, we are entitled to receive an additional $10.0 million payment from DRI if Zejula is approved by the FDA for the treatment of endometrial cancer on or prior to December 31, 2025. For more information see Note 5 — Sale of Future Royalties in the accompanying notes to the consolidated financial statements.

The following table summarizes certain key information about our wholly-owned product candidates:



Components of Operating Results

Collaboration Revenue

We have not generated any revenue from product sales. Our revenue has been derived from amortization of upfront license payments, research and development funding, milestone and royalty payments under collaboration and license agreements with our collaborators. From inception through September 30, 2022, we have received $229.0 million in funding from our collaborators.

Research and Development Expense

Research and development expenses consist of costs associated with our research and development activities, including drug discovery efforts, preclinical and clinical development of our programs, and manufacturing. Our research and development expenses include:

- External research and development expenses incurred under arrangements with third parties, such as contract research organizations ("CROs"), consultants, members of our scientific and therapeutic advisory boards, and contract manufacturing organizations ("CMOs");
- Employee-related expenses, including salaries, benefits, travel, and stock-based compensation;
- Facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation of leasehold improvements and equipment, and laboratory supplies; and
- License and sub-license fees.

We expense research and development costs as incurred. We account for nonrefundable advance payments for goods and services that will be used in future research and development activities as expense when the service has been performed or when the goods have been received.

We are conducting research and development activities primarily on immunology therapeutic programs. We have a research and development team that conducts antibody discovery, characterization, translational studies, IND-enabling preclinical studies, and clinical development. We conduct some of our early research and preclinical activities internally and plan to rely on third parties, such as CROs and CMOs, for the execution of certain of our research and development activities, such as *in vivo* toxicology and pharmacology studies, drug product manufacturing, and clinical trials.

We have completed Phase 1 and Phase 2 clinical trials and have ongoing Phase 3 clinical trials for imsidolimab, completed a Phase 1 clinical trial and have an ongoing Phase 2 clinical trial in rosnilimab, and have completed a Phase 1 trial in ANB032. We expect our research and development expenses to be higher for the foreseeable future as we continue to advance our product candidates into larger clinical trials.

General and Administrative Expense

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation for our executive, finance, legal, business development, human resource, and support functions. Other general and administrative expenses include allocated facility-related costs not otherwise included in research and development expenses, travel expenses, and professional fees for auditing, tax, and legal services.

Non-cash Interest Expense for the Sale of Future Royalties

Non-cash interest expense for the sale of future royalties consists of interest related to the liability for the sale of future royalties, as well as the amortization of debt issuance costs. We impute interest on the unamortized portion of the liability for the sale of future royalties using the effective interest method and record interest expense based on timing of the payments over the terms of the JEMPERLI Royalty Monetization Agreement and Zejula Royalty Monetization Agreement. Our estimate of the interest rate under the arrangements is based on forecasted royalty and milestone payments expected to be made to Sagard and DRI over the life of the agreements.

Interest Income

Interest income consists primarily of interest earned on our short-term and long-term investments and is recognized when earned.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The preparation of these financial statements requires us to make judgments and estimates that affect the reported amounts of assets, liabilities, revenues, and expenses and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, we evaluate our judgments and estimates in light of changes in circumstances, facts, and experience. We believe there have been no significant changes in our critical accounting policies as discussed in our Annual Report on Form 10-K filed with the SEC on March 7, 2022.

Results of Operations - Comparison of the Three and Nine Months Ended September 30, 2022 and 2021

Collaboration Revenue

Collaboration revenue consists of both milestone payments under the collaborations, and royalty payments. We recognized $0 in milestone revenue during the three months ended September 30, 2022 compared to $20.0 million during the three months ended September 30, 2021, related to milestone payments associated with JEMPERLI, the anti-PD-1 antagonist antibody partnered with GSK. For the third quarter of 2021, milestone revenue reflects $20.0 million for first BLA approval in a second indication.

We recognized $0 and $60.0 million of milestone revenue during the nine months ended September 30, 2022 and 2021, respectively, related to milestone payments associated with JEMPERLI, the anti-PD-1 antagonist antibody partnered with GSK. For the nine months ended September 30, 2021, milestone revenue reflects $10.0 million for successful filing of the first BLA in a second indication for JEMPERLI, $20.0 million for first BLA approval in a first indication, $10.0 million for first MAA approval in a first indication, and $20.0 million for first BLA approval in a second indication.

We expect that any collaboration revenue we generate will continue to fluctuate from period to period as a result of the timing and amount of milestones from our existing collaborations.

Royalty revenue is a function of our partners' product sales and the applicable royalty rate. During the three months ended September 30, 2022 and 2021, we recognized $1.3 million and $0.9 million, respectively, related to the net sales of GSK's Zejula and JEMPERLI, which we estimated based on GSK's historical sales. All royalty revenue related to Zejula global net sales starting July 2022 will be paid directly to a wholly-owned subsidiary of DRI Healthcare Trust pursuant to the Zejula Royalty Monetization Agreement. For more information see Note 5 — Sale of Future Royalties in the accompanying notes to the consolidated financial statements.

During the nine months ended September 30, 2022 and 2021 we recognized $3.5 million and $2.2 million, respectively, of royalty revenue related to the net sales of GSK's Zejula and JEMPERLI.

Research and Development Expenses

Research and development expenses were $22.1 million during the three months ended September 30, 2022 compared to $22.2 million during the three months ended September 30, 2021 for a decrease of $0.1 million, primarily due to a $1.3 million increase in outside services for manufacturing expenses, offset by $0.8 million decrease in clinical expenses, $0.4 million decrease in salaries and related expenses, including stock compensation expense, and a $0.2 million decrease in other research and development expenses.

Research and development expenses were $65.4 million during the nine months ended September 30, 2022 compared to $71.7 million during the nine months ended September 30, 2021 for a decrease of $6.3 million, primarily due to a $4.9 million decrease in clinical expenses, $1.8 million decrease in outside services for manufacturing expenses, offset by a $0.3

million increase in salaries and related expenses, including stock compensation expense, and a $0.1 million increase in other research and development expenses.

We do not track fully burdened research and development costs separately for each of our product candidates. We review our research and development expenses by focusing on external development and internal development costs. External development expenses consist of costs associated with our external preclinical and clinical trials, including pharmaceutical development and manufacturing. Included in preclinical and other unallocated costs are external corporate overhead costs that are not specific to any one program. Internal costs consist of salaries and wages, stock-based compensation and benefits, which are not tracked by product candidate as several of our departments support multiple product candidate research and development programs. The following table summarizes the external costs attributable to each program and internal costs:

	Three Months Ended September 30,			Nine Months Ended September 30,		
(in thousands)	2022	2021	Increase/(Decrease)	2022	2021	Increase/(Decrease)
External Costs						
Imsidolimab	$ 9,946	$ 9,333	$ 613	$ 30,485	$ 33,803	$ (3,318)
Rosnilimab	1,733	1,969	(236)	5,425	6,160	(735)
ANB032	1,083	2,249	(1,166)	2,223	4,927	(2,704)
Etokimab	350	(465)	815	332	(375)	707
Preclinical and other unallocated costs	2,503	3,158	(655)	7,351	9,538	(2,187)
Total External Costs	15,615	16,244	(629)	45,816	54,053	(8,237)
Internal Costs	6,449	5,977	472	19,608	17,667	1,941
Total Costs	$ 22,064	$ 22,221	$ (157)	$ 65,424	$ 71,720	$ (6,296)

General and Administrative Expenses

General and administrative expenses were $8.9 million during the three months ended September 30, 2022 compared to $5.4 million during the three months ended September 30, 2021 for an increase of $3.5 million, primarily due to a $2.6 million increase in personnel costs including stock compensation expense, and a $0.9 million increase in other general and administrative expenses.

General and administrative expenses were $27.2 million during the nine months ended September 30, 2022 compared to $16.1 million during the nine months ended September 30, 2021 for an increase of $11.1 million, primarily due to a $10.2 million increase in personnel costs including stock compensation expense, which included $0.6 million in severance costs and $3.2 million in stock compensation expense due to the resignation of our former President and CEO, and a $0.9 million increase in other general and administrative expenses.

We expect that our general and administrative expenses will increase for the foreseeable future as we incur additional costs associated with being a publicly traded company, including legal, auditing and filing fees, additional insurance premiums, investor relations expenses and general compliance and consulting expenses. We also expect our intellectual property related legal expenses, including those related to preparing, filing, prosecuting and maintaining patent applications, to increase as our intellectual property portfolio expands.

Non-cash Interest Expense for the Sale of Future Royalties

Non-cash interest expense was $6.1 million and $16.9 million during the three and nine months ended September 30, 2022 compared to $0 during the three and nine months ended September 30, 2021. The increase in non-cash interest expense is due to interest recognized on the liabilities related to the sale of future royalties that were completed in September 2022 and December 2021.

Interest Income

Interest income was $2.3 million and $0.1 million during the three months ended September 30, 2022 and 2021, respectively, and $3.7 million and $0.4 million during the nine months ended September 30, 2022 and 2021, respectively,

which primarily related to our short-term and long-term investments. The increase in interest income is due to higher interest rates earned on investments and due to an increase in the available balance to invest as a result of the proceeds from the sale of future royalties completed in December 2021.

Other Income, Net

Other income, net was less than $0.1 million for both the three and nine months ended September 30, 2022 and 2021, which primarily related to foreign exchange transactions through our Australian subsidiary and with our foreign CROs and CMOs.

Liquidity and Capital Resources

From our inception through September 30, 2022, we have received an aggregate of $1.2 billion to fund our operations, which included $631.2 million from the sale of equity securities, $285.0 million from the sale of future royalties, and $229.0 million from our collaboration agreements. As of September 30, 2022, we had $590.5 million in cash, cash equivalents and investments.

In addition to our existing cash, cash equivalents and investments, we are eligible to earn milestone and other contingent payments for the achievement of defined collaboration objectives and certain nonclinical, clinical, regulatory and sales-based events, and royalty payments under our collaboration agreements, including the GSK Agreement and the GSK Settlement Agreement. Our ability to earn these milestone and contingent payments and the timing of achieving these milestones is primarily dependent upon the outcome of our collaborators' research and development activities. Our rights to payments under our collaboration agreements are our only committed external source of funds.

In October 2021, we signed the JEMPERLI Royalty Monetization Agreement with Sagard. Pursuant to this transaction we received a $250.0 million payment upon closing in December 2021, in exchange for JEMPERLI royalties due to us on annual commercial sales below $1.0 billion and certain future milestones starting in October 2021. We treated the sale of future revenue from the JEMPERLI Royalty Monetization Agreement with Sagard as debt, which will be amortized under the effective interest rate method over the estimated life of the related expected royalty stream. We recorded the upfront proceeds of $250.0 million, net of $0.4 million of transaction costs, as a liability related to the sale of future revenue. The liability and the related interest expense are based on our current estimates of future royalties and certain milestones expected to be paid over the life of the agreement. We will periodically assess the expected royalty and milestone payments and to the extent our future estimates or timing of such payments are materially different than our previous estimates, we will prospectively recognize related interest expense. Royalty revenue will be recognized as earned on net sales of JEMPERLI, and we will record the royalty payments to Sagard as a reduction of the liability when paid. As such payments are made to Sagard, the balance of the liability will be effectively repaid over the life of the JEMPERLI Royalty Monetization Agreement. For further discussion of the sale of future revenue, refer to Note 5 — Sale of Future Royalties in the accompanying notes to the consolidated financial statements.

In September 2022, we signed the Zejula Royalty Monetization Agreement with DRI. Pursuant to this transaction we received a $35.0 million payment in exchange for all royalties payable by GSK to us under the GSK Settlement Agreement on global net sales of Zejula starting in July 2022. We treated the sale of future revenue from the Zejula Royalty Monetization Agreement with DRI as debt, which will be amortized under the effective interest rate method over the estimated life of the related expected royalty stream. We recorded the upfront proceeds of $35.0 million, net of $0.2 million of transaction costs, as a liability related to the sale of future revenue. The liability and the related interest expense are based on our current estimates of future royalties expected to be paid over the life of the agreement. We will periodically assess the expected royalty and milestone payments and to the extent our future estimates or timing of such payments are materially different than our previous estimates, we will prospectively recognize related interest expense. Royalty revenue will be recognized as earned on net sales of Zejula, and we will record the royalty payments to DRI as a reduction of the liability when paid. As such payments are made to DRI, the balance of the liability will be effectively repaid over the life of the Zejula Royalty Monetization Agreement. For further discussion of the sale of future revenue, refer to Note 5 — Sale of Future Royalties in the accompanying notes to the consolidated financial statements.

In December 2021, we entered into an Open Market Sales Agreement with Jefferies LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Jefferies LLC as our sales agent. This agreement was terminated effective November 8, 2022.

In November 2022, we entered into the Cowen Sales Agreement with Cowen and Company, LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Cowen and Company, LLC as our sales agent.

Funding Requirements

We may seek to obtain additional financing in the future through equity or debt financings or through collaborations or partnerships with other companies. If we are unable to obtain additional financing on commercially reasonable terms, our business, financial condition and results of operations will be materially adversely affected.

Our primary uses of capital are, and we expect will continue to be, third-party clinical and preclinical research and development services, including manufacturing, laboratory and related supplies, compensation and related expenses, legal, patent and other regulatory expenses, and general overhead costs. We have entered into agreements with certain vendors for the provision of services, including services related to commercial manufacturing, that we are unable to terminate for convenience. Under such agreements, we are contractually obligated to make certain minimum payments to the vendors with the amounts to be based on the timing of the termination and the specific terms of the agreement.

Cash, cash equivalents and investments totaled $590.5 million as of September 30, 2022, compared to $615.2 million as of December 31, 2021. We believe that our existing cash, cash equivalents and investments will fund our current operating plan for at least the next twelve months from the issuance of our consolidated financial statements. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we expect. Additionally, the process of testing product candidates in clinical trials and seeking regulatory approval is costly, and the timing of progress and expenses in these trials is uncertain.

Cash Flows

The following table summarizes our cash flows for the nine months ended September 30, 2022 and 2021:

	Nine Months Ended September 30,	
(in thousands)	**2022**	**2021**
Net cash (used in) provided by:		
Operating activities	$ (62,908)	$ (20,619)
Investing activities	(416,342)	105,529
Financing activities	42,068	962
Net (decrease) increase in cash and cash equivalents	$ (437,182)	$ 85,872

Operating Activities

Net cash used in operating activities during the nine months ended September 30, 2022 of $62.9 million was primarily due to our net loss of $102.3 million, adjusted for addbacks for non-cash expenses of $38.5 million, which includes stock-based compensation, amortization of operating right-of-use assets, non-cash interest expense, and net increases in working capital of $0.9 million. Net cash used in operating activities during the nine months ended September 30, 2021 of $20.6 million was primarily due to our net loss of $25.3 million, adjusted for addbacks for non-cash expenses of $13.5 million, which includes stock-based compensation and amortization of operating right-of-use assets, and net decreases in working capital of $8.8 million.

Investing Activities

Net cash (used in) and provided by investing activities during the nine months ended September 30, 2022 and 2021 of $(416.3) million and $105.5 million, respectively, primarily relates to the timing of sales, maturities and purchases of our investments.

Financing Activities

The net cash provided by financing activities during the nine months ended September 30, 2022 of $42.1 million was primarily related to $35.0 million received for the sale of future royalties, $8.4 million for the issuance of common stock, offset by $1.0 million for repayments of the liability for the sale of future royalties with Sagard, and $0.3 million for payments for debt issuance costs. The net cash provided by financing activities during the nine months ended September 30, 2021 of $1.0 million primarily related to the issuance of common stock upon the exercise of stock options.

Contractual Obligations

We have entered into agreements with certain vendors for the provision of goods and services, which includes manufacturing services with contract manufacturing organizations and development services with contract research organizations. These agreements may include certain provisions for purchase obligations and termination obligations that could require payments for the cancellation of committed purchase obligations or for early termination of the agreements. The amount of the cancellation or termination payments vary and are based on the timing of the cancellation or termination and the specific terms of the agreement and therefore are cancellable contracts.

For further information related to our operating lease and future minimum annual obligations, see Note 9 — Commitments and Contingencies in the accompanying notes to the consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As of September 30, 2022, there have been no material changes surrounding our market risk, including interest rate risk, inflation risk, and foreign currency exchange risk from the discussion provided in Item 7A. Quantitative and Qualitative Disclosures About Market Risk of our Annual Report on Form 10-K filed with the SEC on March 7, 2022.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act") is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to our management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures. As of September 30, 2022, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the design and operation of our disclosure controls and procedures were effective at a reasonable assurance level.

Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective, and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(f) and 15d-15(f) of the Exchange Act that occurred during the quarter ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be involved in legal proceedings arising in the ordinary course of our business. We investigate these claims as they arise and accrue estimates for resolution of legal and other contingencies when losses are probable and estimable. Regardless of outcome, litigation can have an adverse impact on us due to defense and settlement costs, diversion of management resources, negative publicity and reputational harm, and other factors.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this report, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations, and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment.

Summary of Risk Factors

An investment in our common stock involves various risks, and prospective investors are urged to carefully consider the matters discussed in the section titled "Risk Factors" prior to making an investment in our common stock. These risks include, but are not limited to, the following:

- Our product candidates are in early stages of development and may fail in development or suffer delays that adversely affect their commercial viability. Results from our initial clinical trials may not be representative of the results we will experience in later clinical trials. If we or our collaborators are unable to complete development of or commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.
- We have only limited data regarding the safety profile of our product candidates when dosed in humans. Our ongoing and planned clinical trials or those of our collaborators may reveal significant adverse events, toxicities or other side effects and may result in a safety profile that could inhibit regulatory approval or market acceptance of any of our product candidates.
- We and/or our collaborators may be unable to obtain, or may be delayed in obtaining, required regulatory approvals in the United States or in foreign jurisdictions, which would materially impair our ability to commercialize and generate revenue from our product candidates.
- We may not be successful in our efforts to use our technology platform to expand our pipeline of product candidates and develop marketable products.
- We have recently commenced clinical development of rosnilimab, ANB032 and imsidolimab and have no history of commercializing biotechnology products, which may make it difficult to evaluate the prospects for our future viability.
- We face significant competition, and if our competitors develop and market products that are more effective, safer or less expensive than our product candidates, our commercial opportunities will be negatively impacted.
- Our product candidates may not achieve adequate market acceptance among physicians, patients, health care payors and others in the medical community necessary for commercial success.
- If companion diagnostics for our product candidates, for which such diagnostics are required, are not successfully, and in a timely manner, validated, developed or approved, we may not achieve marketing approval or realize the full commercial potential of our product candidates.
- The manufacture of biologics is complex, and our third-party manufacturers may encounter difficulties in production. If any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our

product candidates for clinical trials, our ability to obtain marketing approval, or our ability to provide supply of our products for patients, if approved, could be delayed or stopped.

- The COVID-19 pandemic has had a material impact on the U.S. and global economies and could have a material adverse impact on our employees, contractors, and patients, which could adversely and materially impact our business, financial condition, and results of operations.
- We have limited operating revenue and a history of operational losses and may not achieve or sustain profitability.
- We have no products approved for commercial sale, and to date we have not generated any revenue or profit from sales of our product candidates.
- We will require additional capital to finance our operations, which may not be available to us on acceptable terms, or at all. As a result, we may not complete the development and commercialization of our product candidates or develop new product candidates.
- We must attract and retain highly skilled employees in order to succeed.
- We currently have no marketing and sales force. If we are unable to establish effective sales or marketing capabilities or enter into agreements with third parties to sell or market our product candidates, we may not be able to effectively sell or market our product candidates, if approved, or generate product revenue.
- Our existing collaboration with GSK is important to our business, and future collaborations may also be important to us. If we are unable to maintain this collaboration, or if this collaboration is not successful, our business could be adversely affected.
- We may not succeed in establishing and maintaining additional development and commercialization collaborations, which could adversely affect our ability to develop and commercialize product candidates.
- Even if our product candidates receive regulatory approval, they will be subject to significant post-marketing regulatory requirements.
- If we are unable to obtain or protect intellectual property rights, we may not be able to compete effectively in our market.
- We may not be able to protect our intellectual property rights throughout the world.
- The market price of our stock has been and may continue to be volatile, and you could lose all or part of your investment.

Risks Related to Discovery and Development of Our Product Candidates

Our product candidates are in early stages of development and may fail in development or suffer delays that adversely affect their commercial viability. Results from our initial clinical trials may not be representative of the results we will experience in later clinical trials. If we or our collaborators are unable to complete development of or commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.

We are using our proprietary technology platform to develop therapeutic antibodies, including our wholly-owned product candidates, as well as other programs that are being developed by our collaborators. However, all of our wholly-owned and most of partnered product candidates are in various stages of development, and, for a wide variety of reasons discussed below, may fail in development or suffer delays that adversely affect their commercial viability.

A product candidate can unexpectedly fail at any stage of preclinical and clinical development. The historical failure rate for product candidates is high due to scientific feasibility, safety, efficacy, changing standards of medical care, and other variables. The results from preclinical testing or early clinical trials of a product candidate may not predict the results that will be obtained in later phase clinical trials of the product candidate. For example, results from our initial Phase 2a clinical trial of etokimab in moderate-to-severe atopic dermatitis patients were not representative of the results we experienced in our later etokimab moderate-to-severe atopic dermatitis Phase 2b clinical trial called “ATLAS” and we ultimately discontinued development of etokimab.

Furthermore, we may conduct clinical trials of a product candidate in multiple indications based on assumptions about the product candidate's mechanism of action. However, it is possible that our assumptions regarding the effectiveness of a product candidate's mechanism of action may be incorrect and that the product candidate may be ineffective in certain diseases or disorders. If this were the case, then the results from any clinical trials of a product candidate that we conduct are less likely to be positive. For example, we believed imsidolimab's mechanism of action, the inhibition of IL-36R, provided the potential for imsidolimab to be effective for treatment of a range of dermatological inflammatory diseases. However, top-line data from clinical trials of imsidolimab in indications other than GPP did not demonstrate efficacy, and we do not currently plan to conduct further development of imsidolimab in indications other than GPP.

If our other ongoing or future clinical trials of any of our product candidates, including rosnilimab, ANB032 or imsidolimab, are unsuccessful, whether for one of the reasons mentioned above or otherwise, our product candidates may be delayed in development or fail entirely, which would have a material adverse impact on our business.

The success of our current product candidates, and any other product candidates we may develop in the future, will depend on many factors, including the following:

- obtaining regulatory permission to initiate clinical trials;
- successful enrollment of patients in, and the completion of, our planned clinical trials;
- receiving marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities and/or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and non-patent exclusivity for our product candidates and their components;
- enforcing and defending intellectual property rights and claims;
- achieving desirable therapeutic properties for our product candidates' intended indications;
- launching commercial sales of our product candidates, if and when approved, whether alone or in collaboration with third parties;
- acceptance of our product candidates, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies; and
- maintaining an acceptable safety profile of our product candidates through clinical trials and following regulatory approval.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would harm our business.

Furthermore, delays or difficulties in patient enrollment or difficulties in retaining trial participants can result in increased costs, longer development times, or termination of a clinical trial. Clinical trials of a new product candidate require the enrollment of a sufficient number of patients, including patients who are suffering from the disease the product candidate is intended to treat and who meet other eligibility criteria. Rates of patient enrollment are affected by many factors, including the size of the patient population, the eligibility criteria for the clinical trial, the age and condition of the patients, the stage and severity of disease, the nature of the protocol, the proximity of patients to clinical sites, and the availability of effective treatments for the relevant disease. We may not be able to initiate our planned clinical trials if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or foreign regulatory authorities. More specifically, some of our product candidates, including imsidolimab, initially target indications that are very rare, which can prolong the clinical trial timeline for the regulatory process if sufficient patients cannot be enrolled in a timely manner. We recently discontinued imsidolimab clinical development for EGFR-mediated skin toxicities due, in part, to slower than anticipated enrollment in planned clinical trials.

We have only limited data regarding the safety profile of our product candidates when dosed in humans. Our ongoing and planned clinical trials or those of our collaborators may reveal significant adverse events, toxicities or other side effects and may result in a safety profile that could inhibit regulatory approval or market acceptance of any of our product candidates.

In order to obtain marketing approval for any of our product candidates, we must demonstrate the safety and efficacy of the product candidate for the relevant clinical indication or indications through preclinical studies and clinical trials as well as additional supporting data. If our product candidates are associated with undesirable side effects in preclinical studies or clinical trials or have characteristics that are unexpected, we may need to interrupt, delay or abandon their development or limit development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective.

We have conducted various preclinical studies of our product candidates, but we do not know the predictive value of these studies for humans, and we cannot guarantee that any positive results in preclinical studies will successfully translate to human patients. We have only completed Phase 1 and Phase 2 clinical trials with imsidolimab, and subsequent clinical trials with imsidolimab and other clinical trials with rosnilimab and ANB032 are currently ongoing. It is not uncommon to observe results in human clinical trials that are unexpected based on preclinical testing, or to observe results in later stage clinical trials that are unexpected based on early clinical trials. Many product candidates fail in clinical trials despite promising preclinical and early clinical results. In addition, top-line results of a clinical trial, which generally reflect preliminary reviews of primary efficacy and/or safety results, do not necessarily predict final results, and any top-line findings or assessments are subject to change pending the completion of final data review procedures. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for their products.

Some patients in our clinical trials have experienced adverse events, including serious adverse events. We reported that one patient dropped out of the GALLOP Phase 2 clinical trial for imsidolimab due to diagnosis with Staphylococcal aureus bacteremia on Day 3 post-imsidolimab administration, which was a serious adverse event deemed to be possibly drug-related. Subjects in our ongoing and planned clinical trials may in the future suffer significant adverse events or other side effects not observed in our preclinical studies or in our Phase 1 or Phase 2 clinical trials. The observed potency and kinetics of our product candidates in preclinical studies may not be observed in human clinical trials. We have tested the dosing frequency and route of administration of our product candidates in preclinical studies, which will inform our dosing strategy for future clinical trials, however such dose and route of administration may not result in sufficient exposure or pharmacological effect in humans and may lead to unforeseen toxicity not previously observed in preclinical testing. If preclinical studies of our product candidates fail to provide preliminary evidence of safety to the satisfaction of regulatory authorities or do not otherwise produce satisfactory results, we may incur additional costs or experience delays in initiating and/or advancing the development and commercialization of our product candidates. Further, if clinical trials of our product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we or our collaborators may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

If further significant adverse events or other side effects are observed in any of our current or future clinical trials, we may have difficulty recruiting patients to the clinical trial, patients may drop out of our trial, or we may be required to abandon the trial or our development efforts of that product candidate altogether. We, the FDA, or other applicable regulatory authorities, or an institutional review board or ethics committee, may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects in such clinical trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage studies have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude a product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of the approved product due to its tolerability versus other therapies. Any of these developments could materially harm our business, financial condition and prospects.

Further, if any of our product candidates obtain marketing approval, toxicities associated with our product candidates may also develop after such approval and lead to a requirement to conduct additional clinical safety trials, additional warnings being added to the labeling, significant restrictions on the use of the product or the withdrawal of the product from the market. We cannot predict whether our product candidates will cause toxicities in humans that would preclude or lead to the revocation of regulatory approval based on preclinical studies or early stage clinical testing.

We and/or our collaborators may be unable to obtain, or may be delayed in obtaining, required regulatory approvals in the United States or in foreign jurisdictions, which would materially impair our ability to commercialize and generate revenue from our product candidates.

Our ability to continue to develop our product candidates, and to have the potential to achieve and sustain profitability, depends on the FDA and foreign regulatory authorities permitting us to conduct human clinical trials and, if our product candidates are safe and effective, obtaining approval from the FDA and foreign regulatory authorities to market them and subsequently successfully commercializing them, either alone or with our collaborators. The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug and biologic products are subject to extensive regulation by the FDA and foreign regulatory authorities. Though we have cleared an IND and clinical trial application ("CTA") to conduct clinical trials for imsidolimab in the United States and certain foreign jurisdictions, we have cleared an IND to conduct a clinical trial for rosnilimab in the United States and we have cleared a CTA to conduct a clinical trial for ANB032 in Australia, before commencing clinical trials in the United States for ANB032 or any other product candidate, we must submit an IND to the FDA; foreign regulatory authorities enforce similar requirements for initiation of clinical trials in other countries. An IND or foreign equivalent requires extensive preclinical studies, and there is no guarantee that the FDA or foreign regulatory authorities will allow clinical trials to proceed based on the IND or equivalent submission. For example, although we have initiated toxicology studies for our product candidates, the FDA in the United States, or other foreign regulatory authorities, as applicable, may not allow our clinical trials to proceed in the regulatory authority's jurisdiction if we are unable to show safety margins acceptable to the particular regulatory authority in appropriate animal species in our preclinical toxicology studies.

Even if we or our collaborators initiate and complete clinical trials for our product candidates, these product candidates will not be permitted to be marketed in the United States until approval of a BLA from the FDA is received, and will not be permitted to be marketed in other countries without marketing approval from foreign regulatory authorities. Obtaining approval of a BLA or other marketing approvals is often a lengthy, expensive and uncertain process over which the FDA and foreign regulatory authorities have substantial discretion. Other than submitting and receiving acceptance for initiation of our previous and current clinical trials in the United States and certain foreign jurisdictions, we have had only limited discussions with the FDA and no discussions with foreign regulatory authorities regarding the development plans for any of our product candidates or the designs of any of our later-stage clinical studies. We thus may not have the full benefit of the FDA's or foreign regulatory authorities' current thinking on clinical trial designs or product development for our target indications. For example, we believe our planned Phase 3 trials for imsidolimab for GPP, GEMINI-1 and GEMINI-2, with GEMINI-1 enrolling approximately 45 moderate-to-severe GPP patients, will be sufficient to demonstrate substantial evidence of efficacy and safety of imsidolimab in GPP patients and obtain BLA approval, and we discussed these plans with the FDA in an end-of-Phase 2 meeting, during the second quarter of 2021. However, the FDA may determine, based on future clinical efficacy and safety data from our GPP studies, that we will need additional clinical trials in order to obtain approval of a BLA.

Preclinical studies and clinical trials are expensive, difficult to design and implement, can take many years to complete, and are uncertain as to outcome. Product candidates, on average, take 10 to 15 years to be developed from the time they are discovered to the time they are approved and available for treating patients. The start or end of a clinical trial is often delayed or halted for many reasons, including:

- imposition of a clinical hold for safety reasons or following an inspection of clinical trial operations or site by the FDA or other regulatory authorities;
- manufacturing challenges;
- insufficient supply or quality of product candidates or other materials necessary to conduct clinical trials;
- delays in reaching or failure to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites and CROs or failure by such CROs or trials sites to carry out the clinical trial in accordance with our agreed-upon terms;
- non-clinical or clinical sites becoming unavailable due to political, economic, or public health events, such as the COVID-19 pandemic;
- clinical sites electing to terminate their participation in one of our clinical trials;
- inability or unwillingness of patients or medical investigators to follow clinical trial protocols;
- required clinical trial administrative actions;

- slower than anticipated patient enrollment;
- changing standards of care;
- safety concerns;
- availability or prevalence of use of a comparative drug or required prior therapy; or
- clinical outcomes or financial constraints.

Our product candidates may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. Regulatory authorities may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical or other studies or clinical trials. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Moreover, regulatory authorities may determine that the clinical and other benefits of a product candidate do not outweigh the safety or other risks. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application may also cause delays in or prevent the approval of an application.

If we or our collaborators experience any of the issues described above, or other similar or related issues, we or our collaborators may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;
- obtain marketing approval in some countries and not in others;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

We may not be successful in our efforts to use our technology platform to expand our pipeline of product candidates and develop marketable products.

Because we have limited financial and managerial resources, we focus on research programs and product candidates that we identify for specific indications. Our business depends on our successful development and commercialization of the limited number of internal product candidates we have in preclinical and early-stage clinical development. Even if we are successful in continuing to build our pipeline, development of the potential product candidates that we identify will require substantial investment in additional clinical development, management of clinical, preclinical and manufacturing activities, regulatory approval in multiple jurisdictions, building a commercial organization, and significant marketing efforts before we generate any revenue from product sales. Furthermore, such product candidates may not be suitable for clinical development, including as a result of their harmful side effects, limited efficacy or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we cannot validate our technology platform by successfully developing and commercializing product candidates based upon our technological approach, we may not be able to obtain product or partnership revenue in future periods, which would adversely affect our business, prospects, financial condition and results of operations.

As a result of our current focus on our lead product candidates, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. Our understanding and evaluation of biological targets for the discovery and development of new product candidates may fail to identify challenges encountered in subsequent preclinical and clinical development. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable

rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights.

We have recently commenced clinical development of rosnilimab, ANB032 and imsidolimab and have no history of commercializing biotechnology products, which may make it difficult to evaluate the prospects for our future viability.

Our operations to date have been largely limited to financing and staffing our company, developing our technology, and developing our wholly-owned product candidates and other product candidates in partnerships with our collaborators. As a company, we have only very limited experience conducting pivotal Phase 3 clinical trials and have not had previous experience commercializing product candidates, including submitting a BLA to the FDA. In part because of this lack of experience, we cannot be certain that planned clinical trials will begin or be completed on time, if at all, that our planned development programs would be acceptable to the FDA or other regulatory authorities, or that, if approval is obtained, such product candidates can be successfully commercialized. Clinical trials and commercializing our wholly-owned product candidates will require significant additional financial and management resources, and reliance on third-party clinical investigators, CROs, consultants or collaborators. Relying on third-party clinical investigators, CROs or collaborators may result in delays that are outside of our control.

Furthermore, we may not have the financial resources to continue development of, or to enter into collaborations for, a product candidate if we experience any problems or other unforeseen events that delay or prevent regulatory approval of, or our ability to commercialize, product candidates, including:

- negative or inconclusive results from our clinical trials or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;
- delays in submitting INDs 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;
- conditions imposed by the FDA or foreign regulatory authorities regarding the number, scope or design of our clinical trials;
- delays in enrolling research subjects in clinical trials;
- high drop-out rates of research subjects;
- inadequate supply or quality of clinical trial materials or other supplies necessary for the conduct of our clinical trials;
- greater than anticipated clinical trial costs;
- poor effectiveness or unacceptable side effects of our product candidates during clinical trials;
- unfavorable FDA or other regulatory agency inspection and review of a clinical trial 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;
- serious and unexpected drug-related side effects experienced by participants in our planned clinical trials or by individuals using drugs similar to our product candidates;
- delays and changes in regulatory requirements, policy and guidelines, including the imposition of additional regulatory oversight around clinical testing generally or with respect to our technology in particular; or
- varying interpretations of data by the FDA and foreign regulatory authorities.

Consequently, any predictions you make about our future success or viability based on our short operating history may not be as accurate as they could be if we had a longer operating history or an established track record in conducting clinical trials or commercializing products.

Further, as a clinical stage business, we may encounter unforeseen expenses, difficulties, complications, delays, and other known and unknown factors. We will need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We face significant competition, and if our competitors develop and market products that are more effective, safer or less expensive than our product candidates, our commercial opportunities will be negatively impacted.

The biotechnology industry is highly competitive and subject to rapid and significant technological change. Products we may develop in the future are also likely to face competition from other drugs and therapies, some of which we may not currently be aware. We have competitors both in the United States and internationally, including major multinational pharmaceutical and biotechnology companies, established biotechnology companies, specialty biotechnology companies, emerging and start-up companies, universities and other research institutions. Many of our competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources and commercial expertise than we do. Large pharmaceutical and biotechnology companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients and manufacturing biotechnology products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical and biotechnology companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. As a result of all of these factors, our competitors may succeed in obtaining patent protection and/or approval from the FDA or foreign regulatory authorities or discovering, developing and commercializing products in our field before we do.

For our anti-PD-1 agonist antibody program, our competitors include other anti-PD-1 agonist antibodies peresolimab (Eli Lilly) in Phase 2b development for the treatment of Rheumatoid Arthritis, JNJ-67484703 (Janssen) in Phase 2 development, a PD-1 agonist antibody (Boehringer Ingelheim) in Phase 1 development, PT627 and PT001 (Pandion Therapeutics, which has been acquired by Merck) in preclinical development, and MB151 (MiroBio, which has been acquired by Gilead) in preclinical development.

For moderate-to-severe alopecia areata, our competitors include topical and oral corticosteroids, topical immunotherapy (diphencyprone, dinitrochlorobenzene, squaric acid dibutyl ester), calcineurin inhibitors (tacrolimus, pimecrolimus), prostaglandins, an anti-ILT7 monoclonal antibody, and janus kinase inhibitors (baricitinib, tofacitinib, ruxolitinib, and CTP-543) in clinical development. In June 2022, the FDA approved Olumiant (baricitinib) for the treatment of adults with severe alopecia areata.

For our anti-BTLA agonist antibody program, our competitors include other anti-BTLA agonist antibodies LY3361237 (Eli Lilly) in Phase 2 development, which has demonstrated efficacy in treatment of systemic lupus erythematosus as measured by the cutaneous lupus erythematosus disease area and severity index (CLASI), and MB272 (MiroBio, which has been acquired by Gilead) in preclinical development.

For our anti-CD122 antagonist antibody program, our competitors include one other anti-CD122 antagonist antibody, auremolimab (Villaris Therapeutics, which has been acquired by Incyte), currently in preclinical development, and an anti-IL-15 monoclonal antibody, AMG 714 (Amgen), currently in Phase 2 development for the treatment of vitiligo.

For GPP, our competitors include one other anti-IL-36 receptor antibody called SPEVIGO or spesolimab (Boehringer Ingelheim), recently approved for GPP flares in adults.

With the enactment of the Biologics Price Competition and Innovation Act of 2009 (“BPCIA”), an abbreviated pathway for the approval of biosimilar and interchangeable biological products was created. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as interchangeable based on its similarity to an existing reference product. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the original branded product is approved under a BLA. To date, several biosimilar products have been approved under the BPCIA, but no interchangeable biological products have been approved. 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 biological products.

We believe that if any of our product candidates are approved as a biological product under a BLA it should qualify for the 12-year period of exclusivity. However, there is a risk that the FDA will not consider any of our product candidates to be reference products for competing products, potentially creating the opportunity for biosimilar competition sooner than anticipated. Additionally, this period of regulatory exclusivity does not apply to companies pursuing regulatory approval via their own traditional BLA, rather than via the abbreviated pathway. Moreover, the extent to which a biosimilar, 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.

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 effects, are more convenient, are less expensive or capture significant market share prior to or during our commercialization. Our competitors also may obtain FDA or other regulatory 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. In addition, our ability to compete may be affected in many cases by insurers or other third party payors seeking to encourage the use of biosimilar products. Even if our product candidates achieve marketing approval, they may be priced at a significant premium over competitive biosimilar products if any have been approved by then.

Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These companies compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for planned clinical trials and acquiring technologies complementary to, or necessary for, our programs. In addition, the biotechnology industry is characterized by rapid technological change. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or products developed by our competitors may render our technologies or product candidates obsolete, less competitive or not economical.

Our product candidates may not achieve adequate market acceptance among physicians, patients, health care payors and others in the medical community necessary for commercial success.

Even if our product candidates receive regulatory approval, they may not gain adequate market acceptance among physicians, patients, health care payors and others in the medical community. The degree of market acceptance of any of our approved product candidates will depend on a number of factors, including:

- the efficacy and safety profile as demonstrated in planned clinical trials;
- the timing of market introduction of the product candidate as well as competitive products;
- the clinical indications for which the product candidate is approved;
- restrictions on the use of our products, if approved, such as boxed warnings or contraindications in labeling or a risk evaluation and mitigation strategy (“REMS”), if any, which may not be required of alternative treatments and competitor products;
- acceptance of the product candidate as a safe and effective treatment by physicians, clinics and patients;
- the potential and perceived advantages of product candidates over alternative treatments, including any similar generic treatments;
- the cost of treatment in relation to alternative treatments;
- the availability of coverage and adequate reimbursement and pricing by third parties and government authorities;
- relative convenience and ease of administration;
- the frequency and severity of adverse events;
- the effectiveness of sales and marketing efforts; and
- unfavorable publicity relating to the product candidate.

If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, hospitals, health care payors and patients, we may not generate or derive sufficient revenue from that product candidate and may not become or remain profitable.

If companion diagnostics for our product candidates, for which such diagnostics are required, are not successfully, and in a timely manner, validated, developed or approved, we may not achieve marketing approval or realize the full commercial potential of our product candidates.

If companion diagnostics are developed in conjunction with clinical programs, the FDA may require regulatory approval of a companion diagnostic as a condition to approval of the product candidate. For example, if we use a genetic test to determine which patients are most likely to benefit from imsidolimab for the treatment of GPP by designing our pivotal clinical trial or clinical trials of imsidolimab in that indication to require that subjects test positive for specific genetic mutations as a criterion for enrollment, then we will likely be required to obtain FDA approval or clearance of a companion diagnostic, concurrent with approval of imsidolimab, to test for those genetic mutations; we may also be required to demonstrate to the FDA the predictive utility of the companion diagnostic—namely, that the diagnostic selects for patients in whom the biologic therapy will be effective or more effective compared to patients not selected for by the diagnostic. We do not have experience or capabilities in developing or commercializing diagnostics and plan to rely in large part on third parties to perform these functions. We do not currently have any agreement in place with any third party to develop or commercialize companion diagnostics for any of our product candidates. Companion diagnostics are subject to regulation by the FDA and foreign regulatory authorities as medical devices and require separate regulatory approval or clearance prior to commercialization.

If we or our partners, or any third party, are unable to successfully develop companion diagnostics for our product candidates, or experience delays in doing so:

- the development of our product candidates may be adversely affected if we are unable to appropriately select patients for enrollment in our planned clinical trials;
- our product candidates may not receive marketing approval if their safe and effective use depends on a companion diagnostic; and
- we may not realize the full commercial potential of any product candidates that receive marketing approval if, among other reasons, we are unable to appropriately identify patients with the specific genetic alterations targeted by our product candidates.

In addition, although we believe genetic testing is becoming more prevalent in the diagnosis and treatment of various diseases and conditions, our product candidates may be perceived negatively compared to alternative treatments that do not require the use of companion diagnostics, either due to the additional cost of the companion diagnostic or the need to complete additional procedures to identify genetic markers prior to administering our product candidates.

If any of these events were to occur, our business would be harmed, possibly materially.

The manufacture of biologics is complex, and our third-party manufacturers may encounter difficulties in production. If any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials, our ability to obtain marketing approval, or our ability to provide supply of our products for patients, if approved, could be delayed or stopped.

The process of manufacturing biologics is complex, highly regulated and subject to multiple risks, and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturing biologics is highly susceptible to product loss due to contamination, equipment failure, improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply or supply chain disruptions. If microbial, viral or other contaminations are discovered at the facilities of our manufacturer, such facilities may need to be closed for an extended period of time to investigate and remedy the contamination, which could delay clinical trials and adversely harm our business. We and our contract manufacturers must comply with current good manufacturing practices (“cGMPs”) for the manufacturing of biologics used in clinical trials and, if approved, marketed products. Moreover, if the FDA determines that our manufacturer is not in compliance with FDA laws and regulations, including cGMPs, the FDA may deny BLA approval until the deficiencies are corrected or we replace the manufacturer in our BLA with a manufacturer that is in compliance.

Furthermore, all of our therapeutic antibodies are manufactured by starting with cells which are stored in a cell bank. We have one master cell bank for each antibody manufactured in accordance with cGMP and multiple working cell banks and

believe we would have adequate backup should any cell bank be lost in a catastrophic event. However, it is possible that we could lose multiple cell banks and have our manufacturing severely impacted by the need to replace the cell banks.

In addition, there are risks associated with large scale manufacturing for clinical trials or commercial scale including, among others, cost overruns, potential problems with process scale-up, process reproducibility, stability issues, compliance with good manufacturing practices, lot consistency and timely availability of raw materials. Even if we or our collaborators obtain regulatory approval for any of our product candidates, there is no assurance that manufacturers will be able to manufacture the approved product to specifications acceptable to the FDA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the product or to meet potential future demand. Moreover, we source certain of the raw materials needed for our product candidates from outside the U.S. Although we have not experienced any material supply interruptions to date, it is possible that political, economic or public health events, such as the COVID-19 pandemic, could cause such interruptions in the future. If our manufacturers are unable to produce sufficient quantities for clinical trials or for commercialization, commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects. Any delay or interruption in the supply of clinical trial supplies could delay the completion of planned clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Any adverse developments affecting clinical or commercial manufacturing of our product candidates or products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our product candidates or products.

Scaling up a biologic manufacturing process is a difficult and uncertain task, and we may not be successful in transferring our production system or the manufacturer may not have the necessary capabilities to complete the implementation and development process. If we are unable to adequately validate or scale-up the manufacturing process with our current manufacturers, we will need to transfer to other manufacturers and complete the manufacturing validation process, which can be lengthy and costly. Even if we are able to adequately validate and scale-up the manufacturing process for our product candidates with contract manufacturers, we will still need to negotiate with such contract manufacturers agreements for commercial supply, and it is not certain we will be able to come to agreement on terms acceptable to us. Accordingly, failures or difficulties faced at any level of our manufacturing process could adversely affect our business and delay or impede the development and commercialization of our product candidates or products and could have an adverse effect on our business, prospects, financial condition and results of operations.

The COVID-19 pandemic has had a material impact on the U.S. and global economies and could have a material adverse impact on our employees, contractors and patients, which could adversely and materially impact our business, financial condition and results of operations.

The COVID-19 pandemic and mitigation measures have had, and may continue to have, an adverse impact on global economic conditions, which could have an adverse effect on our business and financial condition, including impairing our ability to raise capital when needed. The extent to which the COVID-19 pandemic impacts our business and operations will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of the virus and the actions to contain its impact.

Risks Related to Our Financial Position and Capital Needs

We have limited operating revenue and a history of operational losses and may not achieve or sustain profitability. We have no products approved for commercial sale, and to date we have not generated any revenue or profit from sales of our product candidates.

We are an early-stage biotechnology company with a limited operating history. We have no approved products. To date, our revenue has been primarily derived from our GSK research collaboration and license agreement, and royalty monetization agreements based on our GSK collaboration, and we are significantly dependent on such collaborators for the successful development of product candidates in these collaborations. Our ability to generate revenue and become profitable depends upon our ability, alone or with our collaborators, to successfully complete the development of our product candidates for our target indications and to obtain necessary regulatory approvals.

Since our inception, we have incurred significant operating losses in every year except fiscal year 2014. We had $3.5 million in collaboration revenue and our net loss was $102.3 million for the nine months ended September 30, 2022 and a net

loss of $25.3 million for the nine months ended September 30, 2021, with $62.2 million in collaboration revenue. As of September 30, 2022, we had an accumulated deficit of $424.1 million.

We have financed our operations primarily through our initial public offering of common stock in January 2017, our follow-on public offerings of common stock in October 2017 and September 2018, our JEMPERLI Royalty Monetization Agreement, and our Zejula Royalty Monetization Agreement. We have devoted substantially all of our efforts to research and development. We have only recently initiated clinical development for three of our product candidates and expect that it will be several years, if ever, before we have a product candidate ready for commercialization. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future, and the net losses we incur may fluctuate significantly from quarter to quarter. Our revenue has been historically derived from amortization of upfront payments, research and development funding, milestone and royalty payments under collaboration and license agreements with our collaborators. Our ability to generate future product revenue from our current or future product candidates depends on a number of additional factors, including our ability (or as applicable our collaborators' ability) to:

- continue research and preclinical development of our product candidates;
- identify additional product candidates;
- maintain existing and enter into new collaboration agreements;
- conduct additional preclinical studies and initiate clinical trials for our product candidates;
- obtain approvals for the product candidates we develop or developed under our collaboration arrangements;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional executive, clinical, quality control and scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts;
- establish and maintain supply and manufacturing relationships with third parties and ensure adequate and legally compliant manufacturing of our product candidates;
- obtain coverage and adequate product reimbursement from third-party payors, including government payors;
- acquire or in-license other product candidates and technologies; and
- achieve market acceptance for our or our collaborators' products, if any.

We are unable to predict the timing or amount of increased expenses, or when, or if, we will be able to achieve or maintain profitability because of the numerous risks and uncertainties associated with product development. In addition, our expenses could increase significantly beyond expectations if we are required by the FDA or other regulatory authorities to perform studies or clinical trials in addition to those that we currently anticipate. Even if any of our product candidates are approved for commercial sale, we anticipate incurring significant costs associated with the commercial launch of any product candidate.

We are currently only in the clinical development stages for our most advanced product candidates. In order to become and remain profitable we must, alone or with our collaborators, develop and eventually commercialize a product or products with significant market potential. This may require us to be successful in a range of challenging activities, including completing clinical trials of our product candidates, successfully developing companion diagnostics, obtaining marketing approval for these product candidates and manufacturing, marketing and selling those products for which we may obtain marketing approval. We may never succeed in these activities and, even if we do, may never generate revenues that are significant or large enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain or expand our research and development efforts, expand our business or continue our operations. A decline in the value of our company would also cause you to lose part or even all of your investment.

We will require additional capital to finance our operations, which may not be available to us on acceptable terms, or at all. As a result, we may not complete the development and commercialization of our product candidates or develop new product candidates.

As a research and development company, our operations have consumed substantial amounts of cash since our inception. We expect our research and development expenses to increase substantially in connection with our ongoing activities, particularly as we continue our discovery and preclinical development to identify new clinical candidates, and we and our collaborators conduct clinical trials of, and seek marketing approval for, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Furthermore, we incur additional costs associated with operating as a public company. We believe that our existing cash, cash equivalents and investments will fund our current operating plan for at least the next 12 months. However, circumstances may cause us to consume capital more rapidly than we currently anticipate. For example, as we continue to move our product candidates through preclinical studies, submit INDs or foreign equivalents and conduct clinical development, we may have adverse results requiring us to find new product candidates. Any of these events may increase our development costs more than we expect. We may need to raise additional funds or otherwise obtain funding through collaboration agreements to continue development of our product candidates.

If we need to secure additional financing, such additional fundraising efforts may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. If we do not raise additional capital when required or on acceptable terms, we may need to:

- significantly delay, scale back or discontinue the development or commercialization of our product candidates or cease operations altogether;
- seek strategic alliances for research and development programs at an earlier stage than we would otherwise desire or on terms less favorable than might otherwise be available;
- relinquish, or license on unfavorable terms, our rights to technologies or future product candidates that we otherwise would seek to develop or commercialize ourselves; or
- eliminate staff to conserve resources.

If we need to conduct additional fundraising activities and we do not raise additional capital in sufficient amounts or on terms acceptable to us, we may be prevented from pursuing development and commercialization efforts, which will have a material adverse effect on our business, operating results and prospects. Adverse macro-economic conditions, including volatility in equity capital markets, rising interest rates, and fluctuations in foreign exchange rates, could prevent us from raising additional capital in sufficient amounts or on terms acceptable to us or at all. Our forecast of the period of time through which our financial resources will adequately support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed elsewhere in this “Risk Factors” section. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Our future funding requirements, both short and long-term, will depend on many factors, including:

- the initiation, progress, timing, costs and results of preclinical studies and clinical trials for our product candidates and future product candidates we may develop;
- the number and size of clinical trials needed to show safety, efficacy and an acceptable risk/benefit profile for any of our product candidates;
- the outcome, timing and cost of seeking and obtaining regulatory approvals from the FDA and foreign regulatory authorities, including the potential for such authorities to require that we perform more studies or trials than those that we currently expect;
- the commercial success or failure of products sold by our collaborators, such as JEMPERLI by GSK, and the timing thereof;
- our ability to maintain existing and enter into new collaboration agreements;

- the cost to establish, maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with licensing, preparing, filing, prosecuting, defending and enforcing of any patents or other intellectual property rights;
- the effect of competing technological and market developments;
- market acceptance of any approved product candidates;
- the costs of acquiring, licensing or investing in additional businesses, products, product candidates and technologies;
- the cost of recruiting and retaining key employees, including a search for a permanent replacement President and Chief Executive Officer, if applicable;
- the costs and fees associated with any delays or cancellations of forecasted manufacturing batches;
- the cost and timing of selecting, auditing and potentially validating manufacturing sites for commercial-scale manufacturing; and
- the cost of establishing sales, marketing and distribution capabilities for our product candidates for which we may receive regulatory approval and that we determine to commercialize ourselves or in collaboration with our collaborators.

If we cannot expand our operations or otherwise capitalize on our business opportunities due to a lack of capital, our business, financial condition and results of operations could be adversely affected.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product candidates on unfavorable terms to us.

We may seek additional capital through a variety of means, including through public or private equity, debt financings or other sources, including up-front payments and milestone payments from strategic collaborations, license agreements and royalty agreements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Such financing may result in dilution to stockholders, imposition of debt covenants, increased fixed payment obligations, or other restrictions that may affect our business. If we raise additional funds through up-front payments or milestone payments pursuant to strategic collaborations with third parties, we may have to relinquish valuable rights to our product candidates or grant licenses on terms that are not favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Risks Related to Managing Growth, Operations and Macroeconomic Conditions

We must attract and retain highly skilled employees in order to succeed.

To succeed, we must recruit, retain, manage and motivate qualified clinical, scientific, technical and management personnel, and we face significant competition for experienced personnel. This is especially critical as we ramp up our hiring needs entering into later-stage product development of our product candidates. If we do not succeed in attracting and retaining qualified personnel, particularly at the management level, it could adversely affect our ability to execute our business plan, harm our operating results and adversely affect our ability to successfully commercialize our product candidates. In particular, we believe that our future success is highly dependent upon the contributions of our senior management, particularly our Interim President and Chief Executive Officer, as well as our senior scientists. The loss of services of any of these individuals, who all have at-will employment arrangements with us, could delay or prevent the successful development of our product pipeline, completion of our planned clinical trials or the commercialization of our product candidates, if approved. In March 2022, Daniel Faga, a Class I director of our Board, was appointed as our Interim President and Chief Executive Officer. We may in the future conduct a search to identify a permanent replacement to serve as our President and Chief Executive Officer. The competition for qualified personnel in the biotechnology field is intense and, as a result, we may be unable to continue to attract and retain qualified personnel necessary for the development of our business or to recruit suitable replacement personnel, permanent replacement to serve as our President and Chief Executive Officer. In addition, certain members of our senior management team have worked together for only a relatively short period of time, and it may be difficult to evaluate their effectiveness, on an individual or collective basis, and ability to address future challenges to our business.

Many of the other biotechnology companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates than what we have to offer. If we are unable to continue to attract and retain high-quality personnel, the rate and success at which we can discover and develop product candidates and our business will be limited.

We currently have no marketing and sales force. If we are unable to establish effective sales or marketing capabilities or enter into agreements with third parties to sell or market our product candidates, we may not be able to effectively sell or market our product candidates, if approved, or generate product revenue.

We currently do not have a marketing or sales team for the marketing, sales and distribution of any of our product candidates that are able to obtain regulatory approval. In order to commercialize any product candidates, we must build on a territory-by-territory basis marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. If our product candidates receive regulatory approval, we may decide to establish an internal sales or marketing team with technical expertise and supporting distribution capabilities to commercialize our product candidates, which will be expensive and time-consuming and will require significant attention of our executive officers to manage. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of any of our product candidates that we obtain approval to market. With respect to the commercialization of all or certain of our product candidates, we may choose to collaborate, either globally or on a territory-by-territory basis, with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. If we are unable to enter into such arrangements when needed on acceptable terms, or at all, we may not be able to successfully commercialize any of our product candidates that receive regulatory approval, or any such commercialization may experience delays or limitations. If we are not successful in commercializing our product candidates, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

We expect to expand our development and regulatory capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience growth in the number of our employees and the scope of our operations, particularly in the areas of product candidate development and growing our capability to conduct clinical trials. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

We may be vulnerable to disruption, damage and financial obligation as a result of system failures.

Despite the implementation of security measures, any of the internal computer systems belonging to us, our collaborators or our third-party service providers are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failure. Any system failure, accident or security breach that causes interruptions in our own, in collaborators' or in third-party service vendors' operations could result in a material disruption of our drug discovery and development programs. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our or our collaborators' regulatory approval efforts and significantly increase our costs in order to recover or reproduce the lost data. To the extent that any disruption or security breach results in a loss or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we may incur liability as a result, our drug discovery programs and competitive position may be adversely affected, and the further development of our product candidates may be delayed. Furthermore, we may incur additional costs to remedy the damages caused by these disruptions or security breaches.

Our operations, or the third parties upon whom we depend, are vulnerable to interruption by fire, earthquake, power loss, telecommunications failure, terrorist activity, health epidemics or pandemics and other events beyond our control, which could harm our business.

Our facilities are located in San Diego, California, which is a seismically active region, and has also historically been subject to wildfires and electrical blackouts as a result of a shortage of available electrical power. We have not undertaken a systematic analysis of the potential consequences to our business and financial results from a major earthquake, fire, power loss, terrorist activity, health epidemics or pandemics such as the COVID-19 pandemic or other disasters, including those resulting from or amplified by climate change, and do not have a recovery plan for such disasters. In addition, we do not carry sufficient insurance to compensate us for actual losses from interruption of our business that may occur, and any losses or damages incurred by us could harm our business. We maintain multiple copies of each of our antibody sequences and electronic data records, most of which we maintain at our headquarters. If our facility was impacted by a seismic or wildfire event, we could lose some of our antibody sequences, which would have an adverse effect on our ability to perform our obligations under our collaborations and discover new targets.

Furthermore, integral parties in our supply chain are geographically concentrated and operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe and/or serious adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business.

Risks Related to Our Dependence on Third Parties

Our existing collaboration with GSK is important to our business, and future collaborations may also be important to us. If we are unable to maintain this collaboration, or if this collaboration is not successful, our business could be adversely affected.

We have entered into a collaboration with GSK to develop several of our product candidates. GSK has advanced multiple antibodies generated through our collaboration into clinical trials. If our collaboration with GSK were terminated, we may not receive all or any of the funding potentially coming from such collaboration, which could adversely affect our business or financial condition. Our operational obligations under each of our collaborations has ended.

We are unable to predict the success of our collaborations. Our collaborators have discretion in determining and directing the efforts and resources, including the ability to discontinue all efforts and resources, they apply to the development and, if approval is obtained, commercialization and marketing of the product candidates covered by such collaborations. As a result, our collaborators may elect to de-prioritize our programs, change their strategic focus or pursue alternative technologies in a manner that results in reduced, delayed or no revenue to us. Our collaborators may have other marketed products and product candidates under collaboration with other companies, including some of our competitors, and their corporate objectives may not be consistent with our best interests. Our collaborators may also be unsuccessful in developing or commercializing our products. If our collaborations are unsuccessful, our business, financial condition, results of operations and prospects could be adversely affected. In addition, any dispute or litigation proceedings we may have with our collaborators in the future could delay development programs, create uncertainty as to ownership of intellectual property rights, distract management from other business activities and generate substantial expense. For example, in August 2020, we served notice on GSK related to an alleged breach of our collaboration agreement in connection with GSK's use of certain antibodies originally developed by us for the development of a drug not covered by the agreement. We subsequently settled this matter in October 2020, but there can be no assurance that we will not encounter such issues under our collaborations with GSK or other parties in the future.

We may not succeed in establishing and maintaining additional development and commercialization collaborations, which could adversely affect our ability to develop and commercialize product candidates.

In addition to our current licensing arrangements, a part of our strategy is to enter into additional strategic product development and commercialization collaborations in the future, including collaborations to broaden and accelerate clinical development and potential commercialization of our product candidates. We may face significant competition in seeking appropriate development partners, and the negotiation process is time-consuming and complex. Moreover, we may not succeed in our efforts to establish collaborations or other alternative arrangements for any of our other existing or future product candidates and programs because our research and development pipeline may be insufficient, our product candidates and programs may be deemed to be at too early a stage of development for collaborative effort, and/or third parties may not view our product candidates and programs as having the requisite potential to demonstrate safety and efficacy or to be commercially

viable. Even if we are successful in our efforts to establish new collaborations, the terms that we agree upon may not be favorable to us, and we may not be able to maintain such collaborations if, for example, development or approval of a product candidate is delayed or sales of an approved product candidate are disappointing. Any delay in entering into new collaboration agreements related to our product candidates could delay the development and commercialization of our product candidates and reduce their competitiveness if they reach the market.

Moreover, if we fail to establish and maintain additional collaborations related to our product candidates:

- the development of certain of our current or future product candidates may be terminated or delayed;
- our cash expenditures related to development of certain of our current or future product candidates would increase significantly and we may need to seek additional financing;
- we may be required to hire additional employees or otherwise develop expertise, such as sales and marketing expertise, for which we have not budgeted; and
- we will bear all of the risk related to the development and commercialization of any such product candidates.

If third parties on which we depend to conduct our planned preclinical studies and clinical trials do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our development program could be delayed with adverse effects on our business, financial condition, results of operations and prospects.

We rely on third party clinical investigators, CROs, CMOs and consultants to design, conduct, supervise and monitor key activities relating to, discovery, manufacturing, non-clinical studies and clinical trials of our product candidates, and we intend to do the same for future activities relating to existing and future programs. Because we rely on third parties and do not have the ability to conduct all required discovery, manufacturing, preclinical studies or clinical trials independently, we have less control over the timing, quality and other aspects of discovery, manufacturing, preclinical studies and clinical trials than we would if we conducted them on our own. These investigators, CROs, CMOs and consultants are not our employees, and we 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 we contract with might not be diligent, careful or timely in conducting our discovery, manufacturing, preclinical studies or clinical trials, resulting in discovery, manufacturing, preclinical studies or clinical trials being delayed or unsuccessful, in whole or in part.

If we cannot contract with acceptable third parties on commercially reasonable terms, or at all, or if these third parties do not carry out their contractual duties, satisfy legal and regulatory requirements for the conduct of preclinical studies or clinical trials or meet expected deadlines, our clinical development programs could be delayed and otherwise adversely affected. In all events, we are responsible for ensuring that each of our preclinical studies and clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Any such event could have an adverse effect on our business, financial condition, results of operations and prospects.

We rely completely on third parties to manufacture our nonclinical, clinical and future commercial drug supplies of any approved products.

We outsource the manufacture of our product candidates. We do not currently have the infrastructure or internal capability to manufacture supplies of our product candidates for use in development and commercialization. If we were to experience an unexpected loss of supply of our product candidates for any reason, whether as a result of manufacturing, supply or storage issues or otherwise, our business would be harmed, and we could experience delays, disruptions, suspensions or terminations of, or be required to restart or repeat, any pending or ongoing clinical trials. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete the clinical trial, we may be required to manufacture additional supplies of our product candidates to the extent our estimates of the amounts required prove inaccurate, we suffer unexpected losses of product candidate supplies, or we are required to have fresh product candidate supplies manufactured to satisfy regulatory requirements or specifications. Any significant delay or discontinuation in the supply of a product candidate, or the raw material components thereof, due to the need to replace a contract manufacturer or other third-party manufacturer, could considerably harm our business and ability to generate revenue and delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates.

Any delays in our preclinical or clinical development could lead to delays or cancellations of forecasted manufacturing batches, which would typically result in significant fees owed by us to the manufacture and an uncertainty as to when the manufacturer will have the availability for a new time slot to manufacture the batch, which could lead to further delays in the development of the product candidate and have an adverse effect on our business.

Reliance on third-party manufacturers entails additional risks, including the possible breach of the manufacturing agreement by the third party and the possible termination or nonrenewal of the agreement by the manufacturer at a time that is costly or inconvenient for us. If our contract manufacturers were to breach or terminate their manufacturing arrangements with us, the development or commercialization of the affected product candidates could be significantly delayed, which could have an adverse effect on our business. Any change in our manufacturers could be costly because the commercial terms of any new arrangement could be less favorable and because the expenses relating to the transfer of necessary technology and processes could be significant.

We depend on a small number of suppliers for the raw materials necessary to produce our product candidates. The loss of these suppliers, or their failure to supply us with these raw materials, would materially and adversely affect our business.

We depend on the availability of key raw materials for our product candidates from a small number of third-party suppliers. Because there are a limited number of suppliers for the raw materials that we use to manufacture our product candidates, we may need to engage alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical trials. We do not have any control over the availability of raw materials. If we or our manufacturers are unable to purchase these raw materials on acceptable terms, at sufficient quality levels, or in adequate quantities, if at all, the development of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to meet our development objectives for our product candidates or generate revenues from the sale of any approved products. If either we or any third-parties in the supply chain for materials used in the production of our product candidates are disrupted, including by political, economic or public health events, such as the COVID-19 pandemic, it could limit our ability to manufacture our product candidates for our preclinical or clinical studies.

Risks Related to Regulatory Approval of Our Product Candidates and Other Legal Compliance Matters

Even if our product candidates receive regulatory approval, they will be subject to significant post-marketing regulatory requirements.

Any regulatory approvals that we or our collaborators may receive for our product candidates will require surveillance to monitor the safety and efficacy of the product candidate, may contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, and may include burdensome post-approval study or risk management requirements. For example, the FDA may require a risk evaluation and mitigation strategy in order to approve our product candidates, which could entail requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or foreign regulatory authorities approve our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and good clinical practices for any clinical trials that we conduct post-approval. In addition, manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations and standards. If we, our collaborators or a regulatory agency discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facilities where the product is manufactured, a regulatory agency may impose restrictions on that product, the manufacturing facility or us or our collaborators, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. In addition, failure to comply with FDA and foreign regulatory requirements may, either before or after product approval, if any, subject our company or our collaborators to administrative or judicially imposed sanctions, including:

- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on the products, manufacturers or manufacturing process;
- warning or untitled letters;

- civil and criminal penalties;
- injunctions;
- suspension or withdrawal of regulatory approvals;
- product seizures, detentions or import bans;
- voluntary or mandatory product recalls and publicity requirements;
- total or partial suspension of production;
- imposition of restrictions on operations, including costly new manufacturing requirements; and
- refusal to approve pending BLAs or supplements to approved BLAs.

The occurrence of any event or penalty described above may inhibit our ability, alone or with our collaborators, to commercialize our product candidates and generate revenue.

Advertising and promotion of any product candidate that obtains approval in the United States will be heavily scrutinized by the FDA, the Department of Justice, the Department of Health and Human Services' Office of Inspector General, state attorneys general, members of Congress and the public. Violations, including promotion of our products for unapproved (or off-label) uses, are subject to enforcement letters, inquiries and investigations, and civil and criminal sanctions by the government. Additionally, comparable foreign regulatory authorities will heavily scrutinize advertising and promotion of any product candidate that obtains approval outside of the United States.

In the United States, engaging in the impermissible promotion of our products for off-label uses can also subject us to false claims litigation under federal and state statutes, which can lead to civil and criminal penalties and fines and agreements that materially restrict the manner in which a company promotes or distributes drug products. These false claims statutes include the federal False Claims Act, which allows any individual to bring a lawsuit against a biotechnology company on behalf of the federal government alleging submission of false or fraudulent claims, or causing to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government prevails in the lawsuit, the individual will share in any fines or settlement funds. Such False Claims Act lawsuits against biotechnology companies have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements regarding certain sales practices promoting off-label drug uses involving fines in excess of $1.0 billion. This growth in litigation has increased the risk that a biotechnology company will have to defend a false claim action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and be excluded from Medicare, Medicaid and other federal and state health care programs. In addition, we may incur liability from claims initiated under the Lanham Act or other federal and state unfair competition laws with respect to how our products are marketed and promoted. Furthermore, the off-label use of our products may increase the risk of product liability claims. If we do not lawfully promote our approved products, we may become subject to such litigation and, if we do not successfully defend against such actions, those actions may have an adverse effect on our business, financial condition and results of operations.

The failure to obtain regulatory approval in international jurisdictions would prevent us or our collaborators from marketing our product candidates outside the United States.

In order to market and sell our products in other jurisdictions, we or our collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, we or our collaborators must secure product reimbursement approvals before regulatory authorities will approve the product for sale in that country. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries.

If we or our collaborators fail to comply with the regulatory requirements in international markets and receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed, and our business will be adversely affected. We may not obtain foreign regulatory approvals on a timely basis, if at all. The failure to obtain approval of any of our product candidates by regulatory authorities in another

country may significantly diminish the commercial prospects of that product candidate and our business prospects could decline.

We or our collaborators may not be able to maintain, for imsidolimab in GPP, or obtain, for any of our product candidates, Orphan Drug Designation or obtain the benefits associated with Orphan Drug status, including market exclusivity.

Regulatory authorities in some jurisdictions, including the United States and the European Union ("EU") may designate biologics for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a biologic as an Orphan Drug if it is intended to treat a rare disease or condition, generally a disease or condition that (i) affects fewer than 200,000 individuals in the United States, or (ii) affects more than 200,000 individuals in the United States and there is no reasonable expectation that the cost of developing and making a product available in the United States for such disease or condition will be recovered from sales of the product. We received Orphan Drug Designation from the FDA for imsidolimab for our GPP indication in 2020 and may seek Orphan Drug Designation for certain of our other product candidates. In addition, we or our collaborators may seek Orphan Drug Designation for imsidolimab in other indications. Generally, if a biologic with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the biologic is entitled to a period of marketing exclusivity, which precludes the FDA with respect to the United States or the EMA with respect to the EU from approving another marketing application for a drug containing the same active moiety for the same indication for that time period. The applicable period is seven years in the United States and ten years in the EU. The EU exclusivity period can be reduced to six years if a biologic no longer meets the criteria for Orphan Drug Designation or if the biologic is sufficiently profitable so that market exclusivity is no longer justified. Orphan Drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. In addition, the Orphan Drug Designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process. Also, regulatory approval for any product candidate may be withdrawn and other candidates may obtain approval before us.

We have not been granted Orphan Drug Designation for imsidolimab for any indication other than GPP, and there can be no assurance that any of our other product candidates will be designated as an orphan drug. For example, we or our collaborators may seek FDA Orphan Drug Designation for imsidolimab for the treatment of other indications, which will likely require demonstrating to the FDA that each such indication is a distinct disease from psoriasis generally (a non-rare disease) or that use of imsidolimab may be appropriate for the treatment of such other indication but not appropriate for use in the general psoriasis population.

Even if we or our collaborators obtain Orphan Drug Designation for imsidolimab in indications other than GPP, or if we obtain Orphan Drug Designation for any of our other product candidates, we may not receive Orphan Drug exclusivity. If another sponsor receives Orphan Drug Designation for the same active moiety, only the first to receive regulatory approval for a particular indication will receive marketing exclusivity. The FDA makes active moiety "sameness" determinations for monoclonal antibodies on a case-by-case basis based on the principal molecular structure, and thus, while we are not currently aware of any other product candidate in development that we believe has the same active moiety "sameness" as imsidolimab, we cannot predict with certainty whether another candidate would be eligible for, or whether our product would be blocked by another sponsor's marketing exclusivity. Even after a biological product with Orphan Drug Designation is approved, the FDA can subsequently approve another biologic containing the same principal molecular structure for the same condition if the FDA concludes that the later biologic is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, exclusivity, if obtained, may not effectively protect the candidate from competition because different drugs or biologics can be approved for the same condition.

Any drugs we develop may become subject to unfavorable third-party reimbursement practices and pricing regulations.

The availability and extent of coverage and adequate reimbursement by governmental and private payors is essential for most patients to be able to afford expensive treatments. Sales of any of our product candidates that receive marketing approval will depend substantially, both in the United States and internationally, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar health care management organizations or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If reimbursement is not available, or is available only to limited levels, we or our collaborators may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not

be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which marketing approval is obtained. If coverage and reimbursement are not available or reimbursement is available only at limited levels, we or our collaborators may not successfully commercialize any product candidate for which marketing approval is obtained.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. In the United States, the principal decisions about reimbursement for new products are typically made by the Centers for Medicare & Medicaid Services ("CMS"), an agency within the U.S. Department of Health and Human Services, because CMS decides whether and to what extent a new product will be covered and reimbursed under Medicare. Private payors often follow CMS's decisions regarding coverage and reimbursement to a substantial degree. However, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage for the drug product. As a result, the coverage determination process is often a time-consuming and costly process that will require us or our collaborators 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.

Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Further, such payors are increasingly examining the medical necessity and reviewing the cost effectiveness of medical drug products. There may be especially significant delays in obtaining coverage and reimbursement for newly approved drugs. Third-party payors may limit coverage to specific drug products on an approved list, known as a formulary, which might not include all FDA-approved drugs for a particular indication. We or our collaborators may need to conduct expensive pharmaco-economic studies to demonstrate the medical necessity and cost effectiveness of our products. Nonetheless, our product candidates may not be considered medically necessary or cost effective. We cannot be sure that coverage and reimbursement will be available for any product that we or our collaborators commercialize and, if reimbursement is available, what the level of reimbursement and the timing of achieving a reimbursement determination will be.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost containment initiatives in Europe, Canada and other countries has and will continue to put pressure on the pricing and usage of therapeutics, including our product candidates. In many countries, particularly the countries of the EU, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we or our collaborators may be required to conduct a clinical trial that compares the cost effectiveness of our product candidate to other available therapies. In general, the prices of products under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for products but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors, in the United States and internationally, to cap or reduce health care costs may cause such organizations to limit both coverage and level of reimbursement for new products approved, and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed health care, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on health care costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products into the health care market.

In addition to CMS and private payors, professional organizations such as the American Medical Association can influence decisions about reimbursement for new products by determining standards for care. In addition, many private payors contract with commercial vendors who sell software that provide guidelines that attempt to limit utilization of, and therefore reimbursement for, certain products deemed to provide limited benefit to existing alternatives. Such organizations may set guidelines that limit reimbursement or utilization of our product candidates.

Furthermore, some of our target indications, such as GPP, are rare diseases with small patient populations. In order for therapeutics that are designed to treat smaller patient populations to be commercially viable, the reimbursement for such therapeutics must be higher, on a relative basis, to account for the low volume of sales. Accordingly, we or our collaborators

will need to implement a coverage and reimbursement strategy for any approved product candidate that accounts for the smaller potential market size.

If we or our collaborators are unable to establish or sustain coverage and adequate reimbursement for any future product candidates from third-party payors, the adoption of those product candidates and sales revenue will be adversely affected, which, in turn, could adversely affect the ability to market or sell those product candidates, if approved. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we or our collaborators receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare legislative reform measures may increase the difficulty and cost for us or our collaborators to obtain marketing approval of and commercialize our product candidates and affect the pricing of our product candidates.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our or our collaborators' ability to profitably sell any product candidates for which marketing approval is obtained. The commercial potential for our product candidates, if any, could be affected by changes in healthcare spending and policy in the United States and abroad. New laws, regulations, or judicial decisions or new interpretations of existing laws, regulations, or decisions, related to healthcare availability, the method of delivery, or payment for healthcare products and services could adversely affect our business, operations, and financial condition, if and when we or our collaborators are able to obtain marketing approval and commercialize our product candidates.

For example, the ACA was enacted in 2010 with a goal, among others, of reducing the cost of healthcare and substantially changing the way healthcare is financed by both government and private insurers. The ACA, among other things, expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program, imposed a significant annual, nondeductible fee on companies that manufacture or import certain branded prescription drug products, and enacted substantial provisions affecting compliance, which may affect our business practices with healthcare practitioners. In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted.

In addition, the Biden Administration has indicated an intent to address prescription drug pricing and recent Congressional hearings have brought increased public attention to the costs of prescription drugs. For example, on September 9, 2021, the Biden administration published a wide-ranging list of policy proposals to lower prescription drug prices, including by allowing Medicare to negotiate prices and disincentivizing price increases, and to support market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase price transparency. These initiatives recently culminated in the enactment of the Inflation Reduction Act, or IRA, in August 2022, which will, among other things, allow the U.S. Department of Health and Human Services, or HHS, to negotiate the selling price of certain drugs and biologics that CMS reimburses under Medicare Part B and Part D, although this will only apply to high-expenditure single-source drugs that have been approved for at least 7 years (11 years for biologics). The negotiated prices, which will first become effective in 2026, will be capped at a statutory ceiling price beginning in October 2023, penalize drug manufacturers that increase prices of Medicare Part B and Part D drugs at a rate greater than the rate of inflation. In addition, the law eliminates the "donut hole" under Medicare Part D beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and requiring manufacturers to subsidize, through a newly established manufacturer discount program, 10% of Part D enrollees' prescription costs for brand drugs below the out-of-pocket maximum, and 20% once the out-of-pocket maximum has been reached. The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. The IRA also extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. These provisions will take effect progressively starting in 2023, although they may be subject to legal challenges.

It is likely that federal and state legislatures within the United States and foreign governments will continue to consider changes to existing healthcare legislation. For example, the ACA has faced ongoing legal challenges, including litigation seeking to invalidate some of or all of the law or the manner in which it has been implemented. More recently, the 2017 Tax Cuts and Jobs Act was signed into law, which eliminated certain requirements of the ACA, including the individual mandate. In 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 Congress. Thus, the ACA will remain in effect in its current form. We

cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified.

Other reforms include the Drug Supply Chain Security Act, which imposes new obligations on manufacturers of pharmaceutical products related to product tracking and tracing. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We are not sure whether additional legislative changes will be enacted, or whether the current regulations, guidance or interpretations will be changed, or what the impact of such changes on our business, if any, may be. Further, we are unable to predict whether additional governmental action will be taken in response to the COVID-19 pandemic and whether such action will adversely affect our or our collaborators' ability to obtain marketing approval for or successfully commercialize our product candidates.

Our business entails a significant risk of product liability, and our ability to obtain sufficient insurance coverage could have an adverse effect on our business, financial condition, results of operations or prospects.

Our business exposes us to significant product liability risks inherent in the development, testing, manufacturing and marketing of therapeutic treatments. Product liability claims could delay or prevent completion of our development programs. If we or our collaborators succeed in marketing any of our product candidates, such claims could result in an FDA investigation of the safety and effectiveness of our product candidates, our manufacturing processes and facilities or our marketing programs and potentially a recall of our products or more serious enforcement action, limitations on the approved indications for which they may be used or suspension 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. We currently have product liability insurance that we believe is appropriate for our stage of development and may need to obtain higher levels prior to marketing any of our product candidates. 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, 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 an adverse effect on our business.

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

Health care providers and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we or our collaborators obtain marketing approval. Our future arrangements with third-party payors and customers 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 or our collaborators market, sell and distribute our product candidates for which marketing approval is obtained. Restrictions under applicable federal and state health care laws and regulations include the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under a federal health care program such as Medicare and Medicaid;
- the federal false claims and civil monetary penalties laws, including the civil False Claims Act, impose criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA") imposes criminal and civil liability for, among other things, executing or attempting to execute a scheme to defraud any health care benefit program or making false statements relating to health care matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payments Sunshine Act requires applicable manufacturers of covered drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to report to CMS annually information regarding payments and other transfers of value to physicians and teaching hospitals as well as information regarding ownership and investment interests held by physicians and their immediate family members. The information was initially made publicly available on a searchable website in September 2014 and is disclosed on an annual basis; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving health care items or services reimbursed by non-governmental third-party payors, including private insurers.

The ACA, among other things, amended the intent standard of the federal Anti-Kickback Statute and criminal health care fraud statutes to a stricter standard such that a person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. In addition, the ACA codified case law 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.

Some state laws require biotechnology companies to comply with the biotechnology 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 health care providers or marketing expenditures. For example, several states now require prescription drug companies to report certain expenses relating to the marketing and promotion of drug products and to report gifts and payments to individual health care practitioners in these states. Other states prohibit various marketing-related activities, such as the provision of certain kinds of gifts or meals. Still other states require the posting of information relating to clinical studies and their outcomes. Some states require the reporting of certain pricing information, including information pertaining to and justifying price increases. Some states further require pharmaceutical companies to implement compliance programs and/or marketing codes. Compliance with these laws is difficult and time consuming, and companies that do not comply with these state laws face civil penalties.

State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. For example, the collection and use of health data in the EU is governed by the General Data Protection Regulation ("GDPR"), which became fully applicable in May 2018. The GDPR extends the geographical scope of EU data protection law to non-EU entities under certain conditions, tightens existing EU data protection principles and creates new obligations for companies and new rights for individuals. The GDPR is complex, and guidance, interpretation and application under the GDPR are still developing. Failure to comply with the GDPR may result in substantial fines and other administrative penalties of up to the greater of €20 million or 4% of worldwide revenue. The GDPR may increase our responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with the GDPR. The pending EU ePrivacy Regulation is also expected to establish new requirements applicable to the handling of personal data and imposes penalties for non-compliance. In addition, the GDPR increases the scrutiny of transfers of personal data from clinical trial sites located in the European Economic Area to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws. For example, in July 2016, the European Commission adopted the EU-U.S. Privacy Shield Framework (the "Privacy Shield Framework"), which replaced the prior U.S. Safe Harbor scheme. On July 16, 2020, the Court of Justice of the European Union issued a decision, known as Schrems II, that declared the Privacy Shield Framework invalid. The Schrems II decision also resulted in substantial additional compliance obligations for companies that implement standard contractual clauses to ensure a valid basis for the transfer of personal data outside of Europe. The European Commission has also adopted new standard contractual clauses that impose substantial additional obligations on the companies that wish to use the clauses as the basis for their data transfers. Following the UK's exit from the European Union, the UK government transposed the General Data Protection Regulation into UK national law, thereby creating the "UK GDPR." The UK made a number of technical changes to GDPR under the Data Protection, Privacy and Electronic Communications Regulation 2019. The UK Data Protection Act 2018 ("Data Protection Act") also remains in place as a national data protection law that supplements UK GDPR. Additionally, California enacted the California Consumer Privacy Act ("CCPA"), which became effective on January 1, 2020, and the California Privacy Rights Act ("CPRA"), which

modifies the CCPA and creates additional obligations beginning on January 1, 2022. The CCPA and CPRA provide California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used, and provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Generally, in recent years that has been a trend towards countries adopting stricter forms of data protection legislation, such as China's Personal Information Protection Law, which went into effect in November 2021. The costs of compliance with, and other burdens imposed by, the GDPR, CCPA and other U.S., EU and worldwide laws may impose onerous requirements on our business and, if our efforts to comply with such laws are not successful, our business could be adversely affected.

Efforts to ensure that our current and future business arrangements with third parties will comply with applicable health care laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other health care laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government funded health care programs, such as Medicare and Medicaid, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations. Defending against any such actions can be costly, time-consuming and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired. Further, if any of the physicians or other health care providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded health care programs.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include failures to comply with FDA regulations, to provide accurate information to the FDA, to comply with federal and state health care fraud and abuse laws and regulations, to report financial information or data accurately or to 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, misconduct, 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. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a code of conduct, but it is not always possible to identify and deter employee misconduct. The precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these 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 significant impact on our business, including the imposition of significant fines or other sanctions.

Risks Related to Intellectual Property

If we are unable to obtain or protect intellectual property rights, we may not be able to compete effectively in our market.

Our success depends in significant part on our and our licensors', licensees' or collaborators' ability to establish, maintain and protect patents and other intellectual property rights and operate without infringing the intellectual property rights of others. We have filed numerous patent applications both in the United States and in foreign jurisdictions to obtain patent rights to inventions we have discovered. We have also licensed from third parties rights to patent portfolios. Some of these licenses give us the right to prepare, file and prosecute patent applications and maintain and enforce patents we have licensed, and other licenses may not give us such rights. The patent prosecution process is expensive and time-consuming, and we and our current or future licensors, licensees or collaborators may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or our licensors, licensees or collaborators will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Moreover, in some circumstances, we may not have the right

to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are reliant on our licensors, licensees or collaborators. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. If our current or future licensors, licensees or collaborators fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our licensors, licensees or collaborators are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised.

The patent position of biotechnology companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our and our current or future licensors', licensees' or collaborators' patent rights are highly uncertain. Our and our licensors', licensees' or collaborators' pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. The patent examination process may require us or our licensors, licensees or collaborators to narrow the scope of the claims of our or our licensors', licensees' or collaborators' pending and future patent applications, which may limit the scope of patent protection that may be obtained. In the past, we have not always been able to obtain the full scope of patent protection we have initially sought in our patent applications, and as described above and as is typical for most biotechnology patent prosecution, we have been required to narrow or eliminate patent claims as part of the patent prosecution process. In addition, some patent applications that we or our licensors have filed have not resulted in issued patents because we or our licensors have abandoned those patent applications as changes in business and/or legal strategies dictated.

We cannot assure you that all of the potentially relevant prior art relating to our patents and patent applications has been found. If such prior art exists, it can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue and even if such patents cover our product candidates, third parties may initiate opposition, interference, re-examination, post-grant review, inter partes review, nullification or derivation action in court or before patent offices or similar proceedings challenging the validity, enforceability or scope of such patents, which may result in the patent claims being narrowed or invalidated. Our and our licensors', licensees' or collaborators' patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications, and then only to the extent the issued claims cover the technology.

Because patent applications in the United States and most other countries are confidential for a period of time after filing, and some remain so until issued, we cannot be certain that we or our licensors, licensees, or collaborators were the first to file any patent application related to a product candidate. Furthermore, if third parties have filed such patent applications on or before March 15, 2013, an interference proceeding in the United States can be initiated by such third parties to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. If third parties have filed such applications after March 15, 2013, a derivation proceeding in the United States can be initiated by such third parties to determine whether our invention was derived from theirs. Even where we have a valid and enforceable patent, we may not be able to exclude others from practicing our invention where the other party can show that they used the invention in commerce before our filing date or the other party benefits from a compulsory license. In addition, 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. filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired for a product, we may be open to competition from competitive medications, including biosimilar or generic medications.

Furthermore, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. We expect to seek extensions of patent terms where these are available in any countries where we are prosecuting patents. This includes in the United States under the Drug Price Competition and Patent Term Restoration Act of 1984, which permits a patent term extension of up to five years beyond the expiration of the patent. However the applicable authorities, including the FDA and the U.S. Patent and Trademark Office ("USPTO") in the United States, and any equivalent foreign regulatory authority, 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 take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case.

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

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

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly 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 and our licensors, licensees or collaborators to stop the infringement of our and our licensors', licensees' or collaborators' patents or marketing of competing products in violation of our and our licensors', licensees' or collaborators' proprietary rights generally. Proceedings to enforce our and our licensors', licensees' or collaborators' patent rights in foreign jurisdictions could result in substantial costs and divert our and our licensors', licensees' or collaborators' efforts and attention from other aspects of our business, could put our and our licensors', licensees' or collaborators' patents at risk of being invalidated or interpreted narrowly and our and our licensors', licensees' or collaborators' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors, licensees or collaborators. We or our licensors, licensees or collaborators may not prevail in any lawsuits that we or our licensors, licensees or collaborators initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful.

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

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve technological and legal complexity, and obtaining and enforcing biopharmaceutical patents is costly, time-consuming, and inherently uncertain.

Patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our and our licensors', licensees' or collaborators' patent applications and the enforcement or defense of our or our licensors', licensees' or collaborators' issued patents. On September 16, 2011, the Leahy-Smith America Invents Act (the "AIA") was signed into law. The AIA includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation.

An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application in the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application, but circumstances could prevent us from promptly filing patent applications on our inventions.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by

the third party as a defendant in a district court action. The AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

Moreover, future and recent past changes in the patent laws in the U.S. and abroad could impact or could increase the uncertainties and costs surrounding the prosecution of our and our licensors', licensees' or collaborators' patent applications and the enforcement or defense of our or our licensors', licensees' or collaborators' issued patents, which could have an impact on our business and financial conditions. For example, over the past decade, the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit have rendered decisions in several patent cases such as *Association for Molecular Pathology v. Myriad Genetics, Inc.*, *BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litig*., Mayo Collaborative Services v. Prometheus Laboratories, Inc., and Alice Corporation Pty. Ltd. v. CLS Bank International, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our and our licensors', licensees' or collaborators' ability to obtain patents in the future, these type of changes in the patent laws have created uncertainty with respect to the value of patents, once obtained. Depending on decisions by Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our and our licensors', licensees' or collaborators' ability to obtain new patents or to enforce existing patents and patents that we and our licensors, licensees or collaborators may obtain in the future.

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

Periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our licensors, licensees or collaborators fail to maintain the patents and patent applications covering our product candidates, our competitors might be able to enter the market, which would have an adverse effect on our business.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we collaborate with various collaborators on the development and commercialization of one or more of our product candidates and because we rely on third parties to manufacture our product candidates, we must, at times, share trade secrets with them. We seek to protect our wholly-owned technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, 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.

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. For example, any academic institution that we may collaborate with in the future may be granted rights to publish data arising out of such collaboration, provided that we are notified in advance and given the opportunity to delay publication for a limited time period in order for us to secure patent protection of intellectual property rights arising from the collaboration, in addition to the opportunity to remove confidential or trade secret information from any such publication. Our existing collaborative research and development programs may require us to share trade secrets under the terms of our research and development collaborations or similar agreements. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets 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 become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time-consuming and unsuccessful and have an adverse effect on the success of our business.

Third parties may infringe our or our licensors', licensees' or collaborators' patents or misappropriate or otherwise violate our or our licensors', licensees' or collaborators' intellectual property rights. In the future, we or our licensors, licensees or collaborators may initiate legal proceedings to enforce or defend our or our licensors', licensees' or collaborators' intellectual property rights, such as the litigation we initiated in August 2020 to enforce our rights under our collaboration with GSK, to protect our or our licensors', licensees' or collaborators' trade secrets or to determine the validity or scope of intellectual property rights we own or control. Also, third parties may initiate legal proceedings against us or our licensors, licensees or collaborators to challenge the validity or scope of intellectual property rights we own or control. These proceedings can be expensive and time-consuming, and many of our or our licensors', licensees' or collaborators' adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors, licensees or collaborators. In addition, in an infringement proceeding, a court may decide that a patent owned by or licensed to us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our or our licensors', licensees' or collaborators' patents do not cover the technology in question. Furthermore, an adverse result in any litigation or administrative proceeding could put one or more of our or our licensors', licensees' or collaborators' patents at risk of being invalidated, held unenforceable or interpreted narrowly.

Accordingly, despite our or our licensors', licensees' or collaborators' efforts, we or our licensors, licensees or collaborators may not prevent third parties from infringing upon or misappropriating intellectual property rights we own or control, particularly in countries where the laws may not protect those rights as fully as in the United States. In addition, litigation and administrative proceedings could result in substantial costs and diversion of management resources, which could harm our business and financial results.

Within and outside of the United States, there has been a substantial amount of litigation and administrative proceedings regarding patent and other intellectual property rights in the pharmaceutical industry including opposition, derivation, reexamination, inter partes review or interference proceedings, or other preissuance or post-grant proceedings. Such proceedings may be provoked by third parties or by us or our licensors, licensees or collaborators to protect or enforce our or our licensors', licensees' or collaborators' patents or patent applications. Additionally, third-party preissuance submission of prior art to the USPTO or other foreign jurisdictions may jeopardize the issuance or scope of our or our licensors', licensees' or collaborators' patent applications. An unfavorable outcome in any such proceedings could require us or our licensors, licensees or collaborators to cease using the related technology, or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us or our licensors, licensees or collaborators a license on commercially reasonable terms or at all, and we could be forced to stop commercializing our product candidates. Even if we or our licensors, licensees or collaborators obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us or our licensors, licensees or collaborators.

In addition, if the breadth or strength of protection provided by our or our licensors', licensees' or collaborators' patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Even if we successfully defend such litigation or proceeding, we may incur substantial costs, and it may distract our management and other employees. We could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have an adverse effect on the price of shares of our common stock.

If we breach the license agreements related to our product candidates, we could lose the ability to continue the development and commercialization of our product candidates.

Our commercial success depends upon our ability, and the ability of our licensors, licensees and collaborators, to develop, manufacture, market and sell our product candidates and use our and our licensors', licensees' or collaborators'

wholly-owned technologies without infringing the proprietary rights of third parties. A third party may hold intellectual property, including patent rights that are important or necessary to the development of our products. As a result, we are a party to a number of technology licenses that are important to our business and expect to enter into additional licenses in the future. For example, we have in-licensed the rights to certain intellectual property relating to SHM under our in-license agreement with the Medical Research Council, which is the subject of issued patents and pending patent applications in certain countries. If we fail to comply with the obligations under these agreements, including payment and diligence terms, our licensors may have the right to terminate these agreements, in which event we may not be able to develop, manufacture, market or sell any product that is covered by these agreements or may face other penalties under the agreements. Such an occurrence could adversely affect the value of the product candidate being developed under any such agreement. Termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or reinstated agreements, which may not be available to us on equally favorable terms, or at all, or cause us to lose our rights under these agreements, including our rights to intellectual property or technology important to our development programs.

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

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under any collaboration relationships we might enter into in the future;
- our diligence obligations under the license agreement 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 us and our licensors, licensees or collaborators; 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 product candidates.

Third parties may initiate legal proceedings against us alleging that we infringe their intellectual property rights, or we may initiate legal proceedings against third parties to challenge the validity or scope of intellectual property rights controlled by third parties, the outcome of which would be uncertain and could have an adverse effect on the success of our business.

Third parties may initiate legal proceedings against us or our licensors, licensees or collaborators alleging that we or our licensors, licensees or collaborators infringe their intellectual property rights or we or our licensors, licensees or collaborators may initiate legal proceedings against third parties to challenge the validity or scope of intellectual property rights controlled by third parties, including in oppositions, interferences, reexaminations, post-grant reviews, inter partes reviews or derivation proceedings in the United States or other jurisdictions. These proceedings can be expensive and time-consuming, and many of our or our licensors', licensees' or collaborators' adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors, licensees or collaborators.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of management and employee resources from our business. An unfavorable outcome could require us or our licensors, licensees or collaborators to cease using the related technology, to cease developing or commercializing our product candidates or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us or our licensors, licensees or collaborators a license on commercially reasonable terms or at all. Even if we or our licensors, licensees or collaborators obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us or our licensors, licensees or collaborators. In addition, we could be found liable for 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 our product candidates or force us to cease some of our business operations, which could harm our business.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property or claiming ownership of what we regard as our own intellectual property.

Many of our employees, including our senior management, were previously employed at universities or at other biopharmaceutical companies, including our competitors or potential competitors. Some of these employees executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed confidential information or intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. Litigation may be necessary to defend against these claims.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products, which license could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. Such a license may not be available on commercially reasonable terms or at all. Even if we successfully prosecute or defend against such claims, litigation could result in substantial costs and distract management.

Our inability to protect our confidential information and trade secrets would harm our business and competitive position.

In addition to seeking patents for some of our technology and products, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts both within and outside the United States may be less willing or unwilling to protect trade secrets. Furthermore, if a competitor lawfully obtained or independently developed any of our trade secrets, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret.

If we do not obtain protection under the Hatch-Waxman Amendments and similar foreign legislation for extending the term of patents covering each of our product candidates, our business may be harmed.

Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984 (the "Hatch-Waxman Amendments"). The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. However, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for that product will be shortened, and our competitors may obtain approval to market competing products sooner. As a result, our revenue from applicable products could be reduced, possibly materially.

Risks Related to Ownership of Our Common Stock

The market price of our stock has been and may continue to be volatile, and you could lose all or part of your investment.

The trading price of our common stock may be highly volatile and subject to wide fluctuations in response to various factors, some of which we cannot control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this report, these factors include:

- the success of competitive products;
- regulatory actions with respect to our products or our competitors' products;
- actual or anticipated changes in our growth rate relative to our competitors;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations or capital commitments;
- results of preclinical studies and clinical trials of our product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- developments with respect to our existing collaboration agreements and announcements of new collaboration agreements;
- disputes, breaches and terminations of our manufacturing agreements, collaborations agreements or other important agreements;
- the results of our efforts to in-license or acquire additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- changes in the structure of health care payment systems;
- market conditions in the biotechnology sector; and
- general economic uncertainty and capital markets disruptions, which have been substantially impacted by geopolitical instability due to the ongoing military conflict in Ukraine and rising interest rates and inflation.

In addition, the stock market in general, and the Nasdaq Global Select Market and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. We have been subject to securities litigation in the past and any future securities litigation could result in substantial costs and a diversion of our management's attention and resources. The realization of any of the above risks or any of a broad range of other risks, including those described in this "Risk Factors" section, could have a dramatic and adverse impact on the market price of our common stock.

We have broad discretion in the use of the net proceeds from our public offerings and may not use them effectively.

Our management has broad discretion in the application of the net proceeds from our public offerings, and you will be relying on the judgment of our management regarding the application of these proceeds. Our management might not apply the

net proceeds from our public offerings in ways that ultimately increase the value of your investment. If we do not invest or apply the net proceeds from our public offerings in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

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

The market price of our common stock is volatile and, in the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We have been, and may in the future be, the target of this type of litigation. Regardless of the outcome, future litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

The requirements of being a public company may strain our resources, divert management's attention, and affect our ability to attract and retain additional executive management and qualified board members.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Protection Act, as well as rules adopted, and to be adopted, by the SEC and the Nasdaq Global Select Market. Our management and other personnel devote a substantial amount of time to these compliance initiatives. In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time consuming. We intend to continue to invest resources to comply with evolving laws, regulations, and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention. If our efforts to comply with new laws, regulations, and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to incur substantial costs to maintain sufficient coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these and future requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

In addition, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. Section 404 of the Sarbanes-Oxley Act requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report on our internal controls on an annual basis. If we have material weaknesses in our internal control over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. We have only recently compiled the systems, processes and documentation necessary to comply with Section 404 of the Sarbanes-Oxley Act. We will need to maintain and enhance these processes and controls as we grow, and we may require additional management and staff resources to do so. Additionally, even if we conclude our internal controls are effective for a given period, we may in the future identify one or more material weaknesses in our internal controls, in which case our management will be unable to conclude that our internal control over financial reporting is effective. Regardless of compliance with Section 404, any failure of our internal control over financial reporting could have a material adverse effect on our reported operating results and harm our reputation. Internal control deficiencies could also result in a restatement of our financial results.

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 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, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. We also have registered all shares of common stock that we may issue under our equity incentive plans or that are issuable upon exercise of outstanding options. These shares can be freely sold in the public market upon issuance and once vested, subject to volume limitations applicable to affiliates. If any of these additional shares are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline. 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. In November 2022, we

entered into the Cowen Sales Agreement with Cowen and Company, LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Cowen and Company, LLC as our sales agent.

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

We are subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

We do not intend to pay dividends on our common stock, so any returns will be limited to the value of our stock.

We have never declared or paid any cash dividend on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock.

Provisions in our restated certificate of incorporation and restated bylaws and Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock.

Our restated certificate of incorporation and restated bylaws contain provisions that could depress the market price of our common stock by acting to discourage, delay or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- establish a classified board of directors so that not all members of our board are elected at one time;
- permit only the board of directors to establish the number of directors and fill vacancies on the board;
- provide that directors may only be removed “for cause” and only with the approval of two-thirds of our stockholders;
- require super-majority voting to amend some provisions in our restated certificate of incorporation and restated bylaws;
- authorize the issuance of “blank check” preferred stock that our board could use to implement a stockholder rights plan (also known as a “poison pill”);
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- prohibit cumulative voting; and
- establish advance notice requirements for nominations for election to our board or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

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

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 stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our clinical trial results or operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We plan to use potential future operating losses and our federal and state net operating loss ("NOL") carryforwards to offset taxable income from revenue generated from operations or corporate collaborations. However, our ability to use NOL carryforwards could be limited as a result of additional issuances of equity securities.

We plan to use our current year operating losses to offset taxable income from any revenue generated from operations or corporate collaborations. To the extent we have taxable income, we plan to use our NOL carryforwards to offset income that would otherwise be taxable. However, the benefits from the use of our NOL carryforwards may be impaired or limited under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), if we incur a cumulative ownership change of more than 50%, as interpreted by the U.S. Internal Revenue Service, over a three-year period. Under legislative changes made by U.S. federal tax legislation, commonly referred to as the Tax Cuts and Jobs Act, or the TCJA, the U.S. federal net operating losses incurred in 2018 and in future years may be carried forward indefinitely, but the ability to utilize such federal net operating losses to offset taxable income is limited to 80% of our taxable income before the deduction for such net operating loss carryovers. It is uncertain if and to what extent various states will conform to the TCJA. Our use of federal NOL carryforwards could be limited further by the provisions of Section 382 of the Code depending upon the timing and amount of additional equity securities that we have issued or will issue. State NOL carryforwards may be similarly limited. Any such disallowances may result in greater tax liabilities than we would incur in the absence of such a limitation, and any increased liabilities could adversely affect our business, results of operations, financial condition and cash flow.

As of December 31, 2021, we have federal NOLs of approximately $293.4 million, which expire beginning December 31, 2028 through December 31, 2037, if not used to reduce income taxes payable in the future.

We are a smaller reporting company and may elect to comply with reduced public company reporting requirements applicable to smaller reporting companies, which could make our common stock less attractive to investors.

We are a "smaller reporting company," meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a "smaller reporting company," and have either: (i) a public float of less than $250 million or (ii) annual revenues of less than $100 million during the most recently completed fiscal year and (A) no public float or (B) a public float of less than $700 million. As a "smaller reporting company," we are subject to reduced disclosure obligations in our SEC filings compared to other issuers, including with respect to disclosure obligations regarding executive compensation in our periodic reports and proxy statements. Until such time as we cease to be a "smaller reporting company," such reduced disclosure in our SEC filings may make it harder for investors to analyze our operating results and financial prospects.

If some investors find our common stock less attractive as a result of any choices to reduce future disclosure we may make, there may be a less active trading market for our common stock and our stock price may be more volatile.

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

Not applicable.

Item 3. Defaults upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Termination of Prior ATM Agreement

In December 2021, we entered into an Open Market Sales Agreement with Jefferies LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Jefferies LLC as our sales agent. On November 3, 2022, we terminated this agreement effective as of November 8, 2022.

Entry into New ATM Agreement

On November 8, 2022, we entered into the Cowen Sales Agreement with Cowen and Company, LLC, through which we may offer and sell shares of our common stock, having an aggregate offering of up to $150.0 million through Cowen and Company, LLC as our sales agent. Sales of our common stock through Cowen may be made by any method that is deemed an "at the market" offering as defined in Rule 415 promulgated under the Securities Act. Cowen has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell shares of our common stock based upon our instructions. We are not obligated to make any sales of our common stock under the Cowen Sales Agreement. Any sales under the Cowen Sales Agreement will be made pursuant to our shelf registration statement on Form S-3 (File No. 333-261953) declared effective by the Commission on January 11, 2022, and a prospectus supplement relating to such offering filed with the Commission on November 8, 2022. We will pay Cowen a commission of up to 3% of the gross proceeds of any shares of common stock sold pursuant to the Cowen Sales Agreement, and we have also provided Cowen with customary indemnification and contribution rights.

The foregoing summary of the Cowen Sales Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Cowen Sales Agreement, a copy of which is attached as Exhibit 10.24 hereto.

Item 6. Exhibits

The exhibits filed or furnished as part of this Quarterly Report on Form 10-Q are set forth on the Exhibit Index, below.

EXHIBIT INDEX

Exhibit Number	Exhibit Description
5.1	Opinion of Fenwick & West LLP
10.23‡++	Purchase and Sale Agreement, dated September 9, 2022, by and between the Registrant and DRI Healthcare Acquisitions LP.
10.24	Sales Agreement, dated November 8, by and between the Registrant and Cowen and Company LLC.
23.1	Consent of Fenwick & West LLP (contained in Exhibit 5.1)
31.1	Certification of Principal Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted 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.
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.INS	Inline XBRL Report Instance Document - The Instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Calculation Linkbase Document
101.LAB	Inline XBRL Taxonomy Label Linkbase Document
101.PRE	Inline XBRL Presentation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
104	Cover Page Interactive Data File - (formatted in Inline XBRL and contained in Exhibit 101)

** This certification is deemed not filed for purpose of section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

++ Certain portions of this exhibit have been omitted by means of marking such portions with asterisks because the Registrant has determined that the information is not material and is the type that the Registrant treats as private or confidential.

‡ Exhibits and schedules to this agreement have been omitted pursuant to the rules of the SEC. The Registrant will submit copies of such exhibits and schedules to the SEC upon request.

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.

AnaptysBio, Inc.

Date: November 8, 2022

By: /s/ Daniel Faga

Daniel Faga
Interim President and Chief Executive Officer
(Principal Executive Officer)

Date: November 8, 2022

By: /s/ Dennis Mulroy

Dennis Mulroy
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 5.1

FENWICK

555 California Street
12th Floor
San Francisco, CA 94104

415.875.2300
Fenwick.com

November 8, 2022

AnaptysBio, Inc.
10770 Wateridge Circle, Suite 210
San Diego, CA 92121-5801

Ladies and Gentlemen:

We deliver this opinion with respect to certain matters in connection with the offering by AnaptysBio, Inc., a Delaware corporation (the "***Company***"), of the Company's common stock, $0.001 par value per share (the "***Common Stock***") with an aggregate maximum offering price of up to $150,000,000 (the "***Placement Shares***"), to be issued from time to time pursuant to that certain Sales Agreement, dated November 8, 2022 (the "***Sales Agreement***"), between the Company and Cowen and Company, LLC, as the sales agent (the "***Sales Agent***"). The Placement Shares were registered pursuant to the effective Registration Statement on Form S-3 (File No. 333-261953) files by the Company with the Commission pursuant to the Securities Act of 1933, as amended (the "***Securities Act***"), on December 30, 2021 and declared effective on January 11, 2022 (the "***Registration Statement***"), the base prospectus included therein (the "***Base Prospectus***") and the related prospectus supplement dated November 8, 2022 filed with the Commission pursuant to Rule 424(b) under the Securities Act (the "***Prospectus Supplement***," and together with the Base Prospectus, the "***Prospectus***"). The Placement Shares are to be sold by the Company as described in the Registration Statement, the Prospectus and the Sales Agreement.

In connection with our opinion expressed below we have examined originals or copies of the Amended and Restated Certificate of Incorporation and Restated Bylaws (together with the Amended and Restated Certificate of Incorporation, as each may be amended, modified or restated, the "***Charter Documents***"), certain corporate proceedings of the Company's board of directors (the "***Board***") and stockholders relating to the Registration Statement and the Prospectus, the Company's Amended and Restated Certificate of Incorporation and Restated Bylaws, and such other agreements, documents, certificates and statements of the Company, its transfer agent and public or government officials, as we have deemed advisable, and have examined such questions of law as we have considered necessary. We have assumed, and express no opinion as to, the genuineness of all signatures on documents submitted to us, the authenticity and completeness of all documents submitted to us as originals, the conformity to originals and completeness of all documents submitted to us as copies, the legal capacity of all persons or entities (except for the Company) executing the same, the absence of any undisclosed termination, modification, waiver or amendment to any document reviewed by us, the absence of any other extrinsic agreements or documents that might change or affect the interpretation or terms of documents we have reviewed, and the due authorization, execution and delivery of all such documents where due authorization, execution and delivery are prerequisites to the effectiveness thereof. In giving our opinion, we have also relied upon a good standing certificate regarding the Company issued by the Delaware Secretary of State dated November 8, 2022 and a management certificate addressed to us and dated of even date herewith executed by the Company containing certain factual representations (the "***Management Certificate***").

We also have assumed that any certificates or instruments representing the Placement Shares, will be, when issued, properly signed by authorized officers of the Company. Furthermore, we assume that any Placement Shares, will not be reissued by the Company in uncertificated form until any previously issued stock certificate

representing such issued Placement Shares has been surrendered to the Company in accordance with Section 158 of the Delaware General Corporation Law, and that the Company will properly register the transfer of the Placement Shares to the purchasers of such Placement Shares on the Company's record of uncertificated securities.

As to matters of fact relevant to this opinion, we have relied solely upon our examination of the documents referred to above and the Management Certificate and have assumed the current accuracy and completeness of the information obtained from the documents referred to above and the representations and warranties made by representatives of the Company to us, including but not limited to those set forth in the Management Certificate. We have made no independent investigation or other attempt to verify the accuracy of any of such information or to determine the existence or non-existence of any other factual matters.

We are admitted to practice law in the State of California and we render this opinion only with respect to, and express no opinion herein concerning the application or effect of the laws of any jurisdiction other than (i) the existing laws of the State of California and(ii) the Delaware General Corporation Law (collectively, the "***Applicable Laws***"). Without limitation, we express no opinion with respect to the federal laws of the United States of America or the securities or "blue sky" laws of any state or any local or regional laws.

In connection with our opinions expressed below, we have assumed that, (i) at or prior to the time of the delivery of any of the Placement Shares, there will not have occurred any change in the law or the facts affecting the validity of the Placement Shares, (ii) at the time of the offer, issuance and sale of any Placement Shares, no stop order suspending the Registration Statement's effectiveness will have been issued and remain in effect, (iii) no future amendments will be made to the Charter Documents that would be in conflict with or inconsistent with the Company's right and ability to issue the Placement Shares, (iv) at the time of each offer, issuance and sale of any Placement Shares, the Company will have a sufficient number of authorized and unissued and unreserved shares of the applicable class or series of its capital stock included in (or purchasable upon exercise or conversion of) the Placement Shares so issued and sold (after taking into account all other outstanding securities of the Company which may require the Company to issue shares of such applicable class or series) to be able to issue all such shares, and (v) the purchaser of the Placement Shares will timely pay in full to the Company all amounts they have agreed to pay to purchase such Placement Shares, as approved by the Board or a duly authorized committee thereof, and that the purchase price of any Placement Shares will not be less than the par value thereof.

The Company has informed us that the Company intends to issue the Placement Shares, from time to time on a delayed or continuous basis. This opinion is limited to the Applicable Laws, including the rules and regulations thereunder, as in effect on the date hereof.

We have assumed that, upon the issuance of any of the Placement Shares, the total number of shares of Common Stock issued and outstanding and reserved for future issuance will not exceed the total number of shares of Common Stock that the Company is then authorized to issue under its Certificate of Incorporation, as then in effect.

Based upon the foregoing, we are of the following opinion that the Placement Shares, to be issued and sold by the Company, have been duly authorized for issuance and, when issued, sold and delivered in the manner of and for consideration (of not less than par value per share of the Common Stock) in the manner contemplated by the Prospectus and in accordance with the resolutions duly adopted and to be duly adopted by the Board and to be duly adopted by the Placement Committee of the Board with respect to the offer, sale and issuance of the Placement Shares, will be validly issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to the Company's periodic report on Form 10-Q and further consent to all references to us, if any, in the Registration Statement, the Prospectus and Sales Agreement Prospectus constituting parts thereof and any amendments thereto. In giving this consent we do not thereby admit that we come within the category of persons whose consent is required by the Securities Act or by the rules and regulations promulgated thereunder.

[Concluding Paragraph Follows on Next Page]

This opinion is intended solely for use in connection with the issuance and sale of the Placement Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this letter, we are opining only as to the specific legal issues expressly set forth above, and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks only as of, the date of this letter first written above, is based solely on our understanding of facts in existence as of such date after the aforementioned examination and does not address any potential changes in facts, circumstance or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

FENWICK & WEST LLP

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMEMNT, MARKED BY [***], HAS BEEN OMITTED BECAUSE THE INFORMATION IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

Execution Version

PURCHASE AND SALE AGREEMENT

dated as of September 9, 2022

between

ANAPTYSBIO, INC.

and

DRI HEALTHCARE ACQUISITIONS LP

Execution Version

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PURCHASE AND SALE AGREEMENT

This PURCHASE AND SALE AGREEMENT (this "Agreement") dated as of September 9, 2022 is between AnaptysBio, Inc., a Delaware corporation (the "Seller"), and DRI Healthcare Acquisitions LP, a Delaware limited partnership (the "Purchaser"). The Seller and the Purchaser are referred to herein as the "parties".

W I T N E S S E T H :

WHEREAS, pursuant to the Settlement Agreement, GSK agreed to pay to the Seller, and the Seller has the right to receive, the Purchased Royalty Interest; and

WHEREAS, the Seller desires to sell to the Purchaser, and the Purchaser desires to purchase from the Seller, the Purchased Royalty Interest, upon and subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements, representations and warranties set forth herein and of other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto covenant and agree as follows:

ARTICLE I
DEFINED TERMS AND RULES OF CONSTRUCTION

Section 1.1 Defined Terms. The following terms, as used herein, shall have the following respective meanings:

"Affiliate" means, with respect to any designated Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such designated Person. For purposes of this definition, "control" of a Person means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlled" and "controlling" have meanings correlative to the foregoing.

"Agreement" has the meaning set forth in the preamble.

"Bill of Sale" means that certain bill of sale, dated as of the Closing Date, executed by the Seller and the Purchaser, substantially in the form attached hereto as Exhibit A.

"Business Day" means any day that is not a Saturday, Sunday or other day on which commercial banks in New York, New York or San Diego, California are authorized or required by applicable Law to remain closed.

"Closing" has the meaning set forth in Section 6.1.

"Closing Date" has the meaning set forth in Section 6.1.

"Code" means the U.S. Internal Revenue Code of 1986, as amended, and the regulations thereunder.

"Disputes" has the meaning set forth in Section 3.9(a).

"Excess Amount" has the meaning set forth in Section 5.4(c).

"FDA" means the U.S. Food and Drug Administration.

"Governmental Authority" means the government of the United States, any other nation or any political subdivision thereof, whether state or local, and any agency, authority (including supranational authority), commission, instrumentality, regulatory body, court, central bank or other Person exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government.

"Judgment" means any judgment, order, stipulation, consent order, ruling, injunction, assessment, award, writ or decree.

"Knowledge" means, with respect to the Seller, (a) for purposes of ARTICLE III, the actual knowledge, as of the date of this Agreement after internal due inquiry, of any of the officers of the Seller identified on Schedule 1.1, and (b) for all other purposes of this Agreement, the actual knowledge, as of a specified time and without any obligation of inquiry, of any of the officers of the Seller identified on Schedule 1.1 or any successor to any such officer holding the same or substantially similar officer position at such time.

"Law" means any law, statute, rule, regulation or ordinance issued or promulgated by a Governmental Authority.

"GSK" means, collectively, GlaxoSmithKline LLC, Tesaro, Inc. and Tesaro Development, Ltd., and their respective successors and assigns.

"GSK Instruction" means the direction letter to GSK in the form attached hereto as Exhibit B.

"Lien" means any security interest, mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or otherwise), charge against or interest in property or other priority or preferential arrangement of any kind or nature whatsoever.

"Loss" means any loss, assessment, award, cause of action, claim, charge, cost, damage, expense (including expenses of investigation and attorneys' fees), fine, Judgment, liability, obligation, penalty.

"Material Adverse Effect" means a material adverse effect on (a) the legality, validity or enforceability of any of the Transaction Documents or the Settlement Agreement, (b) the ability of the Seller to perform its obligations under any of the Transaction Documents, (c) the rights or remedies of the Purchaser under any of the Transaction Documents to which it is a party, (d) the

rights of the Seller under the Settlement Agreement that relate to, or involve or otherwise affect, the Purchased Royalty Interest, (d) the timing, amount or duration of the Purchased Royalty Interest or (e) the right of the Purchaser to receive the Purchased Royalty Interest.

"Milestone Event" means approval by the FDA following the date hereof of a new drug application (or a supplement or amendment to a new drug application) to market and sell the Royalty Product, whether alone or in combination with another product or active ingredient, for the treatment of endometrial cancer in the United States.

"Net Sales" has the meaning ascribed thereto in Section 2.3 of the Settlement Agreement.

"Permitted Reduction" means any adjustments, modifications, credits, offsets, reductions or deductions to payments of the Purchased Royalty Interest made pursuant to (a) Section 2.6 (subject to the limitations set forth therein) of the Settlement Agreement, (b) Section 2.8 of the Settlement Agreement (subject to the limitations set forth therein) and (c) Section 2.11 of the Settlement Agreement.

"Person" means any natural person, firm, corporation, limited liability company, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, Governmental Authority or any other legal entity, including public bodies, whether acting in an individual, fiduciary or other capacity.

"Proceeds" means all amounts actually recovered by the Seller as a result of any settlement or resolution of any actions, suits, proceedings, claims or disputes related to the Purchased Royalty Interest or enforcement of the Settlement Agreement pursuant to this Agreement.

"Purchase Price" has the meaning set forth in Section 2.2.

"Purchased Royalty Interest" means all of the Seller's right, title and interest in and to (a) all amounts paid or payable to the Seller by GSK under Section 2.1 of the Settlement Agreement in respect of sales of the Royalty Product made during the period commencing July 1, 2022 and thereafter during the term of this Agreement, (b) all interest payments paid or payable by GSK under Section 2.10 of the Settlement Agreement in respect of the amounts described in clause (a), (c) all amounts paid or payable by GSK under Section 2.11 of the Settlement Agreement in respect of the amounts described in clause (a), and (d) all other amounts paid or payable to the Seller by GSK under the Settlement Agreement in lieu of the amounts described in clause (a). For the avoidance of doubt, the Purchased Royalty Interest shall not include amounts payable to the Seller by GSK under the Collaboration Agreement (as defined in the Settlement Agreement).

"Purchaser" has the meaning set forth in the preamble.

"Purchaser Account" means the account set forth on Exhibit C or such other account as may be designated by the Purchaser in writing from time to time.

"Purchaser Indemnified Party" has the meaning set forth in Section 7.1.

"Royalty Product" means the product known as ZEJULA® (niraparib).

"Royalty Product Patents" means the patents owned or controlled by GSK or its Affiliates (as defined in the Settlement Agreement) (or their successors or assigns), including those listed in the FDA's Orange Book (Approved Drug Products with Therapeutic Equivalence Evaluations) covering the composition of matter or method of use of the Royalty Product.

"Royalty Reports" means the quarterly royalty reports required to be prepared and delivered by GSK to Seller pursuant to Section 2.9 of the Settlement Agreement.

"Seller" has the meaning set forth in the preamble.

"Seller Account" means the account set forth on Exhibit D hereto or such other account as may be designated by the Seller in writing from time to time.

"Seller Indemnified Party" has the meaning set forth in Section 7.2.

"Settlement Agreement" means that certain Confidential Settlement and Modification Agreement, dated October 23, 2020, by and among the Seller and GSK, as amended, supplemented or otherwise modified.

"Shortfall Amount" has the meaning set forth in Section 5.4(c).

"Solvent" means, with respect to any Person on any date of determination, that on such date (a) the fair value of the assets of such Person is greater than the total amount of liabilities, including contingent liabilities, of such Person, (b) the present fair saleable value of the assets of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured, (c) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person's ability to pay such debts and liabilities as they mature, (d) such Person is not engaged in business or a transaction, and is not about to engage in business or a transaction, for which such Person's property would constitute an unreasonably small capital and (e) such Person is able to pay its debts and liabilities, contingent obligations and other commitments as they mature in the ordinary course of business. The amount of contingent obligations or contingent liabilities, as applicable, at any time shall be computed as the amount that, in the light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability or obligation, as applicable.

"Transaction Documents" means this Agreement, the Bill of Sale and the GSK Instruction.

"UCC" means the Uniform Commercial Code as in effect from time to time in the State of New York; provided, that, if, with respect to any financing statement or by reason of any provisions of applicable Law, the perfection or the effect of perfection or non-perfection of the back-up security interest or any portion thereof granted pursuant to Section 2.1(b) is governed by the Uniform Commercial Code as in effect in a jurisdiction of the United States other than the State of New York, then "UCC" means the Uniform Commercial Code as in effect from time to time in

such other jurisdiction for purposes of the provisions of this Agreement and any financing statement relating to such perfection or effect of perfection or non-perfection.

"U.S." or "United States" means the United States of America, each territory thereof and the District of Columbia.

Section 1.2 Rules of Construction. Unless the context otherwise requires, in this Agreement:

(a) unless otherwise defined, all terms that are defined in the UCC shall have the meanings stated in the UCC;

(b) words of the masculine, feminine or neuter gender shall mean and include the correlative words of other genders;

(c) the definitions of terms shall apply equally to the singular and plural forms of the terms defined;

(d) the terms "include", "including" and similar terms shall be construed as if followed by the phrase "without limitation";

(e) unless otherwise specified, references to an agreement or other document include references to such agreement or document as from time to time amended, restated, reformed, supplemented or otherwise modified in accordance with the terms thereof (subject to any restrictions on such amendments, restatements, reformations, supplements or modifications set forth herein) and include any annexes, exhibits and schedules attached thereto;

(f) references to any Law shall include such Law as from time to time in effect, including any amendment, modification, codification, replacement or reenactment thereof or any substitution therefor;

(g) references to any Person shall be construed to include such Person's successors and permitted assigns (subject to any restrictions on assignment, transfer or delegation set forth herein or in any of the other Transaction Documents), and any reference to a Person in a particular capacity excludes such Person in other capacities;

(h) the word "will" shall be construed to have the same meaning and effect as the word "shall";

(i) the words "hereof", "herein", "hereunder" and similar terms when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision hereof, and Article, Section and Exhibit references herein are references to Articles and Sections of, and Exhibits to, this Agreement unless otherwise specified;

(j) the word "extent" in the phrase "to the extent" shall mean the degree to which a subject or other thing extends and such phrase shall not mean simply "if,"

(k) the word "or" is not exclusive and shall mean "and/or", unless the context otherwise requires;

(l) any reference to a Law shall include any rules and regulations promulgated thereunder, and any reference to any Law shall mean such Law as from time to time amended, modified or supplemented;

(m) in the computation of a period of time from a specified date to a later specified date, the word "from" means "from and including" and each of the words "to" and "until" means "to but excluding";

(n) where any payment is to be made, any funds are to be applied or any calculation is to be made under this Agreement on a day that is not a Business Day, unless this Agreement otherwise provides, such payment shall be made, such funds shall be applied and such calculation shall be made on the succeeding Business Day, and payments shall be adjusted accordingly;

(o) references to "$" or otherwise to dollar amounts refer to the lawful currency of the United States; and

(p) in determining whether any action by the Seller would constitute "commercially reasonable efforts", the Seller shall make such determination as if it had not sold the Purchased Royalty Interest to the Purchaser pursuant to this Agreement (such that the Seller had continued to own the Purchased Royalty Interest).

ARTICLE II
PURCHASE AND SALE OF THE PURCHASED ROYALTY INTEREST

Section 2.1 Purchase and Sale.

(a) Upon the terms and subject to the conditions of this Agreement, at the Closing, the Seller shall sell to the Purchaser, and the Purchaser shall purchase from the Seller, all of the Seller's right, title and interest in and to the Purchased Royalty Interest, free and clear of any and all Liens, other than those Liens created in favor of the Purchaser by the Transaction Documents.

(b) It is the intention of the parties hereto that the sale contemplated by this Agreement be, and is, a true, complete, absolute and irrevocable sale by the Seller to the Purchaser of all of the Seller's right, title and interest in and to the Purchased Royalty Interest and that such sale shall provide the Purchaser with the full benefits of ownership of the Purchased Royalty Interest from and after the effectiveness of this Agreement. Neither the Seller nor the Purchaser intends the transactions contemplated by this Agreement to be, or for any purpose characterized as, a loan from the Purchaser to the Seller or a pledge, a financing transaction or a borrowing. Each of the Seller and the Purchaser hereby waives, to the maximum extent permitted by applicable Law, any right to contest or otherwise assert that this Agreement does not constitute a true, complete, absolute and irrevocable sale by the Seller to the Purchaser of all of the Seller's right, title and interest in and to the Purchased Royalty Interest under applicable Law, which waiver

shall, to the maximum extent permitted by applicable Law, be enforceable against the Seller in any bankruptcy or insolvency proceeding relating to the Seller. With respect to their respective books and records, each of the Seller and the Purchaser agrees to account for the transaction contemplated in Section 2.1(a) as a true sale as described in this Section 2.1(b). To perfect Purchaser's purchase of the Purchase Royalty Interest, the Purchaser may file financing statements (and continuation statements with respect to such financing statements when applicable) naming the Seller as the seller or debtor and the Purchaser as the buyer or secured party in respect of the Purchased Royalty Interest. If, notwithstanding the intention of the parties hereto and solely as a precaution, the transactions contemplated by this Agreement and the other Transaction Documents are determined by a court or tribunal of competent jurisdiction not to constitute a true sale of the Purchased Royalty Interest by the Seller to the Purchaser, or if such transactions shall for any reason be found ineffective or unenforceable by any such court or tribunal, then this Agreement shall be deemed to constitute a security agreement under the UCC, Purchaser's interest in the Purchased Royalty Interest shall constitute a security interest under the UCC, and the Seller shall be deemed to have granted to the Purchaser as of the date of this Agreement, and the Purchaser shall be deemed to have had at all times on and after the date the of this Agreement, a security interest in and to all right, title and interest of the Seller, in, to and under the Purchased Royalty Interest and any "proceeds" (as such term is defined in the UCC) thereof to secure the Seller's due and timely payment and performance of all of the Seller's liabilities and obligations to the Purchaser under this Agreement and any of the other Transaction Documents (whether such liabilities and obligations are direct, indirect, absolute, contingent or otherwise), including the payment of amounts to the Purchaser equal to the Purchased Royalty Interest as it becomes due and payable. In furtherance of the foregoing, the Seller hereby authorizes the Purchaser to take such actions as the Purchaser may elect to cause the security interest described above to be perfected, including, without limitation, by filing one or more UCC financing statements (and any amendments thereto from time to time) with respect to such security interest.

Section 2.2 Purchase Price. The purchase price to be paid in full consideration for the sale of the Purchased Royalty Interest is the sum of (a) $35,000,000 (the "Purchase Price"), which the Purchaser shall pay to the Seller at the Closing in immediately available funds by wire transfer to the Seller Account and (b) the Milestone Payment, to the extent the Milestone Payment becomes due and payable in accordance with Section 2.5. If any applicable Law (as reasonably determined by the Purchaser in consultation with the Seller) requires the deduction or withholding of any tax by the Purchaser from the Purchase Price or the Milestone Payment, the Purchaser shall use commercially reasonable efforts to give the Seller notice and the opportunity, in good faith, to contest and prevent such withholding and deduction. Any such withheld or deducted amounts shall be treated for all purposes of this Agreement as having been paid to the Seller.

Section 2.3 No Assumed Obligations. Notwithstanding any provision in this Agreement or any other writing to the contrary, the Purchaser is purchasing, acquiring and accepting only the Purchased Royalty Interest and is not assuming any liability or obligation of the Seller or any of the Seller's Affiliates of whatever nature, whether presently in existence or arising or asserted hereafter (including any liability or obligation of the Seller under the Settlement Agreement). All such liabilities and obligations shall be retained by and remain liabilities and obligations of the Seller or the Seller's Affiliates, as the case may be.

Section 2.4 Excluded Assets. The Purchaser does not, by purchase, acquisition or acceptance of the right, title or interest granted hereunder or otherwise pursuant to any of the Transaction Documents, purchase, acquire or accept any assets or contract rights of the Seller, including under the Settlement Agreement, other than the Purchased Royalty Interest as set forth in Section 2.1(a).

Section 2.5 Milestone Payments. If the Milestone Event occurs on or prior to December 31, 2025, the Seller shall deliver written notice thereof to the Purchaser together with reasonable supporting evidence thereof consisting of a public press release issued by GSK or the FDA with respect to achievement of the Milestone Event or the public posting of an updated drug label reflecting achievement of the Milestone Event on the website of the FDA at https://www.fda.gov. The Purchaser shall pay $10,000,000 (the "Milestone Payment") to the Seller within ten (10) Business Days following delivery of such written notice to the Purchaser in immediately available funds by wire transfer to the Seller Account. For the avoidance of doubt, if the Milestone Event occurs on or after January 1, 2026, the Milestone Payment shall not be payable to the Seller.

ARTICLE III
REPRESENTATIONS AND WARRANTIES OF THE SELLER

The Seller hereby represents and warrants to the Purchaser as of the date hereof as follows:

Section 3.1 Existence; Organization. The Seller is a corporation duly organized, validly existing and in good standing under the Laws of Delaware. The Seller possesses all licenses, permits, franchises, authorizations, consents and approvals of all Governmental Authorities required to own its property and conduct its business as presently conducted, except where the failure to possess such license, permit, franchise, authorization, consent or approval has not and would not reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.

Section 3.2 No Conflicts. The execution, delivery and performance by Seller of the Transaction Documents and the consummation of the transactions contemplated hereby and thereby do not constitute a breach of or default under any provision of (a) the organizational documents of the Seller, (b) any Law or Judgment applicable to the Seller, (c) the Settlement Agreement or (d) any contract (other than the Settlement Agreement) to which the Seller is a party or by which the Seller is bound, except, in the case of clauses (b) and (d), for such breaches or defaults that, individually or in the aggregate, would not reasonably be expected to result in a Material Adverse Effect.

Section 3.3 Authorization; Enforceability. The Seller has all necessary corporate power and authority to execute, deliver and perform the Transaction Documents and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance of the Transaction Documents, and the consummation of the transactions contemplated hereby and thereby, have been duly authorized by the Seller. Each of the Transaction Documents has been duly executed and delivered by the Seller and constitutes the legal, valid and binding obligation of

the Seller, enforceable against the Seller in accordance with its terms, except as may be limited by general principles of equity (regardless of whether considered in a proceeding at Law or in equity) and by applicable bankruptcy, insolvency, reorganization, moratorium or similar Laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 3.4 Ownership. The Seller has good and valid title to the Purchased Royalty Interest, free and clear of all Liens (other than those contemplated to be granted by the Seller to the Purchaser in respect of the Purchased Royalty Interest pursuant to Section 2.1(b)) and is exclusively entitled to the payments that comprise the Purchased Royalty Interest. There has not been any set-off, downward adjustment, credit, reduction or deduction to, or failure to pay, any portion of the Purchased Royalty Interest (other than a Permitted Reduction) by GSK. Upon payment of the Purchase Price by the Purchaser, the Purchaser will have acquired, subject to the terms and conditions set forth in this Agreement, good and valid title to the Purchased Royalty Interest, free and clear of all Liens. Upon the filing of the financing statement referred to in the last sentence of Section 2.1(b) with the Secretary of State of the State of Delaware and to the extent that, despite the intent of the parties hereto, the sale, transfer, assignment and conveyance of the Purchased Royalty Interest by the Seller to the Purchaser pursuant to this Agreement is hereafter held not to be a sale, the Purchaser will have a valid and perfected first priority security interest in and to the Purchased Royalty Interest.

Section 3.5 Governmental and Third Party Authorizations. The execution, delivery and performance by the Seller of the Transaction Documents, the consummation of any of the transactions contemplated hereby and thereby do not require any consent, approval, license, order, authorization or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except for (a) a Current Report on Form 8-K by the Seller with the U.S. Securities and Exchange Commission and (b) the UCC financing statements contemplated by Section 2.1(b).

Section 3.6 No Litigation. No action, suit, proceeding or investigation before any Governmental Authority, court or arbitrator is pending, or, to the Knowledge of the Seller, threatened, against the Seller (i) by GSK, (ii) challenging the validity or enforceability of the Settlement Agreement, (iii) relating to the Royalty Product, the Royalty Product Patents or the Purchased Royalty Interest, or (iv) relating to any other matter that, individually or in the aggregate, would reasonably be expected to result in a Material Adverse Effect.

Section 3.7 No Brokers' Fees. There is no investment banker, broker, finder, financial advisor or other Person who has been retained by or is authorized to act on behalf of the Seller who is entitled to any fee or commission from the Purchaser in connection with the transactions contemplated by this Agreement, including any fee or commission payable on the Purchased Royalty Interest.

Section 3.8 Compliance with Laws. The Seller (a) has not violated, is not in violation of, has not been given any notice of Seller's violation of, and, to the Knowledge of the Seller, is not under investigation with respect to, nor has it been threatened to be charged with, any violation of, any applicable Law or any Judgment, order, writ, decree, injunction, stipulation, consent order,

permit or license granted, issued or entered by any Governmental Authority and (b) other than the Dismissal of Claims, is not subject to any Judgment, order, writ, decree, injunction, stipulation or consent order issued or entered by any Governmental Authority; in each case of clauses (a) and (b), that involves the Royalty Product, the Royalty Product Patents or the Purchased Royalty Interest.

Section 3.9 Intellectual Property Matters.

(a) To the Knowledge of the Seller, there is no pending or threatened opposition, interference, reexamination, injunction, claim, suit, action, citation, summon, subpoena, hearing, inquiry, investigation (by the International Trade Commission or otherwise), complaint, arbitration, mediation, demand, decree or other dispute, disagreement, proceeding or claim (collectively, "Disputes") challenging the validity, enforceability or ownership of any of the Royalty Product Patents. To the Knowledge of the Seller, none of the Royalty Product Patents are subject to any outstanding injunction, Judgment, order, decree, ruling, settlement or other final disposition of a Dispute.

(b) To the Knowledge of the Seller, there is no pending or threatened action, suit or proceeding that claims that the manufacture, use, marketing, sale, offer for sale, importation or distribution of the Royalty Product does or will infringe on any patent or other intellectual property rights of any other Person or constitute misappropriation of any other Person's trade secrets or other intellectual property rights. To the Knowledge of the Seller, the manufacture, use, marketing, sale, offer for sale, importation or distribution of the Royalty Product by GSK does not and will not constitute an infringement of any valid patent or other intellectual property rights of any other Person or constitute misappropriation of any other Person's trade secrets or other intellectual property rights.

Section 3.10 Settlement Agreement.

(a) A true, correct and complete copy of the Settlement Agreement is attached hereto as Exhibit F. The Seller has delivered to the Purchaser true, correct and complete copies of all Royalty Reports provided by GSK to the Seller as of the date hereof pursuant to Section 2.9 of the Settlement Agreement.

(b) Other than the Settlement Agreement, there is no contract, agreement or other arrangement (whether written or oral) between the Seller, on the one hand, and GSK, on the other hand, (i) that involves the Royalty Product, the Royalty Product Patents or the Purchased Royalty Interest or (ii) for which breach thereof, nonperformance thereof, cancellation thereof or failure to renew would reasonably be expected to (x) reduce, other than as a result of common law set-off, the amount of the Purchased Royalty Interest payable to the Seller under the Settlement Agreement or (y) have a Material Adverse Effect. Other than the Settlement Agreement, there is no contract, agreement or other arrangement (whether written or oral) to which the Seller is a party that would reasonably be expected (i) reduce or limit the amount of the Purchased Royalty Interest payable to the Seller under the Settlement Agreement or (ii)

conflict with or otherwise adversely impact the validity and enforceability of the Settlement Agreement or the rights of the Seller thereunder.

(c) The Settlement Agreement is in full force and effect and is the legal, valid and binding obligation of the Seller and, to the Knowledge of the Seller, GSK, enforceable against the Seller and, to the Knowledge of the Seller, GSK in accordance with its terms, except as may be limited by general principles of equity (regardless of whether considered in a proceeding at Law or in equity) and by applicable bankruptcy, insolvency, moratorium and other similar Laws of general application relating to or affecting creditors' rights generally. The Seller has not received any written notice from GSK challenging the validity or enforceability of, or alleging any dispute with respect to, the Settlement Agreement, the obligation of GSK to pay the Purchased Royalty Interest thereunder or the Royalty Product Patents. The Purchased Royalty Interest is not subject to any right of offset or similar limitation in favor of GSK other than as set forth in the Settlement Agreement and pursuant to common law right of set-off.

(d) The Seller has not breached, violated or defaulted, nor is it in breach or violation of or in default, under the Settlement Agreement, and, to the Knowledge of Seller, GSK has not breached, violated or defaulted, nor is it in breach or violation of or in default, under the Settlement Agreement.

(e) The Seller has not granted any written waiver under the Settlement Agreement or released GSK, in whole or in part, from any of its obligations under the Settlement Agreement. The Seller has not received from GSK any written proposal, and has not made any written proposal to GSK, to amend or waive any provision of the Settlement Agreement.

(f) To the Knowledge of the Seller, no event has occurred that would give the Seller or GSK the right to terminate the Settlement Agreement or cease paying the Purchased Royalty Interest. The Seller has not received any written notice of an intention by GSK to terminate or breach the Settlement Agreement, in whole or in part, or challenging the validity or enforceability of the Settlement Agreement or the obligation to pay the Purchased Royalty Interest thereunder, or that the Seller or GSK is in default of its obligations under the Settlement Agreement. To the Knowledge of Seller, GSK has not committed any default, violation or breach under or of the Settlement Agreement. The Seller has not delivered any written notice of an intention by the Seller to terminate or breach the Settlement Agreement, in whole or in part, or challenging the validity or enforceability of or alleging any dispute with respect to the Settlement Agreement, or that the Seller or GSK is in default of its obligations under the Settlement Agreement. The Seller has no intention of terminating the Settlement Agreement and has not given GSK any notice of termination of the Settlement Agreement, in whole or in part.

(g) The Seller has not exercised its rights to conduct an audit under Section 2.11 of the Settlement Agreement.

(h) To the Knowledge of the Seller, the Seller has received all amounts owed to it under the Settlement Agreement, to the extent such amounts have come due.

(i) The Action (as defined in the Settlement Agreement) and the claims made therein were fully settled by the Settlement Agreement. The Action (as defined in the Settlement Agreement) was dismissed with prejudice on October 26, 2020. A true, correct and complete copy of such dismissal (the "Dismissal of Claims") has been provided by the Seller to the Purchaser.

Section 3.11 UCC Matters. The Seller's exact legal name is, and for the ten (10) years immediately preceding the Closing Date has at all times been, "AnaptysBio, Inc.". The Seller's principal place of business is, and for the ten (10) years immediately preceding the Closing Date has at all times been, located in the State of California. The Seller's address is 10770 Wateridge Circle, Suite 210, San Diego, CA 92121. The Seller's jurisdiction of organization is, and for the ten (10) years immediately preceding the Closing Date has at all times been, the State of Delaware.

Section 3.12 Taxes. No deduction or withholding for or on account of any tax has been made from any payment by GSK to the Seller under the Settlement Agreement.

Section 3.13 Solvency. The Seller is, individually and together with its subsidiaries on a consolidated basis, Solvent.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF THE PURCHASER

The Purchaser hereby represents and warrants to the Seller as of the date hereof as follows:

Section 4.1 Organization. The Purchaser is a limited partnership duly organized, validly existing and in good standing under the Laws of Delaware and has all powers and authority, and all licenses, permits, franchises, authorizations, consents and approvals of all Governmental Authorities, required to own its property and conduct its business as presently conducted.

Section 4.2 No Conflicts. None of the execution and delivery by the Purchaser of any of the Transaction Documents to which the Purchaser is party, the performance by the Purchaser of the obligations contemplated hereby or thereby or the consummation of the transactions contemplated hereby or thereby will contravene, conflict with, result in a breach, violation, cancellation or termination of, constitute a default (with or without notice or lapse of time, or both) under, require prepayment under, give any Person the right to exercise any remedy or obtain any additional rights under, or accelerate the maturity or performance of or payment under, in any respect, (i) any applicable Law or any Judgment, permit or license of any Governmental Authority to which the Purchaser or any of its assets or properties may be subject or bound, (ii) any term or provision of any contract, agreement, indenture, lease, license, deed, commitment, obligation or instrument to which the Purchaser is a party or by which the Purchaser or any of its assets or properties is bound or committed or (iii) any term or provision of any of the organizational documents of the Purchaser.

Section 4.3 Authorization; Enforceability. The Purchaser has all powers and authority to execute and deliver, and perform its obligations under, the Transaction Documents to which it is party and to consummate the transactions contemplated hereby and thereby. The execution and delivery of each of the Transaction Documents to which the Purchaser is party and the performance

by the Purchaser of its obligations hereunder and thereunder have been duly authorized by the Purchaser. Each of the Transaction Documents to which the Purchaser is party has been duly executed and delivered by the Purchaser. Each of the Transaction Documents to which the Purchaser is party constitutes the legal, valid and binding obligation of the Purchaser, enforceable against the Purchaser in accordance with its respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or similar applicable Laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 4.4 Governmental and Third Party Authorizations. The execution and delivery by the Purchaser of the Transaction Documents to which the Purchaser is party, the performance by the Purchaser of its obligations hereunder and thereunder and the consummation of any of the transactions contemplated hereunder and thereunder do not require any consent, approval, license, order, authorization or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except as described in Section 3.5.

Section 4.5 No Litigation. There is no (a) action, suit, arbitration proceeding, claim, demand, citation, summons, subpoena, investigation or other proceeding (whether civil, criminal, administrative, regulatory, investigative or informal) pending or, to the knowledge of the Purchaser, threatened by or against the Purchaser, at Law or in equity, or (b) inquiry or investigation (whether civil, criminal, administrative, regulatory, investigative or informal) by or before a Governmental Authority pending or, to the knowledge of the Purchaser, threatened against the Purchaser, that, in each case, challenges or seeks to prevent or delay the consummation of any of the transactions contemplated by any of the Transaction Documents to which the Purchaser is party.

Section 4.6 Access to Information. The Purchaser acknowledges that it has reviewed the Settlement Agreement and such other documents and information relating to, and has had the opportunity to ask such questions of, and to receive answers from, representatives of the Seller concerning, the Royalty Product, the Settlement Agreement, the Purchased Royalty Interest, the relationship between the Seller and GSK, and any other matter relating thereto, in each case, as it deemed necessary to make an informed decision to purchase, acquire and accept the Purchased Royalty Interest in accordance with the terms of this Agreement. Except as specifically set forth in this Article IV, the Purchaser acknowledges and agrees that the Seller makes no representation nor extends any warranty, whether express or implied, with respect to the Royalty Product, the Settlement Agreement, the Purchased Royalty Interest, the relationship between the Seller and GSK, future Net Sales of the Royalty Product or any other matter relating thereto. The Purchaser has such knowledge, sophistication and experience in financial and business matters that it is capable of evaluating the risks and merits of purchasing, acquiring and accepting the Purchased Royalty Interest in accordance with the terms of this Agreement.

Section 4.7 Funds Available. The Purchaser has sufficient cash on hand to satisfy its obligation to pay the Purchase Price at the Closing and its obligation to pay the Milestone Payment if and as the Milestone Payment becomes payable in accordance with Section 2.5. The Purchaser acknowledges and agrees that its obligations under this Agreement are not contingent on obtaining financing.

Section 4.8 No Implied Representations or Warranties. THE PURCHASER ACKNOWLEDGES AND AGREES THAT, OTHER THAN THE EXPRESS REPRESENTATIONS AND WARRANTIES OF THE SELLER SPECIFICALLY CONTAINED IN ARTICLE III, THERE ARE NO REPRESENTATIONS OR WARRANTIES OF SELLER EITHER EXPRESSED OR IMPLIED, AND THAT PURCHASER DOES NOT RELY ON, AND SHALL HAVE NO REMEDIES IN RESPECT OF, ANY REPRESENTATION OR WARRANTY NOT SPECIFICALLY SET FORTH IN ARTICLE III, AND ALL OTHER REPRESENTATIONS AND WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. FOR THE AVOIDANCE OF DOUBT, THE FOREGOING SENTENCE SHALL NOT LIMIT OR ELIMINATE OR WAIVE THE PURCHASER'S RIGHT TO INDEMNIFICATION SET FORTH IN ARTICLE VII.

ARTICLE V
COVENANTS

Section 5.1 Public Announcement. Except (a) for a press release previously approved in form and substance by the Seller and the Purchaser or any other public announcement using substantially the same text as such press release and (b) any disclosure required by applicable Law, by the rules and regulations of any securities exchange or market on which any security of such party hereto may be listed or traded or by any Governmental Authority of competent jurisdiction, neither the Purchaser nor the Seller shall, and each party hereto shall cause its Affiliates not to, without the prior written consent of the other party hereto (which consent shall not be unreasonably withheld, delayed or conditioned), issue any press release or make any other public disclosure with respect to this Agreement or any of the other Transaction Documents or any of the transactions contemplated hereby or thereby. The Purchaser acknowledges that it will be necessary for the Seller to file this Agreement with the SEC and to make other public disclosures regarding the terms of this Agreement and payments made under this Agreement in its reports filed with the SEC, and the Seller agrees that it will provide the Purchaser a reasonable opportunity to review and comment on any proposed redactions to the copy of this Agreement filed with the SEC as well as on such other public disclosures and will consider such comments in good faith, provided that the Seller shall not be required to provide the Purchaser (i) any other part of an annual, periodic, or current report or financial statement or (ii) the opportunity to review and comment on any disclosure substantively identical to any disclosure previously reviewed and commented upon by the Purchaser.

Section 5.2 Further Assurances. Subject to the terms and conditions of this Agreement, each party hereto shall execute and deliver such other documents, certificates, instruments, agreements and other writings, take such other actions and perform such additional acts under applicable Law as may be reasonably requested by the other party hereto and necessary or reasonably desirable to implement expeditiously the transactions contemplated by, and to carry out the purposes and intent of the provisions of, this Agreement and the other Transaction Documents, including to (i) perfect the sale, contribution, assignment, transfer, conveyance and granting of the Purchased Royalty Interest to the Purchaser pursuant to this Agreement, (ii) perfect, protect, more fully evidence, vest and maintain in the Purchaser good, valid and marketable rights and interests in and to the Purchased Royalty Interest free and clear of all Liens (other than those

Liens created in favor of the Purchaser by the Transaction Documents) and (iii) create, evidence and perfect the Purchaser's back-up security interest granted pursuant to Section 2.1(b).

Section 5.3 Royalty Reports; Notices and Communications from GSK. Promptly (and in any event no later than five (5) Business Days) following the receipt by the Seller from GSK of (a) a Royalty Report or (b) any material written notice delivered to the Seller by GSK or any other Person (subject to any obligations of confidentiality owed by the Seller to such other Person) that relates to the Purchased Royalty Interest, the Royalty Product or the Royalty Product Patents, the Seller shall deliver a copy of the same to the Purchaser. The Seller shall, promptly (and in any event no later than five (5) Business Days) following the delivery thereof by the Seller to GSK or any other Person (subject to any obligations of confidentiality owed by the Seller to such other Person), furnish a copy of any material written notice or material written correspondence sent by the Seller to GSK or such other Person relating to the Purchased Royalty Interest, the Royalty Product or the Royalty Product Patents.

Section 5.4 Misdirected Payments.

(a) Notwithstanding the terms of the GSK Instruction, commencing upon the Closing and at all times thereafter during the term of this Agreement, if any portion of the Purchased Royalty Interest is paid to the Seller, then (i) the Seller shall hold such amount in trust for the benefit of the Purchaser in a segregated account, (ii) the Seller shall have no right, title or interest whatsoever in such amount and shall not create or suffer to exist any Lien thereon and (iii) the Seller promptly, and in any event no later than five (5) Business Days following the receipt by the Seller of such amount, shall remit such amount in full, subject to Section 5.10(c), to the Purchaser Account. The Seller shall notify the Purchaser of such wire transfer and provide reasonable details regarding the Purchased Royalty Interest payment so received by the Seller.

(b) Notwithstanding the terms of the GSK Instruction, commencing upon the Closing and at all times thereafter, if any amount due under the Settlement Agreement that does not constitute the Purchased Royalty Interest or any amount due under the Collaboration Agreement is paid to the Purchaser, then (i) the Purchaser shall hold such amount in trust for the benefit of the Seller in a segregated account, (ii) the Purchaser shall have no right, title or interest whatsoever in such amount and shall not create or suffer to exist any Lien thereon and (iii) the Purchaser promptly, and in any event no later than five (5) Business Days following the receipt by the Purchaser of such amount, shall remit such amount in full to the Seller Account. The Purchaser shall notify the Seller of such wire transfer and provide reasonable details regarding the erroneous payment so received by the Purchaser.

(c) If the Purchased Royalty Interest paid for any period commencing on July 1, 2022 or later is reduced (other than as a result of a Permitted Reduction) by GSK due to an overestimate by GSK of Net Sales for any period prior to July 1, 2022 to less than the amount that would have been received by the Purchaser had such overestimate not occurred (the amount of such reduction in the Purchased Royalty Interest, the "Shortfall Amount"), then the Seller shall promptly pay the Purchaser the Shortfall Amount. If the Purchased Royalty Interest paid for any period commencing on July 1, 2022 or later is increased by GSK due to an underestimate by GSK

of Net Sales for any period prior to July 1, 2022 to more than the amount that would have been received by the Purchaser had such underpayment underestimate not occurred (the amount of such increase in the Purchased Royalty Interest, the "Excess Amount"), then the Purchaser shall promptly pay the Seller the Excess Amount.

(d) A late fee of two percent (2%) above the prime rate published by *The Wall Street Journal* from time to time as the prime rate shall accrue on all unpaid amounts on an annualized basis with respect to any sum payable under Section 5.4(a) or Section 5.4(b) beginning ten (10) Business Days after the Seller, in the case of Section 5.4(a), or the Purchaser, in the case of Section 5.4(b), receives such erroneous payment.

Section 5.5 Set-Offs. If GSK exercises any contractual, statutory or common law right of set-off or other right of set-off at Law (which in each case, for the avoidance of doubt, shall not include any Permitted Reduction) against any payment of the Purchased Royalty Interest, such set-off shall not reduce any payment of the Purchased Royalty Interest otherwise payable to the Purchaser, and if such set-off reduces any payment of the Purchased Royalty Interest to less than the full amount of the Purchased Royalty Interest, then the Seller shall promptly (and in any event within ten (10) Business Days following the payment of the Purchased Royalty Interest affected by such set-off) make a true-up payment to the Purchaser such that the Purchaser receives the full amount of such Purchased Royalty Interest payment that would have been payable to the Purchaser had such set-off not occurred. For all purposes hereunder, any true-up payment made pursuant to this Section 5.5 will be treated as paid with respect to the Purchased Royalty Interest for U.S. federal income tax purposes to the fullest extent permitted by applicable Law.

Section 5.6 Maintenance of Settlement Agreement.

(a) The Seller shall perform and comply with all of its obligations under the Settlement Agreement, and shall not take any action or forego any action that would reasonably be expected to constitute a breach of or default under any provision of the Settlement Agreement or that would reasonably be expected to result in a Material Adverse Effect. The Seller shall not amend, modify, supplement, restate, waive, assign, transfer, delegate, cancel or terminate (or consent to any cancellation, termination, assignment, transfer or delegation of), in whole or in part, any provision of or right under the Settlement Agreement or the Collaboration Agreement (as defined in the Settlement Agreement) that relates to the Purchased Royalty Interest or that would reasonably be expected to result in a Material Adverse Effect without the prior written consent of the Purchaser, provided that the assignment of the Settlement Agreement in its entirety to any third party that acquires all or substantially all of the Seller's business, whether by merger, sale of assets or otherwise, shall not require the prior written consent of the Purchaser so long as such assignment of the Settlement Agreement is made together with an assignment of this Agreement permitted by Section 10.3 hereof. Subject to the foregoing, promptly, and in any event within five (5) Business Days, (i) following receipt by the Seller of any proposed amendment, modification, supplement, restatement, waiver, cancellation or termination of the Settlement Agreement or Collaboration Agreement to which the Purchaser's consent is required pursuant to the foregoing sentence, the Seller shall furnish a copy of the same to the Purchaser, (ii) following receipt by the Seller of any final amendment, modification, supplement, restatement, waiver, cancellation or termination of

the Settlement Agreement, the Seller shall furnish a copy of the same to the Purchaser and (iii) following receipt by the Seller of any final amendment, modification, supplement, restatement, waiver, cancellation or termination of the Collaboration Agreement to which the Purchaser's consent is required pursuant to the foregoing sentence, the Seller shall furnish a copy of the same to the Purchaser.

(b) The Seller shall not terminate or agree with GSK to terminate, or take any action that would reasonably be expected to give GSK the right to terminate, the Settlement Agreement.

(c) The Seller shall not, without the prior written consent of the Purchaser, grant or withhold any consent, exercise or waive any right, obligation or option or fail to exercise any right or option in respect of, affecting or relating to the Purchased Royalty Interest. The Seller shall not forgive, waive, release or compromise any portion of the Purchased Royalty Interest payable under the Settlement Agreement.

(d) Within five (5) Business Days after receiving notice from GSK alleging any breach of or default under or termination of the Settlement Agreement by the Seller (including any threat of litigation, demand, proceeding, or other action), the Seller shall give written notice thereof to the Purchaser. Such notice shall (i) describe in reasonable detail such breach, default or termination event, and (ii) include a copy of any written notice received from GSK. The Seller shall use its commercially reasonable efforts to promptly cure any such breach or default by it under the Settlement Agreement and, in any case, shall give written notice to the Purchaser upon curing such breach or default. In connection with any dispute regarding an alleged breach or default that is solely related to the Purchased Royalty Interest or would reasonably be expected to have a Material Adverse Effect, the Seller shall employ such counsel, reasonably acceptable to the Seller, as the Purchaser may select. The Seller shall not waive any obligation of, or grant any consent to, GSK under, in respect of or related to the Purchased Royalty Interest without the prior written consent of the Purchaser.

Section 5.7 Enforcement of Settlement Agreement.

(a) Promptly (but in any event within five (5) Business Days) after the Seller obtains Knowledge of any breach of or default under the Settlement Agreement related to the Purchased Royalty Interest, the Royalty Product or the Royalty Product Patents by GSK or of the existence of any facts, circumstances or events that, alone or together with other facts, circumstances or events, would reasonably be expected (with or without the giving of notice or passage of time, or both) to give rise to any such breach or default, the Seller shall promptly, but in any event within five (5) Business Days after the Seller obtains such Knowledge, give written notice to the Purchaser describing in reasonable detail the relevant breach or default. The Seller shall keep the Purchaser reasonably updated as to any material developments relating to any such breach or default. In the case of any such breach or default, the Seller shall, at the Purchaser's reasonable direction and at the Purchaser's expense, use commercially reasonable efforts to promptly and fully enforce the Seller's rights and remedies (whether under the Settlement Agreement or by operation of Law) and GSK's obligations under the Settlement Agreement,

including, if reasonably requested by the Purchaser, instituting formal legal proceedings against GSK using counsel reasonably acceptable to the Purchaser.

(b) The Purchaser shall reimburse the Seller for all reasonable out-of-pocket costs and expenses (including the out-of-pocket fees and expenses of the Seller's counsel) incurred by the Seller, as such costs and expenses are incurred, in connection with any actions taken or exercise of rights and remedies by the Seller at the direction of the Purchaser pursuant to Section 5.7(a).

(c) All Proceeds resulting from any enforcement of GSK's obligations under the Settlement Agreement shall be applied (i) first to reimburse the Seller for any expenses incurred by it in connection with such enforcement to the extent not previously reimbursed to it by the Purchaser in accordance with Section 5.7(b) and (ii) second, if such enforcement was undertaken at the direction of Purchaser pursuant to Section 5.7(a), to the Purchaser for any expenses incurred by it in connection with such enforcement. The remainder of such Proceeds that are in respect of the Purchased Royalty Interest shall be allocated to the Purchaser, with any remaining Proceeds allocated to the Seller. The Seller hereby assigns and, if not presently assignable, agrees to assign to the Purchaser the amount of Proceeds due to the Purchaser in accordance with this Section 5.7(c). For the avoidance of doubt, if such Proceeds are in respect of an unpaid portion of the Purchased Royalty, and the amount of Proceeds remaining after application of the first sentence of this Section 5.7(c) is less than such unpaid portion of the Purchased Royalty, the Seller shall have no obligation to reimburse or make whole the Purchaser for such differential amount.

Section 5.8 No Assignment; No Liens. The Seller shall not dispose of, assign or otherwise transfer, or grant, incur or suffer to exist any Lien on the Purchased Royalty Interest; provided, however, that if, notwithstanding the intention of the parties hereto, the transactions contemplated by this Agreement and the other Transaction Documents are determined by a court or tribunal of competent jurisdiction not to constitute a true sale of the Purchased Royalty Interest by the Seller to the Purchaser, then the foregoing provision shall not prohibit the Seller from assigning any rights it has in respect of the Purchased Royalty Interest in connection with a permitted assignment of this Agreement by the Seller in accordance with the provisions of Section 10.3 to any other Person with which the Seller may merge or consolidate or to which the Seller may sell all or substantially all of its assets.

Section 5.9 Audits. If requested in writing by the Purchaser, the Seller shall, to the extent permitted by Section 2.11 of the Settlement Agreement, provide written notice to GSK to cause an inspection or audit in respect of payments of the Purchased Royalty Interest under the Settlement Agreement. All of the expenses of any such inspection or audit requested by the Purchaser that would otherwise be borne by the Seller pursuant to the Settlement Agreement shall instead be borne by the Purchaser, including such fees and expenses of any public accounting firm engaged by Seller in connection with such an inspection or audit, together with Seller's reasonable out-of-pocket costs incurred in connection with such inspection or audit. With respect to any inspection or audit requested by the Purchaser, the Seller shall select such public accounting firm as the Purchaser shall recommend for such purpose. The Seller will furnish to the Purchaser a true, correct and complete copy of any inspection or audit report prepared in connection with such an inspection or audit. If, following the completion of such inspection or audit, the Seller is

required to reimburse GSK for overpayment of the Purchased Royalty Interest, then Purchaser shall promptly upon request (and in any event within ten (10) Business Days following such request) reimburse the portion of such overpaid amount that was paid to the Purchaser to Seller or, at Seller's request, to GSK on behalf of Seller. If, following the completion of such inspection or audit conducted at the request of the Purchaser, GSK is required to reimburse Seller for the cost of such audit or inspection as required by Section 2.11 of the Settlement Agreement, then Seller shall promptly upon receipt of such reimbursement (and in any event within five (5) Business Days following such receipt) pay to the Purchaser the full amount of such reimbursement that was paid to the Seller. The Seller shall not initiate any inspection or audit under Section 2.11 of the Settlement Agreement in respect of payments of the Purchased Royalty Interest without the prior written consent of the Purchaser.

Section 5.10 Tax Matters.

(a) Notwithstanding the accounting treatment therefor and unless otherwise required by applicable Law, for all U.S. federal and applicable state and local tax purposes, the Seller and the Purchaser shall treat (i) the Purchaser's payment of the Purchase Price (pursuant to Section 2.2) and the Purchaser's payment of the Milestone Payment (pursuant to Section 2.5) as received by the Seller in a taxable transaction and (ii) Purchaser as the recipient of the payments made with respect to the Purchased Royalty Interest. If there is an inquiry by any Governmental Authority of the Seller or the Purchaser related to this Section 5.10, the Parties shall cooperate with each other in responding to such inquiry in a commercially reasonable manner consistent with this Section 5.10.

(b) On or prior to the Closing Date, the Purchaser shall deliver to the Seller a duly completed and valid IRS Form W-8BEN-E certifying that the Purchaser is exempt from U.S. federal withholding tax in respect of all payments in accordance with this Agreement under an applicable United States income tax treaty.

(c) All payments to the Purchaser under the Transaction Documents shall be made without any deduction or withholding by the Seller for or on account of any tax, unless required by applicable Law. If any applicable Law (as reasonably determined by the Seller after consultation with the Purchaser) requires the deduction or withholding of any tax by the Seller or GSK, then the Seller or GSK shall be entitled to make such deduction or withholding in accordance with applicable Law; provided that the Seller shall use commercially reasonable efforts to give the Purchaser notice and the opportunity, in good faith, to contest and prevent such withholding and deduction. The Seller shall use commercially reasonable efforts to give or cause to be given to the Purchaser such assistance and such information concerning the reasons for withholding or deduction (including, in reasonable detail, the method of calculation for the deduction or withholding thereof) as may be reasonably requested by the Purchaser and at the Purchaser's expense to enable the Purchaser to claim exemption therefrom, or credit therefor, or relief (whether at source or by reclaim) therefrom, and, in each case, shall furnish the Purchaser, with proper evidence of the taxes withheld and deducted and remitted to the relevant taxing authority. Any such withheld amounts shall be treated for all purposes of the Transaction Documents as having been paid to the Purchaser. Purchaser shall indemnify the Seller for any taxes that are attributable

to the payments made with respect to the Purchased Royalty Interest and that the Seller becomes liable for (directly, or pursuant to the Transaction Documents, the Settlement Agreement or otherwise) in respect of any failure to deduct or withhold, together with any interest and penalties thereto, and the Purchaser shall promptly pay the Seller for such taxes (and any interest or penalties) upon the request of the Seller.

Section 5.11 Change of Name, Jurisdiction, Etc. The Seller shall not, without prior written notice to the Purchaser, (a) change the Seller's legal name or type of organization or (b) change the Seller's jurisdiction of organization. At the request of the Purchaser, the Seller agrees to promptly provide the Purchaser with certified copies of its organizational documents reflecting any of the changes described in this Section 5.11.

Section 5.12 GSK Directions. After the Closing, the Seller shall not, without the Purchaser's prior written consent, deliver any directions to GSK regarding payment of the Purchased Royalty Interest or otherwise revoke, amend or modify the GSK Instruction.

ARTICLE VI
THE CLOSING

Section 6.1 Closing. The closing of the transactions contemplated hereby (the "Closing") shall take place on the date hereof (the "Closing Date") via the remote exchange of documents and signatures, or at such other time and location as the parties hereto mutually agree.

Section 6.2 Payment of Purchase Price. Subject to the last sentence of Section 2.2, at the Closing, the Purchaser shall deliver to the Seller payment of the Purchase Price by wire transfer of immediately available funds to the Seller Account, without any deduction for withholding or other taxes and without any other set off or deduction of any kind.

Section 6.3 Closing Deliverables.

(a) At the Closing, each of the Seller and the Purchaser shall deliver to the other party hereto a duly executed counterpart to the Bill of Sale, evidencing the sale and assignment to the Purchaser of the Purchased Royalty Interest.

(b) At the Closing, the Seller shall deliver to the Purchaser a certificate of an executive officer of the Seller, dated as of the Closing Date, certifying as to the (i) accuracy and completeness of attached copies of the organizational documents of the Seller and resolutions of the governing body of the Seller authorizing and approving the execution, delivery and performance by the Seller of the Transaction Documents and the transactions contemplated thereby and (ii) the incumbency of the officer or officers of the Seller who have executed and delivered the Transaction Documents, including therein a signature specimen of each such officer or officers.

(c) At the Closing, the Purchaser shall deliver to the Seller a certificate of an executive officer of the Purchaser, dated as of the Closing Date, certifying as to the (i) accuracy and completeness of attached copies of the organizational documents of the Purchaser and

resolutions of the governing body of the Purchaser authorizing and approving the execution, delivery and performance by the Purchaser of the Transaction Documents to which it is a party and the transactions contemplated thereby and (ii) the incumbency of the officer or officers of the Purchaser who have executed and delivered the Transaction Documents, including therein a signature specimen of each such officer or officers.

(d) At the Closing, the Seller shall deliver to the Purchaser a duly completed and executed IRS Form W-9.

(e) At the Closing, the Purchaser shall deliver to the Seller a duly completed and executed IRS Form W-8BEN-E pursuant to Section 5.10(b).

(f) At the Closing, the Seller shall deliver to the Purchaser an opinion of Goodwin Procter LLP, counsel to the Seller, in a form previously agreed between the Seller and the Purchaser.

(g) At the Closing, the Seller shall deliver to GSK a duly executed copy of the GSK Instruction and shall provide evidence to Purchaser of such delivery.

(h) At the Closing, each of the Seller and the Purchaser shall deliver to the other party hereto a duly executed counterpart to the Funds Flow in the form attached hereto as Exhibit G.

ARTICLE VII
INDEMNIFICATION

Section 7.1 Indemnification by the Seller. The Seller agrees to indemnify and hold harmless the Purchaser and its Affiliates and any or all of their respective partners, directors, officers, managers, employees, agents, successors and direct and indirect owners (each, a "Purchaser Indemnified Party") from and against, and will pay to each Purchaser Indemnified Party the amount of, any and all Losses awarded against or incurred or suffered by such Purchaser Indemnified Party, whether or not involving a Third Party Claim, arising out of (a) any breach of any representation or warranty made by the Seller in any of the Transaction Documents, (b) any breach of or default under any covenant or agreement of the Seller in any of the Transaction Documents and (c) all liabilities and obligations of the Seller or any of its Affiliates that are retained by the Seller or any of its Affiliates as described in Section 2.3; provided, however, that the foregoing shall exclude any indemnification to any Purchaser Indemnified Party (i) that results from the bad faith, gross negligence or willful misconduct of any Purchaser Indemnified Party, (ii) that results from the failure of GSK to perform any of its obligations under the Settlement Agreement, unless resulting from the breach or default by the Seller of or under the Settlement Agreement and except to the extent the Seller fails to comply with Section 5.7(a) in enforcing such obligations of GSK, or (iii) to the extent resulting from acts or omissions of the Seller taken (or omitted to be taken) at the direction of any Purchaser Indemnified Party as set forth in any written instructions from any Purchaser Indemnified Party to the Seller. Any amounts due to any

Purchaser Indemnified Party hereunder shall be payable by the Seller to such Purchaser Indemnified Party upon demand.

Section 7.2 Indemnification by the Purchaser. The Purchaser agrees to indemnify and hold each of the Seller and its Affiliates and any or all of their respective partners, directors, officers, managers, members, employees, agents, successors and direct and indirect owners (each, a "Seller Indemnified Party") harmless from and against, and will pay to each Seller Indemnified Party the amount of, any and all Losses awarded against or incurred or suffered by such Seller Indemnified Party, whether or not involving a Third Party Claim, arising out of (a) any breach of any representation or warranty made by the Purchaser in any of the Transaction Documents and (b) any breach of or default under any covenant or agreement of the Purchaser in any Transaction Document to which the Purchaser is party or in the Existing Confidentiality Agreement; provided, however, that the foregoing shall exclude any indemnification to any Seller Indemnified Party (i) that results from the bad faith, gross negligence or willful misconduct of any Seller Indemnified Party, (ii) to the extent resulting from acts or omissions of the Seller that would entitle any Purchaser Indemnified Party to indemnification under Section 7.1 or (iii) to the extent resulting from acts or omissions of the Purchaser taken (or omitted to be taken) at the direction of any Seller Indemnified Party as set forth in any written instructions from any Seller Indemnified Party to the Purchaser. Any amounts due to any Seller Indemnified Party hereunder shall be payable by the Purchaser to such Seller Indemnified Party upon demand.

Section 7.3 Procedures for Third Party Claims.

(a) If any claim or demand made by any Person other than the Purchaser or the Seller or their respective Affiliates against a Purchaser Indemnified Party or a Seller Indemnified Party, as applicable (a "Third Party Claim") shall be brought or alleged against an indemnified party in respect of which indemnity is to be sought against an indemnifying party pursuant to Section 7.1 or Section 7.2, the indemnified party shall, promptly after receipt of notice of the commencement of such Third Party Claim, notify the indemnifying party in writing of the commencement thereof, enclosing a copy of all papers served, if any; provided, that the failure to so notify such indemnifying party will not relieve the indemnifying party from any liability that it may have to any indemnified party under Section 7.1 or Section 7.2 unless, and only to the extent that, the indemnifying party is actually prejudiced by such failure.

(b) In the event that any Third Party Claim is brought against an indemnified party and it notifies the indemnifying party of the commencement thereof in accordance with this Section 7.3, the indemnifying party will be entitled, at the indemnifying party's sole cost and expense, to participate therein and, to the extent that it may wish, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under this Article VII for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation.

(c) In any such Third Party Claim, an indemnified party shall have the right to retain its own counsel, but the reasonable fees and expenses of such counsel shall be at the sole cost and expense of such indemnified party unless (a) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (b) the indemnifying party has assumed the defense of such proceeding and has failed within a reasonable time to retain counsel reasonably satisfactory to such indemnified party or (c) the named parties to any such Third Party Claim (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential conflicts of interests between them based on the advice of counsel to the indemnifying party. It is agreed that the indemnifying party shall not, in connection with any Third Party Claim or related proceedings in the same jurisdiction, be liable for the fees and expenses of more than one separate law firm (in addition to local counsel where necessary) for all such indemnified parties.

(d) The indemnifying party shall not be liable for any settlement of any Third Party Claim effected without its written consent, but, if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any Loss by reason of such settlement or judgment. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or discharge of any pending or threatened Third Party Claim in respect of which any indemnified party is or could have been a party and indemnity could be sought hereunder by such indemnified party, unless such settlement, compromise or discharge, as the case may be, (i) includes an unconditional written release of such indemnified party, in form and substance reasonably satisfactory to the indemnified party, from all liability on claims that are the subject matter of such claim or proceeding, (ii) does not include any statement as to an admission of fault, culpability or failure to act or violation of Law by or on behalf of any indemnified party, (iii) does not impose any continuing material obligation or restrictions on any indemnified party and provides that monetary damages are the sole relief for such Third Party Claim (iv) obligates the indemnifying party to pay the full amount of the money damages in connection with such Third Party Claim and (v) would not otherwise materially and adversely impact the indemnified party.

Section 7.4 Other Claims. A claim by an indemnified party under this ARTICLE VII for any matter not involving a Third Party Claim and in respect of which such indemnified party would be entitled to indemnification hereunder may be made by delivering, in good faith, a written notice of demand to the indemnifying party, which notice shall be delivered pursuant to Section 10.2(b) in addition to any other method of delivery pursuant to Section 10.2, and shall contain (a) a description and the amount of any Losses incurred or suffered or reasonably expected to be incurred or suffered by the indemnified party, (b) a statement that the indemnified party is entitled to indemnification under this ARTICLE VII for such Losses and a reasonable explanation of the basis therefor, and (c) a demand for payment in the amount of such Losses; provided, that the failure to so notify such indemnifying party will not relieve the indemnifying party from any liability that it may have to any indemnified party under Section 7.1 or Section 7.2 unless, and only to the extent that, the indemnifying party is actually prejudiced by such failure. If the indemnifying party does not notify the indemnified party within twenty (20) Business Days following its receipt of such notice that the indemnifying party disputes its liability to the

indemnified party under Section 7.1 or Section 7.2, such claim specified by the indemnified party in such notice shall be conclusively deemed a liability of the indemnifying party under Section 7.1 or Section 7.2 and the indemnifying party shall pay the amount of such liability to the indemnified party on demand or, in the case of any notice in which the amount of the claim (or any portion thereof) is estimated, on such later date when the amount of such claim (or such portion thereof) becomes finally determined. For all purposes of this Section 7.4, the Seller shall be entitled to deliver such notice of demand to the Purchaser on behalf of the Seller Indemnified Parties, and the Purchaser shall be entitled to deliver such notice of demand to the Seller on behalf of the Purchaser Indemnified Parties.

Section 7.5 Time Limitations.

(a) The Seller shall have liability under Section 7.1 with respect to any breach of any representation or warranty made by the Seller in any of the Transaction Documents or certificates delivered by the Seller to the Purchaser in writing pursuant to this Agreement, only if, on or prior to the date that is [***], the Purchaser notifies the Seller of a claim in respect of such breach, specifying the factual basis of such claim in reasonable detail (other than Section 3.1, Section 3.2, Section 3.3, Section 3.4, Section 3.10(a), Section 3.10(b), Section 3.10(c), Section 3.10(f) and Section 3.10(i), as to which a claim may be made at any time until the date that is the later of (x) [***] and (y) [***]).

(b) The Purchaser shall have liability under Section 7.2 with respect to any breach of any representation or warranty made by the Purchaser in any of the Transaction Documents or any certificate delivered by the Purchaser to the Seller in writing pursuant to this Agreement, only if, on or prior to the date that is [***], the Seller notifies the Purchaser of a claim in respect of such breach, specifying the factual basis of such claim in reasonable detail (other than Section 4.1, Section 4.2, Section 4.3, and Section 4.4 as to which a claim may be made at any time until the date that is the later of (x) [***] and (y) [***]).

Section 7.6 Limitations on Liability. No party hereto shall be liable for any consequential (including lost profits), punitive, special, indirect or incidental damages under this ARTICLE VII (and no claim for indemnification hereunder shall be asserted) as a result of any breach or violation of any covenant or agreement of such party (including under this ARTICLE VII) in or pursuant to this Agreement; provided, however, that the Losses, if any, of the Purchaser Indemnified Parties will include Losses for any payments in respect that the Purchaser was entitled to receive but did not receive timely or at all due to such indemnifiable event and such missing or delayed payments shall not be deemed consequential, punitive, special, indirect or incidental damages. Other than with respect to any fraud, willful misconduct, or intentional misrepresentation, (a) in no event shall the Seller's aggregate liability for Losses under Section 7.1(a) or the Purchaser's aggregate liability for Losses under Section 7.2(a) exceed [***], and (b) the Seller shall not have any liability for Losses under Section 7.1(a) and the Purchaser shall not have any liability for Losses under Section 7.2(a) unless

and until the aggregate amount of all Losses incurred by the indemnified party equals or exceeds [***], and then only to the extent of such excess. For the avoidance of doubt, the Seller shall have no liability to the Purchaser for any Permitted Reduction.

Section 7.7 Exclusive Remedy. Except in the case of actual fraud and except as set forth in Section 10.1, the indemnification afforded by this Article VII shall be the sole and exclusive remedy for any and all Losses awarded against or incurred or suffered by a Party in connection with the transactions contemplated by the Transaction Documents, including with respect to any breach of any representation or warranty made by a Party in any of the Transaction Documents or any certificate delivered by a Party to the other Party in writing pursuant to this Agreement or any breach of or default under any covenant or agreement by a Party pursuant to any Transaction Document.

ARTICLE VIII
CONFIDENTIALITY

Section 8.1 Confidentiality. Except as provided in this ARTICLE VIII or Section 5.1 or otherwise agreed in writing by the parties, during the term of this Agreement and until the fifth (5^{th}) anniversary of the date of termination of this Agreement, each party (the "Receiving Party") shall keep confidential, and shall not publish or otherwise disclose and shall not use for any purpose other than as provided for in this Agreement (which includes the exercise of any rights or the performance of any obligations hereunder), any information (whether written or oral, or in electronic or other form) furnished to it by or on behalf of the other party (the "Disclosing Party") pursuant to the Existing Confidentiality Agreement (as defined below) or this Agreement (such information, "Confidential Information" of the Seller), except for that portion of such information that:

(a) was already in the Receiving Party's possession on a non-confidential basis prior to its disclosure to it by the Disclosing Party, as evidenced by written records (provided, if such information was disclosed to the Receiving Party on a non-confidential basis by a party that is not the Disclosing Party, such party had the right to disclose such information to the Receiving Party without violating any legal, contractual or fiduciary obligation to the Disclosing Party with respect to such information);

(b) is or becomes generally available to the public other than as a result of an act or omission by the Receiving Party or its Affiliates in breach of this Agreement; or

(c) was independently developed by the Receiving Party, as evidenced by written records, without use of or reference to the Confidential Information or in violation of the terms of this Agreement.

For the avoidance of doubt, but without limiting any disclosures permitted pursuant to Section 5.1 or Sections 8.1(a) through (e), the terms of this Agreement are the Confidential Information of the Seller.

Section 8.2 Termination of Confidentiality Agreement. Effective upon the date hereof, the Existing Confidentiality Agreement shall terminate and be of no further force or effect, and shall be superseded by the provisions of this Article VIII.

Section 8.3 Required Disclosure. In the event that the Receiving Party or its Affiliates or any of its or its Affiliates' employees, officers, directors, representatives or agents (collectively, "Representatives") are requested by a governmental or regulatory authority or required by applicable Law, regulation or legal process (including the regulations of a stock exchange or governmental or regulatory authority or the order or ruling of a court, administrative agency or other government or regulatory body of competent jurisdiction) to disclose any Confidential Information, the Receiving Party shall promptly, to the extent practicable or permitted by Law, notify the Disclosing Party in writing of such request or requirement so that the Disclosing Party may seek (at the Disclosing Party's sole expense) an appropriate protective order or other appropriate remedy (and if the Disclosing Party seeks such an order or other remedy, the Receiving Party will provide such cooperation, at the Disclosing Party's sole expense, as the Disclosing Party shall reasonably request). If no such protective order or other remedy is sought or obtained and the Receiving Party or its Affiliates or its or its Affiliates' Representatives are, in the view of their respective counsel (which may include their respective internal counsel), legally required to disclose Confidential Information, the Receiving Party or its Affiliates or its or its Affiliates' Representatives, as the case may be, shall only disclose that portion of the Confidential Information that their respective counsel advises that the Receiving Party or its Affiliates or its or its Affiliates' Representatives, as the case may be, are required to disclose and will exercise commercially reasonable efforts, at the Disclosing Party's sole expense, to obtain reliable assurance that confidential treatment will be accorded to that portion of the Confidential Information that is being disclosed. In any event, the Receiving Party will not oppose action by the Disclosing Party to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information. Notwithstanding the foregoing, notice to the Disclosing Party shall not be required where disclosure is made (i) in response to a request by a governmental or regulatory authority having competent jurisdiction over the Receiving Party, its Affiliates or its or its Affiliates' Representatives, as the case may be, or (ii) in connection with a routine examination by a regulatory examiner, where in each case such request or examination does not expressly reference the Disclosing Party, its Affiliates, the Purchased Royalty Interest or this Agreement.

Section 8.4 Permitted Disclosure.

(a) Either Party may disclose Confidential Information to the extent such disclosure is reasonably necessary in the following situations:

(i) prosecuting or defending litigation;

(ii) for regulatory, tax or customs purposes;

(iii) complying with applicable laws and regulations, including regulations promulgated by securities exchanges;

(iv) for audit purposes, provided that each recipient of Confidential Information must be bound by customary obligations of confidentiality and non-use prior to any such disclosure;

(v) disclosure to its Affiliates and its and its Affiliates' Representatives on a need-to-know basis, provided that each recipient of Confidential Information must be bound by customary contractual or professional obligations of confidentiality and non-use prior to any such disclosure;

(vi) disclosure to its actual or potential investors and co-investors, and other sources of financing, including debt financing, and their respective accountants, financial advisors and other professional representatives, provided, that such disclosure shall be made only to the extent customarily required to consummate such investment or financing transaction and that each recipient of Confidential Information must be bound by customary obligations of confidentiality and non-use prior to any such disclosure; or

(vii) as set forth in Section 5.1.

(b) Notwithstanding the foregoing, in the event the Receiving Party is required to make a disclosure of the Seller's Confidential Information pursuant to Section 8.4(a)(i), Section 8.4(a)(ii) or Section 8.4(a)(ii), it will comply with the obligations of Section 8.3.

ARTICLE IX
TERMINATION

Section 9.1 Termination of Agreement. This Agreement shall continue in full force and effect until sixty (60) days after such time as GSK is no longer obligated to make payments of the Purchased Royalty Interest, at which time this Agreement shall automatically terminate.

Section 9.2 Effect of Termination. Upon the termination of this Agreement pursuant to Section 9.1, this Agreement shall become void and of no further force and effect; provided, however, that (a) the provisions of Section 5.1, Section 5.4(a) (with respect to portions of the Purchased Royalty Interest payable to the Purchaser pursuant to clause (b) below), Section 5.4(b), Section 5.4(c) (solely with respect to Section 5.4(b), ARTICLE VII, ARTICLE VIII, this ARTICLE IX and ARTICLE X shall survive such termination and shall remain in full force and effect, (b) if, upon the termination of this Agreement, any payments of the Purchased Royalty Interest are payable to the Purchaser hereunder, this Agreement shall remain in full force and effect until any and all such payments have been made in full, and (except as provided in this Section 9.2) solely for that purpose, and (c) termination shall not relieve either Party of liability for any breach of this Agreement that occurs prior to termination.

ARTICLE X
MISCELLANEOUS

Section 10.1 Specific Performance. Each of the parties hereto acknowledges that the other party hereto will have no adequate remedy at Law if any of its obligations are breached, or,

in the case of Article VIII, are threatened to be breached. Accordingly, notwithstanding Article VII, each of the parties hereto agrees that, without posting bond or other undertaking, and without proof of actual damages, the other party hereto shall be entitled to a temporary or permanent injunctive relief to prevent breaches, or, in the case of Article VIII, threatened breaches, of this Agreement and to specific performance of this Agreement and the terms and provisions hereof in any action, suit or other proceeding instituted in any court of the United States or any state thereof having jurisdiction over the parties and the matter in addition to any other remedy to which it may be entitled, at Law or in equity. Each of the parties hereto further agrees that, in the event of any action for specific performance in respect of such breach or violation, it shall not assert the defense that a remedy at Law would be inadequate. Such remedy shall not be deemed to be the exclusive remedy for breach of this Agreement but shall be in addition to all other rights and remedies available at Law or equity to the parties hereto.

Section 10.2 Notices. All notices, consents, waivers and other communications hereunder shall be in writing and shall be effective (a) upon receipt when sent via certified mail, return receipt requested, postage prepaid, with such receipt to be effective the date of delivery indicated on the return receipt, (b) when sent via email, one (1) Business Day following the sending of such email, (c) upon receipt when sent by a national overnight courier, or (d) on the date personally delivered to an authorized officer of the party to which sent, in all cases of (a), (c) and (d), with a copy emailed to the recipient at the applicable address, addressed to the recipient as follows:

if to the Seller, to:

AnaptysBio, Inc.
10770 Wateridge Circle, Suite 210
San Diego, CA 92121
Attention: Chief Operating Officer and General Counsel
Email: [***]

with a copy, which shall not constitute notice, to:

Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
Attention: Stuart M. Cable
Email: [***]

if to the Purchaser, to:

DRI Healthcare Acquisitions LP
c/o DRI Capital Inc.
First Canadian Place
100 King St. West, Suite 7250
P.O. Box 62

Toronto, ON M5x 1B1
Attention: Behzad Khosrowshahi
Email: [***]
with a copy, which shall not constitute notice, to:

Greenberg Traurig LLP
401 East Las Olas Boulevard, Suite 2000
Fort Lauderdale, FL 33301
Attention: Stanley Jacobs, Jr.
Email: [***]

Each party hereto may, by notice given in accordance herewith to the other party hereto, designate any further or different address to which subsequent notices, consents, waivers and other communications shall be sent.

Section 10.3 Successors and Assigns.

(a) The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns.

(b) This Agreement, or any rights or obligations hereunder, may not be assigned by the Seller without the prior written consent of the Purchaser; provided that the Seller may assign this Agreement in its entirety to any third party that acquires all or substantially all of the Seller's business, whether by merger, sale of assets or otherwise so long as (i) the Seller promptly notifies the Purchaser of such assignment, (ii) such assignee expressly assumes all obligations of the Seller under the Transaction Documents and (iii) if such assignee is GSK, then GSK expressly agrees to continue performing its obligations set forth in the Settlement Agreement in respect of and relating to the Purchased Royalty Interest as if such assignment had not occurred.

(c) This Agreement as a whole may not be assigned by the Purchaser without the prior written consent of the Seller; provided that the Purchaser may assign its rights and obligations under this Agreement in its entirety to an Affiliate of the Purchaser or to any third party that acquires all or substantially all the Purchaser's assets, whether by merger, sale of assets or otherwise, provided that (a) the Purchaser promptly notifies the Seller of such assignment and (b) such assignee complies with Section 5.10(b) (replacing "Purchaser" wherever it appears with such assignee and replacing "Closing Date" with the date of such assignment).

(d) Notwithstanding the foregoing, the Purchaser may assign its rights but not its obligations under this Agreement without the prior written consent of the Seller; provided that (a) the Purchaser promptly notifies the Seller of such assignment, (b) each such assignee complies with Section 5.10(b) (replacing "Purchaser" wherever it appears with such assignee and replacing "Closing Date" with the date that such assignee acquires an interest in the Purchaser's rights hereunder), and (c) if the Purchaser assigns its right under this Agreement to more than one party, GSK shall not be requested or instructed to pay the Purchased Royalty Interest to more than one bank account.

(e) Any purported assignment in violation of this Section 10.3 shall be null and void.

Section 10.4 Independent Nature of Relationship. The relationship between the Seller and the Purchaser is solely that of seller and purchaser, and neither the Seller nor the Purchaser has any fiduciary or other special relationship with the other party hereto or any of its Affiliates. Nothing contained herein or in any other Transaction Document shall be deemed to constitute the Seller and the Purchaser as a partnership, agency, an association, a joint venture or any other kind of entity or legal form. The parties hereto agree not to take any position that is inconsistent with the provisions of this Section 10.4 on any tax return or in any audit or other tax-related administrative or judicial proceeding unless the other party hereto has consented in writing (such consent not to be unreasonably withheld, conditioned or delayed) to such actions. If there is an inquiry by any Governmental Authority of the Purchaser or the Seller related to the treatment described in this Section 10.4, the parties hereto shall cooperate with each other in responding to such inquiry in a reasonable manner which is consistent with this Section 10.4.

Section 10.5 Entire Agreement. This Agreement, together with the Exhibits and Schedules hereto and the other Transaction Documents constitute a complete and exclusive statement of the terms of agreement between the Parties, and supersede all prior agreements, understandings and negotiations, both written and oral, between the Parties (and, for this purpose, DRI Capital Inc.), with respect to the subject matter of this Agreement, including (a) that certain exclusivity letter dated as of August 12, 2022, between the Seller and DRI Capital Inc. and (b) that certain nondisclosure agreement, dated as of July 8, 2022, between the Seller and DRI Capital Inc. (the "Existing Confidentiality Agreement"). No representation, inducement, promise, understanding, condition or warranty not set forth herein (or in the Exhibits or Schedules hereto or the other Transaction Documents) has been made or relied upon by either Party.

Section 10.6 Governing Law.

(a) THIS PURCHASE AND SALE AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE INTERNAL SUBSTANTIVE LAWS OF THE STATE OF NEW YORK WITHOUT REFERENCE TO THE RULES THEREOF RELATING TO CONFLICTS OF LAW OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW OF THE STATE OF NEW YORK, AND THE OBLIGATIONS, RIGHTS AND REMEDIES OF THE PARTIES HEREUNDER SHALL BE DETERMINED IN ACCORDANCE WITH SUCH LAWS.

(b) Each of the parties hereto hereby irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of the Supreme Court of the State of New York sitting in New York County and of the United States District Court of the Southern District of New York, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Agreement, or for recognition or enforcement of any Judgment, and each of the parties hereto hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York State court or, to the extent permitted by applicable Law, in such federal court. Each of the parties hereto agrees that a final

Judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the Judgment or in any other manner provided by applicable Law.

(c) Each of the parties hereto hereby irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection that it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Agreement in any court referred to in Section 10.6(b). Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable Law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(d) Each of the parties hereto irrevocably consents to service of process in the manner provided for notices in Section 10.2. Nothing in this Agreement will affect the right of any party hereto to serve process in any other manner permitted by applicable Law. Each of the parties hereto waives personal service of any summons, complaint or other process, which may be made by any other means permitted by New York law.

Section 10.7 Waiver of Jury Trial. EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS PURCHASE AND SALE AGREEMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HERETO HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE OTHER PARTY HERETO WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTY HERETO HAVE BEEN INDUCED TO ENTER INTO THIS PURCHASE AND SALE AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 10.7.

Section 10.8 Severability. If one or more provisions of this Agreement are held to be invalid, illegal or unenforceable by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, which shall remain in full force and effect, and the parties hereto shall replace such invalid, illegal or unenforceable provision with a new provision permitted by applicable Law and having an economic effect as close as possible to the invalid, illegal or unenforceable provision. Any provision of this Agreement held invalid, illegal or unenforceable only in part or degree by a court of competent jurisdiction shall remain in full force and effect to the extent not held invalid, illegal or unenforceable.

Section 10.9 Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement shall become effective when each party hereto shall have received a counterpart hereof signed by the other party hereto. Any counterpart may be executed by facsimile or Adobe™ Portable Document Format (PDF) sent by electronic mail or any electronic signature complying with the U.S. Federal ESIGN Act of 2000

will be deemed to be original signatures, will be valid and binding upon the parties, and, upon delivery, will constitute due execution of this Agreement.

Section 10.10 Amendments; No Waivers. Neither this Agreement nor any term or provision hereof may be amended, supplemented, restated, waived, changed or modified except with the written consent of the parties hereto. No failure or delay by either party hereto in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. No notice to or demand on either party hereto in any case shall entitle it to any notice or demand in similar or other circumstances. No waiver or approval hereunder shall, except as may otherwise be stated in such waiver or approval, be applicable to subsequent transactions. No waiver or approval hereunder shall require any similar or dissimilar waiver or approval thereafter to be granted hereunder. The rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by applicable Law.

Section 10.11 Cumulative Remedies. The remedies herein provided are cumulative and not exclusive of any remedies provided by applicable Law. Without limiting the foregoing, the Seller hereby authorizes the Purchaser, at any time and from time to time, to the fullest extent permitted by applicable Law, to offset any amounts payable by the Purchaser to, or for the account of, the Seller against any obligations of the Seller to the Purchaser arising in connection with the Transaction Documents (including amounts payable pursuant to Article VII) that are then due and payable.

Section 10.12 Table of Contents and Headings. The Table of Contents and headings of the Articles and Sections of this Agreement have been inserted for convenience of reference only, are not to be considered a part hereof and shall in no way modify or restrict any of the terms or provisions hereof.

{SIGNATURE PAGE FOLLOWS}

IN WITNESS WHEREOF, each of the parties hereto have caused this Agreement to be duly executed by its authorized representative as of the day and year first written above.

ANAPTYSBIO, INC.

By: /s/ Eric Loumeau
Name: Eric Loumeau
Title: Chief Operating Officer and General Counsel

DRI HEALTHCARE ACQUISITIONS LP

By: /s/ Grant Cellier
Name: Grant Cellier
Title: Manager

Exhibit 10.24

ANAPTYSBIO, INC.
$150,000,000
COMMON STOCK

SALES AGREEMENT

November 8, 2022

Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Ladies and Gentlemen:

AnaptysBio, Inc. (the "**Company**"), confirms its agreement (this "**Agreement**") with Cowen and Company, LLC ("**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 Cowen, acting as agent and/or principal, shares (the "**Placement Shares**") of the Company's common stock, par value $0.001 per share (the "**Common Stock**"), having an aggregate offering price of up to $150,000,000 (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 Cowen shall have no obligation in connection with such compliance. The issuance and sale of Common Stock through Cowen will be effected pursuant to the Registration Statement (as defined below) filed by the Company and 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 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. 333-261953), 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 Cowen, for use by 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.**" 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 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 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 of shares 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 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 Cowen unless and until (i) in accordance with the notice requirements set forth in Section 4, Cowen declines to accept the terms contained therein for any reason, in its sole discretion, (ii) the entire amount of the Placement Shares have been sold, (iii) in accordance with the notice requirements set forth in Section 4, the Company suspends or terminates the Placement Notice for any reason in its sole discretion, (iv) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice, 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 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 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 Cowen and 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.

3. Sale of Placement Shares by 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, 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. 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 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 Cowen, at 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 Cowen shall reasonably request. Cowen may sell Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act, including without limitation sales made through Nasdaq or on any other existing trading market for the Common Stock. 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 Cowen will be successful in selling Placement Shares, and (ii) 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 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 Cowen given by telephone (confirmed promptly by email), shall cancel any instructions for the offer or sale of any Placement Shares, and 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 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 obligations under Section 7 hereof with respect to the delivery of certificates, opinions or comfort letters to Cowen shall be waived. 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 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 Cowen may, at its sole discretion, suspend sales of the Placement Shares under this Agreement.

(c) The Registration Statement was declared effective on January 11, 2022. 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 Cowen, the Company shall not request the sale of any Placement Shares, and 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 will occur on the second (2^{nd}) Trading Day (or such earlier day as is industry practice for regular-way trading) 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 Cowen at which such Placement Shares were sold, after deduction for (i) 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 Cowen hereunder pursuant to Section 7(g) (Expenses) hereof, 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 Cowen's or its designee's account (provided Cowen shall have given the Company written notice of such designee at least 1 Trading Day 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, 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 Cowen to timely provide instructions for delivery), the Company agrees that 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 Cowen harmless against any loss, claim, damage, or reasonable and documented 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 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, Cowen that 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 date included in (i) through (iv), a "**Representation Date**"):

(a) Registration Statement. The Registration Statement and any registration statement filed pursuant to Rule 462(b) under the Securities Act with respect to the Registration Statement (a "**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 or 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 Cowen's initial entry into contracts with purchasers for the sale of such Placement Shares.

(c) Offering Materials Furnished to Cowen. The Company has delivered to 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 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 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) Ineligible Issuer Status. The Company is not an "ineligible issuer" in connection with the offering of the Placement Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Any Free Writing Prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each Free Writing Prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act including timely filing with the Commission or retention where required and legending, and each such Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the issuance and sale of the Shares did not, does not and will not include any information that conflicted, conflicts with or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein. Except for the Free Writing Prospectuses, if any, and electronic road shows, if any, furnished to Cowen before first use, the Company has not prepared, used or referred to, and will not, without Cowen's prior consent, prepare, use or refer to, any Free Writing Prospectus.

(e) Due Incorporation; Subsidiary.

(i) The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation. The Company has full corporate power and authority to conduct all the activities conducted by it, to own or lease all the assets owned or leased by it and to conduct its business as described in the Registration Statement and the Prospectus. The Company is duly licensed or qualified to do business in and in good standing as a foreign corporation in all jurisdictions in which the nature of the activities conducted by it or the character of the assets owned or leased by it makes such licensing or qualification necessary, except to the extent that the failure to be so qualified or be in good standing would not (i) have a material adverse effect on the business, properties, assets, business prospects, financial condition, results of operations or capitalization of the Company and its subsidiaries, taken as

a whole, or (ii) prevent or materially interfere with the ability of the Company to issue and sell the Placement Shares under this Agreement (any such effect, prevention or interference, a "**Material Adverse Effect**").

(ii) The only "significant subsidiaries" (as defined in Rule 405 of the rules and regulations of the Commission) of the Company are the significant subsidiaries listed on Exhibit 21.1 to the Company's Annual Report on Form 10-K, as filed with the Commission, for its most recently completed fiscal year, other than (i) those subsidiaries not required to be listed on Exhibit 21.1 by Item 601 of Regulation S-K under the Exchange Act and (ii) those significant subsidiaries formed since the last day of the most recently ended fiscal year. Each such significant subsidiary has been duly organized, is validly existing in good standing (where such concept exists) under the laws of the jurisdiction of its incorporation, has the corporate power and authority to own its property and to conduct its business as described in the Registration Statement and Prospectus and is duly qualified to transact business and is in good standing, if applicable, in each jurisdiction in which such qualification is required, except to the extent that the failure to be so qualified or be in good standing would not have a Material Adverse Effect; all of the issued share capital or other equity interests of each subsidiary have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly by the Company, free and clear of all liens, charges, encumbrances, equities, security interests, restrictions on voting or transfer or any other claims.

(f) Dividend Restrictions. Except as disclosed in the Prospectus, no subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary.

(g) Capitalization. The authorized, issued and outstanding capital stock of the Company is as set forth in the Registration Statement and the Prospectus (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or employee benefit or equity incentive plans referred to in the Registration Statement and the Prospectus or pursuant to the conversion or exercise of convertible securities or options referred to in the Registration Statement and the Prospectus). The Common Stock (including the Placement Shares) conform in all material respects to the description thereof contained in the Prospectus. All of the issued and outstanding Common Stock have been duly authorized and validly issued, are fully paid and non-assessable, have been issued in compliance with all federal and state securities laws and are not subject to any preemptive, first refusal, or similar right. Except as set forth in the Registration Statement and the Prospectus, the Company does not have outstanding, options to purchase, or any rights or warrants to subscribe for, or any securities or obligations convertible into, or any contracts or commitments to issue or sell, any shares of capital stock of the Company or its subsidiaries, or any such warrants, convertible securities or obligations. The descriptions of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted

thereunder, set forth in the Registration Statement and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights.

(h) Authorization of the Placement Shares. The Placement Shares have been 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 validly issued, fully paid and nonassessable, and the issuance and sale of the Placement Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Placement Shares.

(i) Financial Statements. The financial statements (including the related notes thereto) and schedules included or incorporated by reference in the Registration Statement and the Prospectus present fairly the financial condition of the Company and its consolidated subsidiary as of the respective dates thereof and their results of operations and cash flows for the respective periods covered thereby, all in conformity with generally accepted accounting principles applied in the United States on a consistent basis throughout the entire period involved except as may be set forth in the related notes thereto and provided, that unaudited interim financial statements, which are subject to normal year-end adjustments, may not contain certain footnotes, as permitted by the rules of the Commission. The summary financial information included in the Registration Statement and the Prospectus present fairly, in all material respects, the information shown therein and have been compiled on a basis consistent with that of the financial statements included therein and the books and records of the Company and its consolidated subsidiary. The pro forma financial statements, if any, and the other pro forma financial information included in the Registration Statement and the Prospectus present fairly, in all material respects, the information shown therein, have been prepared in accordance with the Commission's rules and guidelines with respect to pro forma financial statements and have been properly computed on the bases described therein. The assumptions used in the preparation of the pro forma financial statements, if any, and other pro forma financial information included in the Registration Statement and the Prospectus are reasonable and the adjustments used therein are appropriate to give effect to the transactions or circumstances referred to therein. No other financial statements, schedules or reconciliations of "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) of the Company are required by the Securities Act and the Exchange Act to be included in the Registration Statement and the Prospectus. The interactive data in eXtensible Business Reporting Language included or included or incorporated by reference in the Registration Statement and the Prospectus 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.

(j) Independent Accountants. KPMG LLP, who certified the financial statements and supporting schedules of the Company and its consolidated subsidiary included in the Registration Statement and the Prospectus, are (i) independent accountants as required by the Securities Act, the Exchange Act and by the rules of the Public Company Accounting Oversight Board (United States) (the "**PCAOB**"), (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act, and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(k) No Material Adverse Changes. Since the respective dates as of which information is given in the Registration Statement and the Prospectus, except as set forth in the Registration

Statement and the Prospectus, (i) there has not been a material adverse change, or any development that would be expected to result in a material adverse change, in the business, properties, assets, business prospects, financial condition, results of operations or capitalization of the Company and its subsidiaries, taken as a whole, arising for any reason whatsoever (a "**Material Adverse Change**"), (ii) the Company and its subsidiaries, considered as one entity, have not incurred, nor will it incur, any material liabilities or obligations, indirect, direct or contingent, including without limitation any losses or interference with their business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiaries, considered as one entity, nor has it entered into any material transactions not in the ordinary course of business, other than pursuant to this Agreement and the transactions referred to herein, and (iii) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its subsidiaries and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company or other subsidiaries, by any of the Company's subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its subsidiaries of any class of capital stock.

(l) Investment Company. The Company is not, and, after giving effect to the issuance and sale of the Placement Shares and the use of the proceeds therefrom as described in the and the Prospectus, will not be, an "investment company" or an "affiliated person" of, or "promoter" or "principal underwriter" for, an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission promulgated thereunder (the "**Investment Company Act**").

(m) Litigation. Except as set forth in the Registration Statement and the Prospectus, there are no actions, suits or proceedings pending, or to the Company's knowledge, threatened against or affecting, the Company or its subsidiaries or any of its officers in their capacity as such, before or by any federal or state court, commission, regulatory body, including the Financial Industry Regulatory Authority, Inc. ("**FINRA**") and the Nasdaq Global Select Market or such other national securities exchange on which the Common Stock, including any Placement Shares, are then listed (the "**Principal Market**"), administrative agency or other governmental body, domestic or foreign, wherein an unfavorable ruling, decision or finding would reasonably be expected to have a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any authorization, approval, order, license, certificate, franchise or permit. There are no pending investigations known to the Company involving the Company by any governmental agency having jurisdiction over the Company or its business or operations.

(n) Compliance with Laws and Regulations and Performance of Obligations and Contracts. The Company and its subsidiaries have (i) complied in all material respects with all laws, regulations and orders applicable to it or its business and (ii) performed in all material respects the obligations required to be performed by it, and is not in default under any indenture, mortgage, deed of trust, voting trust agreement, loan agreement, bond, debenture, note agreement, lease or other agreement or instrument (individually, a "**Contract**" and collectively, "**Contracts**") to which it is a party or by which its property is bound or affected. To the knowledge of the Company, no other party under any Contract to which it is a party is in default in any respect thereunder or has

given written or oral notice to the Company or any of its officers or directors of such other party's intention to terminate, cancel or refuse to renew any Contract. The Company is not in violation of any provision of its certificate of incorporation or by-laws. The disclosures included in the Registration Statement and the Prospectus concerning the effects of Federal, state, local and foreign laws, rules and regulations on the business of the Company as currently conducted and as proposed to be conducted are correct in all material respects.

(o) No Consent of Governmental Body Needed. No consent, approval, authorization, license, registration, qualification or order of, or any filing or declaration with, any court or arbitrator or governmental or regulatory authority, agency or body is required in connection with the authorization, issuance, transfer, sale or delivery of the Placement Shares by the Company, in connection with the execution, delivery and performance of this Agreement by the Company or in connection with the taking by the Company of any action contemplated hereby, except as have been obtained under the Securities Act and such as may be required under state securities or Blue Sky laws or the by-laws and rules of FINRA in connection with the purchase and distribution by the underwriters of the Placement Shares to be sold by the Company.

(p) Agreement Duly Authorized. The Company has full corporate power and authority to enter into this Agreement. This Agreement has been duly authorized, executed and delivered by the Company and constitutes a valid and binding agreement of the Company enforceable against the Company in accordance with the terms hereof, except as the enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting creditors' rights generally or general equitable principles.

(q) No Conflicts. The execution and delivery by the Company of this Agreement and the performance of this Agreement, the consummation of the transactions contemplated hereby, and the application of the net proceeds from the offering and sale of the Placement Shares to be sold by the Company in the manner set forth in the Prospectus under "Use of Proceeds" do not and will not (i) violate the certificate of incorporation or by-laws of the Company or (ii) result in the creation or imposition of any lien, charge or encumbrance upon any of the assets of the Company or its subsidiaries pursuant to the terms or provisions of, or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or give any other party a right to terminate any of its obligations under, or result in the acceleration of any obligation under any Contract to which the Company or its subsidiaries is a party or by which the Company or its subsidiaries or any of its properties is bound or affected, or violate or conflict with any judgment, ruling, decree, order, law, statute, rule or regulation of any court or other governmental agency or body applicable to the business or properties of the Company or its subsidiaries, except, in the case of clause (ii) above, as would not reasonably be expected to have a Material Adverse Effect.

(r) Title to Real and Personal Property. The Company and its subsidiaries have good and marketable title to all properties and assets described in the Registration Statement and the Prospectus as being owned respectively by it, free and clear of all liens, charges, encumbrances or restrictions, except as set forth in the Registration Statement and the Prospectus or are not material to the business of the Company or its subsidiaries. The Company and its subsidiaries have valid, subsisting and enforceable leases for the properties described in the Prospectus as leased by them, with such exceptions as are not material and do not materially interfere with the use made and proposed to be made of such properties by the Company and its subsidiaries.

(s) Documents Described in Registration Statement. There is no document or Contract required to be described in the Registration Statement and the Prospectus or to be filed as an exhibit to the Registration Statement that is not described or filed as required. All such documents and Contracts described in the Registration Statement and the Prospectus or filed as an exhibit to the Registration Statement were duly authorized, executed and delivered by the Company, constitute valid and binding agreements of the Company and are enforceable against the Company in accordance with the terms thereof.

(t) No Untrue Statement; Statistical and Market Data. No statement, representation, warranty or covenant made by the Company in this Agreement or made in any certificate or document required by this Agreement to be delivered to Cowen was or will be, when made, inaccurate, untrue or incorrect. All statistical, demographic and market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate in all material respects, and the Company has obtained the written consent to the use of such data from such sources to the extent required.

(u) No Price Stabilization or Manipulation. Neither the Company nor, to the Company's knowledge, any of its directors, officers or controlling persons has taken, directly or indirectly, any action intended to cause or result in, or which might reasonably be expected to cause or result in, or which has constituted, stabilization or manipulation, under the Securities Act or otherwise, of the price of any security of the Company to facilitate the sale or resale of the Placement Shares.

(v) No Registration Rights. No holder of securities of the Company has rights to register any securities of the Company because of the filing of the Registration Statement, the Prospectus or the offering of the Placement Shares, except for rights that have been duly waived with respect to such holder, have expired or have been fulfilled by registration prior to the date of this Agreement.

(w) Stock Exchange Listing. The Placement Shares are registered pursuant to Section 12(b) of the Exchange Act and are listed on the Principal Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Placement Shares under the Exchange Act or delisting the Placement Shares from the Principal Market, nor has the Company received any notification that the Commission or the Principal Market is contemplating terminating such registration or listing. To the Company's knowledge, it is in compliance with all applicable listing requirements of the Principal Market.

(x) Labor Matters. Neither the Company nor its subsidiaries is involved in any labor dispute except, where the dispute would not, individually or in the aggregate, have a Material Adverse Effect, nor, to the knowledge of the Company, is any such dispute threatened.

(y) No Unlawful Payments. Neither the Company nor its subsidiaries, nor any director or officer of the Company or its subsidiaries, nor, to the knowledge of the Company, any agent, employee or representative of the Company or its subsidiaries, Affiliate or other person associated with or acting on behalf of the Company or 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 an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment of corporate funds or benefit to any foreign or domestic government or regulatory official or employee, including, without limitation, 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 U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.K. Bribery Act 2010, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offense under any other applicable anti-bribery or anti-corruption laws; 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 has instituted, maintained and enforced, and will continue to maintain and enforce policies and procedures designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

(z) Compliance with Anti-Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, 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 in which the Company and its subsidiaries conduct 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 "**Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(aa) No Conflicts with Sanctions Laws. Neither the Company nor its subsidiaries, nor any director or officer of the Company or its subsidiaries, nor, to the knowledge of the Company, any agent, employee or representative of the Company or its subsidiaries, Affiliate or other person associated with or acting on behalf of the Company or its subsidiaries is currently the subject or 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. Treasury Department 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, Her Majesty's Treasury of the United Kingdom or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company or its subsidiaries located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, the so-called Donetsk People's Republic, the so-called Luhansk People's Republic, the Crimea Region of Ukraine, Cuba, Iran, North Korea and Syria (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 its subsidiaries, any 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 the 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. For the past five years, the

Company and its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not 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.

(bb) Taxes. Except as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries have filed all federal, state and foreign income and franchise tax returns and have paid all taxes required to be filed or paid by them and, if due and payable, any related or similar assessment, fine or penalty levied against them. The Company has made adequate charges, accruals and reserves in the applicable financial statements referred to in Section 6(i) hereof in respect of all material federal, state and foreign income and franchise taxes for all periods as to which the tax liability of the Company has not been finally determined.

(cc) Insurance. The Company and its subsidiaries carry, or are covered by, insurance in such amounts and covering such risks as the Company believes are adequate for the conduct of their business and the value of their properties and is customary for companies engaged in similar industries, and all such insurance is in full force and effect. The Company has no reason to believe that it and its subsidiaries will not be able to (i) renew their existing insurance coverage as and when such policies expire or (ii) obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct their business as currently conducted or proposed to be conducted and at a cost that would not, individually or in the aggregate, result in a Material Adverse Effect. Neither the Company nor its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(dd) Benefit Plans. The Company has not maintained or contributed to a defined benefit plan as defined in Section 3(35) of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"). No plan maintained or contributed to by the Company that is subject to ERISA (an "**ERISA Plan**") (or any trust created thereunder) has engaged in a "prohibited transaction" within the meaning of Section 406 of ERISA or Section 4975 of the Internal Revenue Code of 1986, as amended (the "**Code**") that could subject the Company to any material tax penalty on prohibited transactions or has not adequately been corrected. Each plan maintained or contributed to by the Company is in compliance in all material respects with all reporting, disclosure and other requirements of the Code and ERISA as they relate to such plan, except for any noncompliance which would not result in the imposition of a material liability or penalty. With respect to each ERISA Plan that is intended to be "qualified" within the meaning of Section 401(a) of the Code, each ERISA Plan has obtained a favorable determination letter or opinion or advisory letter, if applicable as to its qualified status under the Code, each such ERISA Plan has timely adopted all currently effective amendments to the Code to the extent any such amendments are required under the Code, and, to the knowledge of the Company, there are no existing circumstances or any events that have occurred that would affect the qualified status of any such ERISA Plan. The Company has never completely or partially withdrawn from a "multiemployer plan," as defined in Section 3(37) of ERISA. Each plan maintained or contributed to by the Company that is subject to Section 409A of the Code has been administered in compliance with its terms and the operational and documentary requirements of Section 409A of the Code and the regulations thereunder.

(ee) Title to Intellectual Property. Except as set forth in the Registration Statement and the Prospectus, the Company and its subsidiaries own, have valid and enforceable licenses for or otherwise have adequate rights to use technology (including but not limited to patented, patentable

and unpatented inventions and unpatentable proprietary or confidential information, systems or procedures), designs, processes, licenses, patents, patent applications, trademarks, service marks, trade and service mark registrations, trade secrets, trade names, know how, copyrights and other works of authorship, computer programs, technical data and information and other intellectual property (collectively, the "**Intellectual Property**") that are or would reasonably be expected to be material to their business as currently conducted or as currently proposed to be conducted (including upon the commercialization of products or services described in the Registration Statement or the Prospectus as under development) or to the development, manufacture, operation and sale of any products and services sold or proposed to be sold by any of the Company or its subsidiaries. The Company's Intellectual Property has not been adjudged by a court of competent jurisdiction invalid or unenforceable in whole or in part. Except as disclosed in the Registration Statement and the Prospectus, (i) to the knowledge of the Company, there are no third parties who have or, or who will be able to establish rights to any Intellectual Property owned by, or licensed to, the Company or its subsidiaries, except for, and to the extent of, the ownership rights of the owners of the Intellectual Property which the Registration Statement and the Prospectus disclose is licensed to the Company; (ii) to the knowledge of the Company, there is no infringement by third parties of any Intellectual Property owned by, or licensed to, the Company or its subsidiaries; (iii) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the Company's rights in or to any Intellectual Property owned by, or licensed to, the Company or its subsidiaries, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (iv) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the validity, enforceability or scope of any Intellectual Property owned by, or licensed to, the Company and its subsidiaries, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (v) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others that (nor has the Company received any claim from a third party that) the Company or its subsidiaries infringe or otherwise violate, or would, upon the commercialization of any product or service as described in the Registration Statement or the Prospectus, infringe or otherwise violate, any patent, trademark, tradename, service name, copyright, trade secret or other proprietary rights of another, and the Company and its subsidiaries are unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (vi) to the knowledge of the Company, no employee of the Company is 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 such employee's employment with the Company; (vii) the Company and its subsidiaries have complied with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company and its subsidiaries, and all such agreements are in full force and effect; (viii) to the knowledge of the Company, there is no prior art that may render any patent within the Intellectual Property invalid or that may render any patent application within the Intellectual Property unpatentable that has not been disclosed to the U.S. Patent and Trademark Office; and (ix) to the knowledge of the Company, there are no material defects in any of the patents or patent applications within the Intellectual Property. Except as set forth in the Registration Statement and the Prospectus, the Company and its subsidiaries are not obligated or under any liability whatsoever to make any material payment by way of royalties, fees or otherwise to any owner or licensee of, or other claimant to, any Intellectual Property, with

respect to the use thereof or in connection with the conduct of their respective businesses or otherwise.

(ff) Trademarks. The Company and its subsidiaries own, or are licensed or otherwise have the full exclusive right to use, all material trademarks and trade names that are used in or reasonably necessary for the conduct of their business as described in the Prospectus. The Company has not received any notice of infringement of or conflict with asserted rights of others with respect to any such trademarks or trade names, or challenging or questioning the validity or effectiveness of any such trademark or trade name. The use, in connection with the business and operations of the Company and its subsidiaries of such trademarks and trade names does not, to the Company's knowledge, infringe on the rights of any person. Except as set forth in the Registration Statement and the Prospectus, the Company and its subsidiaries are not obligated or under any liability whatsoever to make any payment by way of royalties, fees or otherwise to any owner or licensee of, or other claimant to, any trademark, service mark or trade name with respect to the use thereof or in connection with the conduct of their business or otherwise.

(gg) Protection of Intellectual Property. The Company and its subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all their Intellectual Property in all material aspects, including, but not limited to complying with all duty of disclosure requirements before the U.S. Patent and Trademark Office and any other non-U.S. Patent Offices as appropriate, and has no reason to believe that such Intellectual Property is not or, if not yet patented or registered, would not be, valid and enforceable against an unauthorized user.

(hh) Related Party Transactions. There are no business relationships or related party transactions involving the Company or any other person required to be described in the Prospectus that have not been described. Without limiting the generality of the immediately preceding sentence, no relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company on the other hand, that is required to be described in the Prospectus and that is not so described. Since inception, the Company has not, directly or indirectly, extended or maintained credit, arranged to extend credit, or renewed any extension of credit, in the form of a personal loan, to or for any director or executive officer of the Company, or to or for any family member or Affiliate of any director or executive officer of the Company in violation of applicable laws, including Section 13(k) of the Exchange Act.

(ii) Environmental Matters. Each of the Company and its subsidiaries (i) is in compliance with any and all applicable federal, state, local and non-U.S. laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "**Environmental Laws**"), (ii) has received all permits, licenses or other approvals required of it under applicable Environmental Laws to conduct its businesses and (iii) is in compliance with all terms and conditions of any such permit, license or approval.

(jj) Controls and Procedures.

(i) Disclosure Controls and Procedures. The Company has established and maintains disclosure controls and procedures (as such term is defined in Rules 13a-15 and 15d-15 under the Exchange Act) that (A) are designed to

ensure that material information relating to the Company and its subsidiaries is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the Exchange Act are being prepared; (B) provide for the periodic evaluation of the effectiveness of such disclosure controls and procedures as of the end of the period covered by the Company's most recent annual or quarterly report filed with the Commission; and (C) are effective in all material respects to perform the functions for which they were established.

(ii) Internal Control Over Financial Reporting and Internal Accounting Controls. The Company maintains (i) effective "internal control over financial reporting" as defined in, and in compliance with, Rules 13a-15 and 15d-15 under the Exchange Act, and (ii) a system of internal accounting controls sufficient to provide reasonable assurance that (A) transactions are executed in accordance with management's general or specific authorizations; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability; (C) access to assets is permitted only in accordance with management's general or specific authorization; (D) 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 (E) the 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.

(iii) No Material Weakness in Internal Controls. Since the end of the Company's most recent audited fiscal year, there has been (A) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (B) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company is not aware of any significant deficiency in the design or operation of its internal control over financial reporting which is reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial data or any material weaknesses in its internal controls, except as disclosed in the Registration Statement and the Prospectus, or in any document incorporated by reference therein, since the end of the Company's most recent audited fiscal year; or any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls.

(kk) Sarbanes-Oxley. The Company is, and after giving effect to the offering and sale of the Placement Shares will be, in compliance in all material respects with all applicable effective

provisions of the Sarbanes-Oxley Act of 2002 and the rules and regulations of the Commission promulgated thereunder.

(ll) Data Presentation. The preclinical studies and clinical trials conducted by or on behalf of the Company that are described in the Registration Statement and the Prospectus (the "**Company Studies**") were and, if still pending, are being, conducted in all material respects in accordance with their experimental protocols; the descriptions of the results of the Company Studies contained in the Registration Statement and the Prospectus are accurate in all material respects; the Company has no knowledge of any other preclinical studies or clinical trials not described in the Registration Statement and the Prospectus the results of which are inconsistent with or otherwise call into question the results described or referred to in the Registration Statement and the Prospectus; and the Company has not received any written notices or correspondence from the FDA or any foreign, state or local governmental body exercising comparable authority (the "**Regulatory Agencies**") requiring the termination, suspension or material modification of any Company Studies that would reasonably be expected to have a Material Adverse Effect and, to the Company's knowledge, there are no reasonable grounds for the same. To the Company's knowledge, none of the Company Studies involved any investigator who has been disqualified as a clinical investigator or has been found by the FDA to have engaged in scientific misconduct.

(mm) Regulatory Filings. The Company has not failed to file with the Regulatory Agencies any required filing, declaration, listing, registration, report or submission with respect to the Company's product candidates that are described or referred to in the Registration Statement or the Prospectus or any other filing required by any other applicable Regulatory Agency or governmental authority; all such filings, declarations, listings, registrations, reports or submissions were in material compliance with applicable laws when filed; all such filings, declarations, listings, registrations, reports or submissions were timely, complete, accurate and not misleading on the date filed in all material respects (or were corrected or supplemented by subsequent submission); and no deficiencies regarding compliance with applicable law have been asserted by any applicable Regulatory Agency or other governmental authority with respect to any such filings, declarations, listings, registrations, reports or submissions.

(nn) Licenses and Permits. Except as would not, individually or in the aggregate, have a Material Adverse Effect, (i) the Company and its subsidiaries hold, and are operating in compliance with, such permits, licenses, franchises, registrations, exemptions, approvals, authorizations and clearances of any other governmental authorities (including, without limitation, the FDA) required for the conduct of its business as currently conducted (collectively, the "**Permits**"), and all such Permits are in full force and effect; and (ii) the Company and its subsidiaries have fulfilled and performed all of their obligations with respect to the Permits, 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 of any Permit. All applications, notifications, submissions, information, claims, reports and statistics, and other data and conclusions derived therefrom, utilized as the basis for any and all requests for a Permit from the FDA or other governmental authority relating to the Company or its subsidiaries, its business and its products, when submitted to the FDA or other governmental authority by or on behalf of the Company or its subsidiaries, were true, complete and correct in all material respects. Any necessary or required updates, changes, corrections or modification to such

applications, notifications, submissions, information, claims, reports and statistics and other data have been submitted to the FDA or other governmental authority, except as would not, individually or in the aggregate, have a Material Adverse Effect. The Company and its subsidiaries have not received any notification, correspondence or any other written communication, including notification of any pending or, to the Company's knowledge, threatened claim, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority, including, without limitation, the FDA, of potential or actual material non-compliance by, or material liability of, the Company or its subsidiaries under any Permits. To the Company's knowledge, there are no facts or circumstances that would reasonably be expected to give rise to any material liability of the Company or its subsidiaries under any Permits.

(oo) Compliance with Certain Regulatory Matters. The Company, its subsidiaries, and to the Company's knowledge, its directors, officers, employees and agents have operated and currently are in compliance in all material respects with applicable Health Care Laws. For purposes of this Agreement, "**Health Care Laws"** includes, without limitation: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the 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)), 18 U.S.C. Sections 286 and 287, the health care fraud criminal provisions under HIPAA (42 U.S.C. Section 1320d et seq.), the Stark Law (42 U.S.C. Section 1395nn), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusion law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), and applicable laws governing government funded or sponsored healthcare programs; (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.); (iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010; (v) licensure, quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies; and (vi) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its subsidiaries, and (vii) the directives and regulations promulgated pursuant to such statutes and any state or non-U.S. counterpart thereof. Neither the Company, its subsidiaries, nor, to the knowledge of the Company, any of their respective directors, officers, employees or agents has been debarred, excluded or suspended from participation in or receiving payment from any federal, state or local government health care program or is subject to an audit, investigation, proceeding, or other similar action by any governmental authority that could reasonably be expected to result in debarment, suspension or exclusion.

(pp) Absence of Certain Regulatory Actions. Except as described in the Registration Statement and the Prospectus, or as would not, individually or in the aggregate, have a Material Adverse Effect, the Company and its subsidiaries, have not had any product or manufacturing site (whether Company-owned or that of a contract manufacturer for Company product candidates) subject to a governmental authority (including, without limitation, the FDA) shutdown or import or export prohibition, nor have the Company and its subsidiaries received any FDA Form 483 or other governmental authority notice of inspectional observations, "warning letters," "untitled letters," requests to make changes to the Company products, processes or operations, or similar correspondence or notice from the FDA or other governmental authority alleging or asserting

material noncompliance with any applicable laws. To the Company's knowledge, neither the FDA nor any other governmental authority has threatened such action. Neither the Company nor its subsidiaries, has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court, arbitrator, Regulatory Agency, or other governmental authority or third party alleging 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.

(qq) No Rating. Neither the Company nor its subsidiaries, has debt securities or preferred stock that is rated by any "nationally recognized statistical rating organization" (as such term is defined in Section 3(a)(62) of the Exchange Act).

(rr) No Broker's Fees. The Company is not a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Placement Shares.

(ss) Required Filings. The Company has timely made all filings required to be made by it under the Exchange Act.

(tt) FINRA Matters. All of the information provided to Cowen or to counsel for Cowen by the Company, or to the Company's knowledge, by its counsel, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Placement Shares is true, complete, correct and compliant with FINRA's rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules or NASD Conduct Rules is true, complete and correct. The Company meets the definition of the term "experienced issuer" specified in FINRA Rule 5110(j)(6). Duties, Transfer Taxes, Etc. No stamp or other issuance or transfer taxes or duties and no capital gains, income, withholding or other taxes are payable by Cowen in the United States or any political subdivision or taxing authority thereof or therein in connection with the execution, delivery or performance of this Agreement by the Company or the sale and delivery by the Company of the Placement Shares.

(uu) Cybersecurity. The Company's and its subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "**IT Systems**") are reasonably adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect all confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses. "**Personal Data**" means (i) any information that relates to an identified or identifiable individual or device, including, but not limited to, name, address, telephone number, email address, username and password, photograph, government-issued identifier, online identifier, or any other data used or intended to be used to identify, contact or precisely locate an individual and (ii) any other information which is classified

as "personal data," "personal information," "personally identifiable information" (or other similar term) under the Privacy Laws or Policies. There have been no material disruptions to or violations or outages of any of the IT Systems nor any occurrence of any unlawful, accidental, or unauthorized destruction, loss, modification or disclosure, use of, or access to, any IT Systems, confidential information, or Personal Data maintained by or on behalf of the Company, nor any incidents under internal review or investigations relating to any of the foregoing. Except as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries are presently in compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Processing of Personal Data and to the protection of such IT Systems and Personal Data from unlawful, accidental, or unauthorized destruction, loss, disclosure, use, access, misappropriation or modification.

(vv) Data Privacy Laws. Except as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries are, and at all prior times were, in compliance with all applicable state and federal laws and regulations relating to data privacy and security or the Company's collection, storage, use, retention, disclosure, transfer, disposal, handling, analysis, or other processing (collectively, "**Processing**") of data, including, without limitation, the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, including all rules and regulations promulgated thereunder ("**HIPAA**"), Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, as amended from time to time, and all national laws and regulations implementing it ("**EU GDPR**") and the European Union General Data Protection Regulation as it forms part of UK law by virtue of Section 3 of the European Union (Withdrawal) Act 2018 (as amended, including by the Data Protection, Privacy and Electronic Communications (Amendments etc.) (EU Exit) Regulations 2019) ("**UK GDPR**") (collectively, the "**Privacy Laws**"). The Company and its subsidiaries have in place, comply with, and take appropriate steps designed to ensure compliance in all material respects with all of their policies and procedures relating to data privacy and security and the Company's Processing of Personal Data (the "**Policies**"). The Company and its subsidiaries have at all times made all disclosures to users or customers required by Privacy Laws and Policies, and t none of such disclosures made or contained in any Policy have been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws or the Company's Processing of Personal Data, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(ww) Other Underwriting Agreements. The Company is not a party to any agreement with an agent or underwriter for any other "at the market" or continuous equity transaction.

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

The Company acknowledges that Cowen and, for purposes of the opinions to be delivered pursuant to Section 7 hereof, counsel to the Company and counsel to 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 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 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 Cowen promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference or amendments not related to the Placement Shares, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus related to the Placement Shares has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus related to the Placement Shares or for additional information, (ii) the Company will prepare and file with the Commission, promptly upon Cowen's reasonable request, any amendments or supplements to the Registration Statement or Prospectus that, in Cowen's reasonable opinion, may be necessary or advisable to comply with applicable law in connection with the distribution of the Placement Shares by Cowen (*provided, however*, that the failure of Cowen to make such request shall not relieve the Company of any obligation or liability hereunder, or affect Cowen's right to rely on the representations and warranties made by the Company in this Agreement and *provided further*, that the only remedy Cowen shall have with respect to the failure to make such filing 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 Cowen within a reasonable period of time before the filing and Cowen has not reasonably objected thereto in writing (*provided, however*, that (A) the failure of Cowen to make such objection shall not relieve the Company of any obligation or liability hereunder, or affect 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 Cowen any advance copy of such filing or to provide Cowen an opportunity to object to such filing if the filing does not name Cowen or does not relate to the transaction herein provided and, (C) the only remedy Cowen shall have with respect to the failure by the Company to provide Cowen with such copy or the filing or such amendment or supplement despite Cowen's objection shall be to cease making sales under this Agreement) and the Company will furnish to 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 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. The determination to file or not file any amendment or supplement with the Commission under this Section 7(a) shall be made exclusively by the Company. 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 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 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 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 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, however*, that the Company may delay any such amendment or supplement if, in the judgment of the Company, it is in the best interest of the Company to do so, provided that no Placement Notice is in effect during such time.

(d) Listing of Placement Shares. During any period in which the Prospectus relating to the Placement Shares is required to be delivered by 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 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 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 Cowen may from time to time reasonably request and, at 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 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. For the avoidance of doubt, the Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy this Section 7(f).

(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 Cowen in connection therewith shall be paid by Cowen except as set forth in (vii) below), (iv) the printing and delivery to 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 filing fees and associated legal expenses of Cowen's outside counsel for filings with the FINRA Corporate Financing Department , such legal expense reimbursement not to exceed $10,000 and, (viii) the reasonable fees and disbursements of Cowen's counsel in an amount not to exceed $75,000.

(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 3 trading days following the termination of any Placement Notice given hereunder, the Company shall provide 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 any other equity awards or Common Stock issuable upon the exercise or settlement of options or other equity awards pursuant to any stock option, stock bonus or other stock plan or arrangement described in the Prospectus or any inducement equity awards pursuant to Rule 5634(c)(4) of the Nasdaq Listing Rules, (ii) the issuance of securities in connection with an acquisition, merger or sale or purchase of assets, or joint venture, commercial, strategic or collaborative relationship, or (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 Cowen in advance or (iv) the issuance of 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.

(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 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 required to be provided to Cowen pursuant to this Agreement, *provided*, that the Company may satisfy its obligations under this Section 7(j) by effecting a filing in accordance with the Exchange Act with respect to such information or fact

(k) Due Diligence Cooperation. During the term of the Agreement, the Company will cooperate with any reasonable due diligence review conducted by 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 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 (each and every filing under Rule 424(b), a "**Filing Date**"), and (ii) if requested in writing by Cowen, 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 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 during the term of this Agreement, and each time (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 report on Form 8-K containing amended financial information (other than an earnings release or other information "furnished" pursuant to Item 2.02 or Item 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 Cowen with a certificate, in the form attached hereto as Exhibit 7(m) within three (3) Trading Days of any Bring-Down Date if requested by 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 Cowen with a certificate under this Section 7(m), then before the Company delivers the Placement Notice or Cowen sells any Placement Shares, the Company shall provide 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 three (3) Trading Days 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 Cowen a written opinion of Fenwick & West LLP (collectively with Company IP Counsel (as defined below), "**Company Counsel**"), or other counsel satisfactory to Cowen, in form and substance satisfactory to Cowen and its counsel, dated the date that the opinion is required to be delivered; *provided*, *however*, that in lieu of such opinions for subsequent Bring-Down Dates, counsel may furnish Cowen with a letter (a "**Reliance Letter**") to the effect that Cowen may rely on a prior opinion 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 shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented at such Bring-Down Date).

(o) Intellectual Property Opinion. On or prior to the First Delivery Date and within three (3) Trading Days 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 Cowen a written opinion of Leydig, Voit & Mayer, Ltd. ("**Company IP Counsel**"), or other counsel satisfactory to Cowen, in form and substance satisfactory to Cowen and its counsel, dated the date that the opinion is required to be delivered, with respect to intellectual property matters, 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 Cowen with a Reliance Letter to the effect that Cowen may rely on a prior opinion delivered under this Section 7(o) to the same extent as if it were dated the date of such letter (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented at such Bring-Down Date).

(p) Comfort Letter. On or prior to the First Delivery Date and within three (3) Trading Days 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 Cowen letters (the **"Comfort Letters"**), dated the date the Comfort Letter is delivered, in form and substance satisfactory to 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 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.

(q) 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 Common Stock to be issued and sold pursuant to this Agreement, or pay anyone any compensation for soliciting purchases of the Placement Shares other than 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.

(r) 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.

(s) Compliance with Laws. The Company and each of its subsidiaries shall use its commercially reasonable efforts to 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 could not reasonably be expected to result in a Material Adverse Effect.

(t) 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.

(u) Securities Act and Exchange Act. The Company will use its 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.

(v) No Offer to Sell. Other than a Permitted Free Writing Prospectus, neither Cowen nor the Company (including its agents and representatives, other than 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 Placement Shares hereunder.

(w) Sarbanes-Oxley Act. The Company and its subsidiaries will use their commercially reasonable efforts to comply in all material respects with all effective applicable provisions of the Sarbanes-Oxley Act.

(x) Affirmation. Each Placement Notice delivered by the Company to 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 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).

(y) 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 may, prior to the Renewal Deadline, 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 Cowen, and, if not automatically effective, will use its best efforts to cause such registration statement to be declared effective within 60 days after the Renewal Deadline. The Company may take any other action 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 Cowen's Obligations. The obligations of 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 Cowen of a due diligence review satisfactory to Cowen in its reasonable judgment, and to the continuing satisfaction (or waiver by 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. 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 Cowen's reasonable opinion is material, or omits to state a fact that in 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 Change, on a consolidated basis, in the authorized capital stock of the Company or any Material Adverse Change or any development that would reasonably be expected to result in a Material Adverse Change, 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 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 Legal Opinion. Cowen shall have received the opinions of Company Counsel required to be delivered pursuant to Section 7(n) and Section 7(o) on or before the date on which such delivery of such opinion is required pursuant to Section 7(n) and Section 7(o).

(f) Cowen Counsel Legal Opinion. Cowen shall have received from Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel for 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 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. Cowen shall have received the Comfort Letter required to be delivered pursuant to Section 7(p) on or before the date on which such delivery of such Comfort Letter is required pursuant to Section 7(p).

(h) Representation Certificate. 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, Cowen shall have received a certificate, signed on behalf of the Company by its corporate secretary, in form and substance satisfactory to 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 Cowen such appropriate further information, certificates and documents as 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 Cowen with such conformed copies of such opinions, certificates, letters and other documents as 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 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 Cowen, the directors, officers, partners, employees and agents of Cowen and each person, if any, who (i) controls 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 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), as and when incurred, to which 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 in connection with this Agreement 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, or (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; *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, or alleged 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) Cowen Indemnification. 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 in writing 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 and documented 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 promptly as they are incurred. 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 Cowen, the Company and 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 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 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 Cowen on the other. The relative benefits received by the Company on the one hand and 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 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 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 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 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), 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 Cowen, will have the same rights to contribution as that party, and each officer of the Company who signed the Registration Statement and each director of the Company 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 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) Cowen shall have the right by giving written notice as hereinafter specified at any time to terminate this Agreement if (i) any Material Adverse Change, or any development that would reasonably be expected to result in a Material Adverse Change has occurred that, in the reasonable judgment of Cowen, would materially impair the ability of 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 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 Cowen elects to terminate this Agreement as provided in this Section 11(a), 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. Upon termination of this Agreement, the Company shall not have any liability to Cowen for any discount, commission, or other compensation with respect to any Placement Shares not otherwise sold by Cowen under this

Agreement, or otherwise, except with respect to reimbursement of expenses pursuant to Section 7(g).

(c) 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 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 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 Cowen, shall be delivered to Cowen at Cowen and Company, LLC, 599 Lexington Avenue, New York, NY 10022, fax no. [*], Attention: General Counsel, email: [*]; or if sent to the Company, shall be delivered to AnaptysBio, Inc., 10770 Wateridge Circle, Suite 210, San Diego, CA 92121, attention: Eric Loumeau, email: [*], with a copy to Fenwick & West LLP, attention: Effie Toshav, email: [*]. 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 facsimile 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 the party sending Electronic Notice receives verification of receipt by the receiving party, 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 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 Cowen may assign its rights and obligations hereunder to an affiliate of 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 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 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) 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 Cowen has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether 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 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 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 Cowen, for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that 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 electronic transmission.

[Remainder of Page Intentionally Blank]

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

Very truly yours,

COWEN AND COMPANY, LLC

By: /s/ Michael Murphey_____
Name: Michael Murphey
Title: Managing Director

ACCEPTED as of the date first-above written:

ANAPTYSBIO, INC.

By: /s/ Daniel Faga_____
Name: Daniel Faga
Title: Interim President & Chief Executive Officer

SCHEDULE 1

FORM OF PLACEMENT NOTICE

From: [ ]
Cc: [ ]
To: [ ]
Subject: Cowen At the Market Offering—Placement Notice

Gentlemen:

Pursuant to the terms and subject to the conditions contained in the Sales Agreement between AnaptysBio, Inc. (the "Company"), and Cowen and Company, LLC ("Cowen") dated November 8, 2022 (the "Agreement"), I hereby request on behalf of the Company that Cowen sell up to [ ] shares of the Company's common stock, par value $0.001 per share, at a minimum market price of $[__] per share. Sales should begin on the date of this Notice and shall continue until [DATE] [all shares are sold].

SCHEDULE 2

Notice Parties

Company

Dan Faga	Chief Executive Officer
Dennis Mulroy	Chief Financial Officer
Eric Loumeau	Chief Operating Officer and General Counsel

Cowen

Michael J. Murphy	Managing Director
William Follis	Managing Director

SCHEDULE 3

Compensation

Cowen shall be paid compensation equal to up to 3% of the gross proceeds from the sales of Common Stock pursuant to the terms of this Agreement.

Exhibit 7(m)

OFFICER CERTIFICATE

The undersigned, the duly qualified and elected _____, of **AnaptysBio, Inc.** ("**Company**"), a Delaware corporation, does hereby certify in such capacity and on behalf of the Company, pursuant to Section 7(m) of the Sales Agreement dated November 8, 2022 (the "**Sales Agreement**") between the Company and Cowen and Company, LLC, that to the best of the knowledge of the undersigned. Capitalized terms used but not defined herein shall have the meanings given to them in the Sales Agreement.

(i) The representations and warranties of the Company in Section 6 of the Sales Agreement (A) to the extent such representations and warranties are subject to qualifications and exceptions contained therein relating to materiality or Material Adverse Change, are true and correct on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date, and (B) to the extent such representations and warranties are not subject to any qualifications or exceptions, are true and correct in all material respects as of the date hereof as if made on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date; and

(ii) The Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied pursuant to the Sales Agreement at or prior to the date hereof.

Each of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. and Fenwick & West LLP are entitled to rely upon this Certificate in connection with the opinions given by such firms pursuant to the Sales Agreement.

By:_____
Name:
Title:

Date:_____

EXHIBIT 31.1

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Daniel Faga, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AnaptysBio, 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: November 8, 2022

/s/ Daniel Faga
Daniel Faga
Interim President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Dennis Mulroy, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AnaptysBio, 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: November 8, 2022

/s/ Dennis Mulroy
Dennis Mulroy
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

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

I, Daniel Faga, Chief Executive Officer of AnaptysBio, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

Date: November 8, 2022

/s/ Daniel Faga
Daniel Faga
Interim President and Chief Executive Officer
(Principal Executive Officer*)*

EXHIBIT 32.2

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

I, Dennis Mulroy, Chief Financial Officer of AnaptysBio, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

Date: November 8, 2022

/s/ Dennis Mulroy
Dennis Mulroy
Chief Financial Officer
(Principal Financial Officer)