

**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 March 31, 2019

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
(State or other jurisdiction of
incorporation or organization)

20-3828755
(I.R.S. Employer
Identification Number)

10421 Pacific Center Court, Suite 200
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, if any, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). Yes No

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 May 3, 2019, there were 27,023,725 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)

	March 31, 2019	December 31, 2018
	(unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 105,853	\$ 113,596
Australian tax incentive receivable	175	174
Short-term investments	309,812	313,486
Prepaid expenses and other current assets	6,102	6,960
Total current assets	421,942	434,216
Property and equipment, net	1,584	1,445
Long-term investments	68,551	73,128
Other long-term assets	2,089	148
Restricted cash	60	60
Total assets	\$ 494,226	\$ 508,997
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 9,072	\$ 5,443
Accrued expenses	8,400	8,761
Notes payable, current portion	6,488	7,574
Other current liabilities	794	58
Total current liabilities	24,754	21,836
Other long-term liabilities	1,317	796
Stockholders' equity:		
Preferred stock, \$0.001 par value, 10,000 shares authorized and no shares, issued or outstanding at March 31, 2019 and December 31, 2018, respectively	—	—
Common stock, \$0.001 par value, 500,000 shares authorized, 27,006 shares and 26,922 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	27	27
Additional paid in capital	636,692	633,251
Accumulated other comprehensive income (loss)	204	(223)
Accumulated deficit	(168,768)	(146,690)
Total stockholders' equity	468,155	486,365
Total liabilities and stockholders' equity	\$ 494,226	\$ 508,997

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 March 31,	
	2019	2018
Collaboration revenue	\$ —	\$ —
Operating expenses:		
Research and development	20,631	11,810
General and administrative	4,141	3,947
Total operating expenses	24,772	15,757
Loss from operations	(24,772)	(15,757)
Other income (expense), net:		
Interest expense	(320)	(451)
Interest income	2,988	1,185
Other income (expense), net	7	(63)
Total other income (expense), net	2,675	671
Loss before income taxes	(22,097)	(15,086)
Provision for income taxes	19	—
Net loss	(22,078)	(15,086)
Other comprehensive income (loss):		
Unrealized income (loss) on available for sale securities, net of tax of \$115 and \$0, respectively	427	(801)
Comprehensive loss	\$ (21,651)	\$ (15,887)
Net loss per common share:		
Basic and diluted	\$ (0.82)	\$ (0.63)
Weighted-average number of shares outstanding:		
Basic and diluted	26,981	23,801

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) Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2018	26,922	\$ 27	\$ 633,251	\$ (223)	\$ (146,690)	\$ 486,365
Shares issued under employee stock plans	84		574			574
Stock-based compensation			2,867			2,867
Comprehensive income, net				427		427
Net loss					(22,078)	(22,078)
Balance, March 31, 2019	<u>27,006</u>	<u>\$ 27</u>	<u>\$ 636,692</u>	<u>\$ 204</u>	<u>\$ (168,768)</u>	<u>\$ 468,155</u>

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, 2017	23,791	\$ 24	\$ 393,017	\$ (426)	\$ (85,034)	\$ 307,581
Shares issued under employee stock plans	9		72			72
Warrants exercised	17		75			75
Stock-based compensation			2,260			2,260
Comprehensive loss, net				(375)		(375)
Net loss					(15,086)	(15,086)
Balance, March 31, 2018	<u>23,817</u>	<u>\$ 24</u>	<u>\$ 395,424</u>	<u>\$ (801)</u>	<u>\$ (100,120)</u>	<u>\$ 294,527</u>

See accompanying notes to unaudited consolidated financial statements.

ANAPTYSBIO, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Three Months Ended March 31,	
	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	\$ (22,078)	\$ (15,086)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	115	54
Stock-based compensation	2,867	2,260
Accretion of discount on investments	(1,028)	(83)
Non-cash interest expense	164	156
Changes in operating assets and liabilities:		
Australian tax incentive receivable	(1)	(9)
Prepaid expenses and other assets	(1,214)	388
Accounts payable and other liabilities	5,076	(158)
Net cash used in operating activities	(16,099)	(12,478)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Acquisition of investments	(79,763)	(32,203)
Sales and maturities of investments	89,600	34,581
Purchases of property and equipment	(180)	(232)
Net provided by investing activities	9,657	2,146
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of common stock, upon the exercise of stock options	574	72
Proceeds from issuance of common stock, upon the exercise of warrants	—	75
Payments on notes payable	(1,875)	(1,250)
Payments for offering costs, net	—	(280)
Net cash used in financing activities	(1,301)	(1,383)
Net decrease in cash, cash equivalents, and restricted cash	(7,743)	(11,715)
Cash, cash equivalents and restricted cash, beginning of period	113,656	81,249
Cash, cash equivalents and restricted cash, end of period	\$ 105,913	\$ 69,534
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Interest paid	\$ 172	\$ 297
Non-cash investing and financing activities:		
Amounts accrued for property and equipment	\$ 233	\$ 7

See accompanying notes to unaudited consolidated financial statements.

ANAPTYSBIO, INC.
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 biotechnology company developing first-in-class antibody product candidates focused on unmet medical needs in inflammation. We develop our product candidates using our proprietary, antibody discovery technology platform, which is designed to replicate, *in vitro*, the natural process of antibody generation. We currently generate revenue from milestones achieved under our collaborative research and development arrangements.

Since our inception, we have devoted our primary effort to raising capital and research and development activities. Our financial support has been provided primarily from the sale of our common and preferred stock, 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. Management believes its currently available resources will provide sufficient funds to enable the Company to meet its operating plans for at least the next twelve months. 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, or the SEC. Certain information and note disclosures normally included in annual financial statements prepared in accordance with U.S. generally accepted accounting principles, or 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. Also, certain reclassifications have been made to 2018 financial information to conform to the current year presentation of long-term liabilities on the Consolidated Balance Sheets. Operating results for the three months ended March 31, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019. The financial statements should be read in conjunction with our audited financial statements for the year ended December 31, 2018, included in our Annual 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 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. Our actual results could differ from these estimates under different assumptions or conditions.

Leases

Prior to January 1, 2019, we recorded our leases in accordance with ASC 840, Leases, and all current leases were classified as operating leases. Rent expense was recognized on a straight-line basis over the terms of the leases and, accordingly, we recorded the cumulative difference between cash rent payments and the recognition of rent expense as a deferred rent liability. When an operating lease included lease incentives, such as a rent abatements or leasehold improvement allowances, or required fixed escalations of the minimum lease payments, the aggregate rental expense, including such incentives or increases, was recognized on a straight-line basis over the term of the lease.

Effective January 1, 2019, we adopted ASU 2016-02, ASC 842, Leases, under which all outstanding leases continued to be classified as operating leases. Rent expense is recognized on a straight-line basis. When an operating lease includes rent abatements or requires fixed escalations of the minimum lease payments, the aggregate rental expense is recognized on a straight-line basis over the term of the lease. When an operating lease includes lease incentives such as leasehold improvement allowances, the lease incentive is included in the right-of-use, or “ROU”, asset. Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at the date of adoption of ASC 842, or the lease commencement date. As our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. We account for fixed lease components separately from non-lease components.

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 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):

(in thousands)	Three Months Ended March 31,	
	2019	2018
Options to purchase common stock	2,359	2,602
Warrants to purchase common stock	—	9
Total	2,359	2,611

Accounting Pronouncements Recently Adopted

In February 2016, the Financial Accounting Standards Board, or FASB, issued Accounting Standard Update (ASU) 2016-02, *Leases (Topic 842)*, which requires that lessees recognize a right-of-use, or “ROU”, asset and a related lease liability on the balance sheet for all leases with a term longer than 12 months. Topic 842 was subsequently amended by ASU 2018-01, *Land Easement Practical Expedient for Transition to Topic 842*; ASU 2018-10, *Codification Improvements to Topic 842, Leases*; ASU 2018-11, *Targeted Improvements*; and ASU 2019-01, *Leases (Topic 842): Codification Improvements*. ASU 2016-02 became effective for our annual reporting period beginning January 1, 2019, including interim periods thereafter. A modified retrospective transition approach is required, applying the new standard to all leases existing at the date of initial application. An entity may choose to use either (i) its effective date or (ii) the beginning of the earliest comparative period presented in the financial statements as its date of initial application. We adopted this standard on January 1, 2019 and used the effective date as our date of initial application. Upon adoption, we elected the package of transition practical expedients, which allowed us to carry forward prior conclusions related to whether any expired or existing contracts are or contain leases, the lease classification for any expired or existing leases and initial direct costs for existing leases. We also made an accounting policy election to not recognize leases with an initial term of 12 months or less within our consolidated balance sheets and to recognize those lease payments on a straight-line basis in our consolidated statements of operations over the lease term. Adoption of the new standard resulted in the recording of operating lease ROU assets and lease liabilities of approximately \$2.1 million and \$2.3 million as of January 1, 2019, respectively related to our real estate leases. Adoption of this new standard did not have a material impact on our consolidated statements of operations or cash flows.

3. Balance Sheet Accounts and Supplemental Disclosures

Property and Equipment

Property and equipment consist of the following:

(in thousands)	March 31, 2019	December 31, 2018
Laboratory equipment	\$ 4,508	\$ 4,287
Office furniture and equipment	807	780
Leasehold improvements	574	575
Property and equipment, gross	\$ 5,889	\$ 5,642
Less: accumulated depreciation and amortization	(4,305)	(4,197)
Total property and equipment, net	\$ 1,584	\$ 1,445

Accrued Expenses

Accrued expenses consist of the following:

(in thousands)	March 31, 2019	December 31, 2018
Accrued compensation and related expenses	\$ 1,281	\$ 2,421
Accrued professional fees	646	442
Accrued research, development and manufacturing expenses	6,014	5,577
Other	459	321
Total accrued expenses	\$ 8,400	\$ 8,761

4. Collaborative Research and Development Agreements

TESARO Collaboration

In March 2014, we entered into a Collaboration and Exclusive License Agreement, or the TESARO Agreement, with TESARO, Inc. and TESARO Development, Inc., or collectively, TESARO, an oncology-focused biopharmaceutical company now a part of GlaxoSmithKline. Under the terms of the 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 TESARO. Under the terms of the agreement, TESARO 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, we and TESARO entered into Amendment No. 1 to the Agreement to add an antibody discovery program against an undisclosed fourth target for an upfront license fee of \$2.0 million.

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 TESARO, 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 single-digit royalties related to worldwide net sales of products developed under the collaboration. Unless earlier terminated by either party upon specified circumstances, the agreement will terminate, with respect to each specific developed product, upon the latter 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 Accounting Standards Codification 606, *Revenue from Contracts with Customers* (or ASC 606), we determined that the upfront license fees and research funding under the 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 December 2015, 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 milestones were recognized was extended through December 31, 2016, and have since been recognized in full.

We assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, TESARO, is a customer. We identified the following material promises under the TESARO Agreement: (1) the licenses under certain patent rights relating to six discovery programs (four targets) and transfer of certain development and regulatory information, (2) R&D services and (3) Joint Steering Committee meetings. We considered the research and discovery capabilities of TESARO for these specific programs, TESARO's inability to sub-license, and the fact that the discovery and optimization of these antibodies is proprietary and could not, at the time of the 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 steering committee participation would not have been provided without the R&D services and license 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.

As of March 31, 2019, the transaction price includes the upfront payment, research reimbursement revenue, and milestones earned to date, which are allocated in their entirety to the single performance obligation. 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 the licensees' 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 IP license granted to TESARO 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 recognized through March 31, 2019 under the TESARO Agreement are as follows:

Milestone Event	Anti-PD-1 (TSR042/Dostarlimab)		Anti-TIM-3 (TSR022)		Anti-LAG-3 (TSR033)	
	Amount	Quarter Recognized	Amount	Quarter Recognized	Amount	Quarter Recognized
Initiated <i>in vivo</i> 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	—	—
Phase 3 clinical trial initiation	\$5.0M	Q3'18	—	—	—	—

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 no revenue under this agreement during the three months ended March 31, 2019 and 2018.

Antibody Generation Agreement with Celgene Corporation

In December 2011, we entered into a license and collaboration agreement with Celgene, or the Celgene Agreement, to develop therapeutic antibodies against multiple targets. We granted Celgene 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 agreement provided for an upfront payment of \$6.0 million from Celgene, 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.

We assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, Celgene, is a customer. We identified the following material promises under the Celgene Agreement: (1) the licenses under certain patent rights relating to four targets and transfer of certain development and regulatory information, (2) R&D services, (3) a written report documenting findings and (4) Steering Committee meetings. We considered the research and discovery capabilities of Celgene, Celgene's inability to sub-license the four targets, and the fact that the discovery and optimization of these antibodies is proprietary and could not, at the time of the 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 report of findings and steering committee participation would not have been provided without the R&D services and license 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 the arrangement.

As of March 31, 2019, the transaction price includes the upfront payment, success fees, expense reimbursement, and milestones earned to date, which are allocated in their entirety to the single performance obligation. None of the 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 and the licensees' 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 IP license granted to Celgene and therefore have also been excluded from the transaction price. We will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Milestones achieved through March 31, 2019 under the Celgene Agreement are as follows:

Milestone Event	Anti-PD-1 (CC-90006)	
	Amount	Quarter Recognized
Completion of first <i>in vivo</i> toxicology studies using GLPs	\$0.5M	Q2'16
Phase 1 clinical trial initiation	\$1.0M	Q4'16

Revenue from future contingent milestone payments are recognized upon determination that a significant reversal of revenue would not be probable. Cash is generally received within 30 days of milestone achievement.

There was no revenue recognized under this agreement during the three months ended March 31, 2019 and 2018.

5. Notes Payable

On December 24, 2014, we entered into a Loan and Security Agreement, as amended from time to time, the Loan Agreement, with a bank and a financial institution whereby we may borrow up to \$15.0 million in three separate draws of \$5.0 million each. The Term A Loans, for an aggregate of \$5.0 million, were drawn on December 24, 2014 with a fixed interest rate of 6.97%.

In January 2016, the Loan Agreement was amended to combine Term B Loans and Term C Loans for a total of \$10.0 million available for draw through December 31, 2016 and delay the beginning of our Term A Loans' principal repayments from February 1, 2016 until February 1, 2017. The Term B Loans and Term C Loans became available for draw on July 1, 2016. In December 2016, we further amended the Loan Agreement to (i) allow for the Term B Loans and Term C Loans to be drawn on December 30, 2016, (ii) delay principal repayments of all Term Loans until February 1, 2018 and (iii) amend the interest rate for each Term Loan. The Term B Loans and the Term C Loans were drawn on December 30, 2016, and Term A, B and C Loans are now collectively referred to as the Term Loans. Principal repayments began in February 2018, and as of March 31, 2019, there are 10 monthly principal and interest payments remaining on the Term Loans, with final maturity in January 2020. The Term Loans bear interest equal to the greater of 3-month U.S. LIBOR plus 6.37% or 7.3%. The interest rate was 8.99% as of March 31, 2019.

The costs incurred to issue the Term Loans were deferred and are included in the discount to the carrying value of the Term Loans in the accompanying balance sheet. The Term Loans also include a final payment fee of \$0.8 million due at the earlier of prepayment or the maturity date of the Term Loans. The deferred costs and the final payment fee are being amortized to interest expense over the expected term of the Term A Loans using the effective interest method.

As of March 31, 2019, the carrying amount of the Term Loans was \$6.5 million, which includes amortized final payment fees of \$0.2 million and is classified as current liabilities as of March 31, 2019. The effective interest rate on the Term Loans at March 31, 2019 was 13.38%. As of March 31, 2019, future principal maturities of the Term Loans were \$5.6 million and \$0.6 million during the remainder of 2019 and 2020, respectively.

The Term Loans are secured by a first priority interest in most of our assets, excluding intellectual property. As of March 31, 2019, we were in compliance with the covenants contained in the Loan Agreement.

6. Fair Value Measurements and Available for Sale Investments

Fair Value Measurements

Our financial instruments consist principally of cash, cash equivalents, restricted cash, short-term and long-term investments, receivables, accounts payable, and notes 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:

(in thousands)	Fair Value Measurements at End of Period Using:			
	Fair Value	Quoted Market Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
At March 31, 2019				
Money market funds ⁽¹⁾	\$ 93,082	\$ 93,082	\$ —	\$ —
Mutual funds ⁽¹⁾	5,762	5,762	—	—
U.S. treasury securities ⁽²⁾	148,155	148,155	—	—
Certificates of deposit ⁽²⁾	5,178	—	5,178	—
Agency securities ⁽¹⁾⁽²⁾	82,079	—	82,079	—
Commercial and corporate obligations ⁽¹⁾⁽²⁾	151,104	—	151,104	—
At December 31, 2018				
Money market funds ⁽¹⁾	\$ 87,213	\$ 87,213	\$ —	\$ —
Mutual funds ⁽¹⁾	7,967	7,967	—	—
U.S. treasury securities ⁽²⁾	164,245	164,245	—	—
Certificates of deposit ⁽²⁾	4,784	—	4,784	—
Agency securities ⁽¹⁾⁽²⁾	81,296	—	81,296	—
Commercial and corporate obligations ⁽¹⁾⁽²⁾	153,983	—	153,983	—

- (1) Included in cash and cash equivalents, and restricted cash 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 fair value of our other financial instruments estimated as of March 31, 2019 and December 31, 2018 are presented below:

	March 31, 2019		December 31, 2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Notes payable	\$ 6,488	\$ 6,946	\$ 8,199	\$ 8,806

The following methods and assumptions were used to estimate the fair value of our notes payable:

Notes Payable—We use the income approach to value the aforementioned debt instrument. We use a present value calculation to discount principal and interest payments and the final maturity payment on these liabilities using a discounted cash flow model based on observable inputs. We discount these debt instruments based on what the current market rates would offer us as of the reporting date. Based on the assumptions used to value these liabilities at fair value, these debt instruments are categorized as Level 2 in the fair value hierarchy.

The carrying amounts of certain of our financial instruments, including cash and cash equivalents, Australian tax incentive receivable, 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 March 31, 2019 are as follows:

(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Fair Value
Agency securities ⁽¹⁾	\$ 82,023	\$ 100	\$ (44)	\$ 82,079
Certificates of deposit ⁽²⁾	5,148	30	—	5,178
Commercial and corporate obligations ⁽³⁾	150,963	178	(37)	151,104
US Treasury securities ⁽⁴⁾	148,008	179	(32)	148,155
Total available-for-sale investments	\$ 386,142	\$ 487	\$ (113)	\$ 386,516

- (1) Of our outstanding agency securities, \$68.0 million have maturity dates of less than one year and \$14.1 million have a maturity date of between one to two years as of March 31, 2019.
(2) Of our outstanding certificates of deposit, \$0.2 million have a maturity date of less than one year and \$4.9 million have a maturity date of between one to two years as of March 31, 2019.
(3) Of our outstanding commercial and corporate obligations, \$121.5 million have maturity dates of less than one year and \$29.6 million have a maturity date of between one to two years as of March 31, 2019.
(4) Of our outstanding U.S. Treasury securities \$128.2 million have maturity dates of less than one year and \$19.9 million have a maturity date of between one to two years as of March 31, 2019.

7. Stockholders' Equity

Common Stock

Of the 500,000,000 shares of common stock authorized, 27,006,293 shares were issued and outstanding as of March 31, 2019. Common stock reserved for future issuance upon the exercise, issuance or conversion of the respective equity instruments at March 31, 2019 are as follows:

Issued and Outstanding:	
Stock options	2,545,544
Shares Reserved For:	
2017 Equity Incentive Plan	2,620,336
2017 Employee Stock Purchase Plan	725,132
Total	<u>5,891,012</u>

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, or 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, or the 2006 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 1,076,877 shares as of January 1, 2019.

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 269,219 shares as of January 1, 2019.

Stock Options

Stock options granted to employees generally vest over a four-year period while stock options granted to directors vest over a one year period. Each have a maximum term of ten 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 three months ended March 31, 2019 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, 2019	2,152,455	\$ 27.55		
Granted	516,300	\$ 68.90		
Exercises	(84,471)	\$ 6.79		
Forfeitures and cancellations	(38,740)	\$ 72.63		
Outstanding at March 31, 2019	2,545,544	\$ 35.94	7.55	\$ 102,787
Exercisable at March 31, 2019	1,329,165	\$ 18.01	6.36	\$ 76,301

Stock-Based Compensation Expense

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:

	Three Months Ended March 31,	
	2019	2018
Risk-free interest rate	2.5%	2.6%
Expected volatility	68.5%	68.6%
Expected dividend yield	—%	—%
Expected term (in years)	6.25	6.25
Weighted average grant date fair value per share	\$ 43.96	\$ 68.34

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. Estimated volatility incorporates historical volatility of our stock price as well as similar entities whose share prices are publicly available. 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 March 31,	
	2019	2018
Research and development	\$ 1,240	\$ 756
General and administrative	1,627	1,504
Total	\$ 2,867	\$ 2,260

At March 31, 2019, there was \$44.6 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 2.78 years.

9. Australia Research and Development Tax Incentive

Our Australian subsidiary, which conducts core research and development activities on our behalf, is eligible to receive a 43.5% refundable tax incentive for qualified research and development activities during fiscal 2019 and fiscal 2018. For the three months ended March 31, 2019, there were no eligible expenditures incurred in Australia, therefore no tax incentive receivable was recorded. For the three months ended March 31, 2018, we recorded a less than \$0.1 million reduction to research and development expenses in the consolidated statements of operations and comprehensive loss. As of March 31, 2019 our tax incentive receivable from the Australian government related to fiscal 2018 was \$0.2 million. We received no cash during the three months ended March 31, 2019 and 2018 related to the tax incentive.

10. Commitments and Contingencies

Operating Leases

We have two non-cancellable office leases with remaining lease terms of approximately 2.5 years, each of which are classified as operating leases. Only one of our leases has remaining renewal options, which includes three options to renew for one additional year. The exercise of lease renewal options is at our sole discretion, which we currently do not anticipate exercising and as such were not recognized as part of our ROU asset and lease liabilities. Our lease payments are fixed, and we recognize lease expense for these 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 leases do 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 8.59%.

Our balance sheet includes our ROU assets and lease liabilities as follows (in thousands):

Leases	Classification on the Balance Sheet	March 31, 2019
Operating ROU assets	Other long-term assets	\$ 1,940
Operating lease liabilities	Other current liabilities	794
Operating lease liabilities	Other long-term liabilities	1,317

The following costs are included in our cash flow statement (in thousands):

Leases	Classification on the Cash Flow	Three Months Ended March 31, 2019
Operating lease cost	Operating	\$ 220
Cash paid for amounts included in the measurement of lease liabilities	Operating	231

At March 31, 2019, the future minimum annual obligations under non-cancellable operating lease commitments in excess of one year are as follows (in thousands):

Years Ending December 31,	
2019	\$ 706
2020	968
2021	677
2022	—
2023	—
Thereafter	—
Total minimum payments required	\$ 2,351
Less imputed interest	(240)
Total	\$ 2,111

As previously disclosed in our 2018 Annual Report on Form 10-K, and under the previous lease accounting standard, future minimum annual obligations under non-cancellable operating lease commitments in excess of one year would have been as follows:

Years Ending December 31,		
2019	\$	937
2020		969
2021		726
2022		—
2023		—
Thereafter		—
Total minimum payments required	\$	2,632

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 (Exchange Act), and section 27A of the Securities Act of 1933, as amended (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 lead product candidates etokimab for patients with severe allergic and atopic diseases and ANB019 for patients with generalized pustular psoriasis, or GPP, and palmoplantar pustulosis, or PPP;
- the likelihood that the clinical data generated in any study we are performing or plan to perform in a non-US jurisdiction will be subsequently accepted by the U.S. Food and Drug Administration, or 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 lead product candidates, identifying emerging opportunities in key therapeutic areas, continuing to expand our wholly-owned pipeline and retaining rights to strategic products in key commercial markets;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;
- the timing of and our ability to obtain and maintain regulatory approvals for etokimab and ANB019 and our other product candidates;
- 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 United States, 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;
- 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 three months ended March 31, 2019, 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, 2018, included in the Company's 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 developing first-in-class antibody product candidates focused on unmet medical needs in inflammation. We develop our product candidates to address emerging biological targets using our proprietary antibody discovery technology platform, which is based upon a breakthrough understanding of the natural process of antibody generation, known as somatic hypermutation, or SHM, and replicates this natural process of antibody generation *in vitro*. Our strategy is to advance the development and commercialization of our proprietary product candidates, and for certain programs, establish partnerships with leading biopharmaceutical companies where we retain certain development and commercialization rights in the United States. Our most advanced wholly-owned antibody programs, etokimab and ANB019, neutralize therapeutic targets that are genetically associated with severe inflammatory disorders in humans.

Etokimab, our anti-IL-33 antibody drug candidate previously referred to as ANB020, inhibits the activity of the interleukin-33 cytokine, or IL-33, which we believe is broadly applicable to the treatment of atopic inflammatory disorders, such as moderate-to-severe atopic dermatitis, eosinophilic asthma, chronic rhinosinusitis with nasal polyps, or CRSwNP, and potentially other allergic conditions.

We completed a Phase 2a proof-of-concept trial of etokimab in 12 moderate-to-severe adult atopic dermatitis patients in late 2017 and believe the data from this trial, presented at the 2018 American Academy of Dermatology, or AAD, and 2018 European Academy of Allergy and Clinical Immunology, or EAACI, demonstrate proof-of-concept for etokimab in moderate-to-severe adult atopic dermatitis and suggest that etokimab may provide meaningful differentiation in terms of patient convenience. We are conducting a Phase 2b randomized, double-blinded, placebo-controlled, multi-dose study in 300 adult patients with moderate-to-severe atopic dermatitis, also referred to as the ATLAS trial, to assess different dose levels and dosing frequencies of subcutaneously-administered etokimab for a 16-week treatment period followed by an eight-week monitoring period, with top-line data expected in the second half of 2019.

We recently completed a Phase 2a randomized, placebo-controlled, single dose study of etokimab in 25 severe adult eosinophilic asthma patients. We announced top-line data from an interim analysis of this Phase 2a trial in September 2018, which we believe demonstrated proof-of-concept for etokimab in severe adult eosinophilic asthma patients with rapid and sustained Forced Expiratory Volume in One Second, or FEV1, improvement. We plan to report full data from this trial, including data subsequent to the Day 64 time point, at the 2019 EAACI. We believe this trial supports the continued development of etokimab in eosinophilic asthma and plan to initiate, during 2019, a multi-dose Phase 2b randomized, double-blinded, placebo-controlled trial. We may also conduct clinical studies in severe asthma subset(s) in the future.

We are conducting a randomized, placebo-controlled Phase 2 trial of etokimab in approximately 100 adult patients with CRSwNP, also referred to as the ECLIPSE trial, which is a debilitating atopic disorder associated with elevated IL-33 pathway signaling. We anticipate top-line data from this trial to be available in the second half of 2019.

ANB019 inhibits the interleukin-36 receptor, or IL-36R, for the treatment of rare inflammatory diseases including generalized pustular psoriasis, or GPP, and palmoplantar pustulosis, or PPP. We completed a Phase 1 clinical trial in healthy volunteers, which was presented at EAACI 2018, where ANB019 was well-tolerated by all subjects, no dose-limiting toxicities were observed, and no serious adverse events were reported among any subjects in the trial. We have subsequently initiated an open-label, multi-dose, single-arm Phase 2 trial of ANB019 in approximately 10 GPP patients, also referred to as the GALLOP trial, where top-line data are anticipated in mid-2019. We have also initiated a randomized, double-blind, placebo-controlled approximately 50-patient multi-dose trial of ANB019 in PPP, also referred to as the POPLAR trial, where top-line data are anticipated in the first half of 2020.

In addition to etokimab and ANB019, our wholly-owned pipeline includes novel anti-inflammatory checkpoint receptor modulator antibodies that we believe are applicable for treatment of certain autoimmune diseases where immune checkpoint receptors are insufficiently activated. We anticipate an Investigational New Drug Application, or IND, for the first such antibody in the second half of 2019.

In addition to our wholly-owned antibody programs, multiple AnaptysBio-developed antibody programs have been advanced to preclinical and clinical milestones under our collaborations. Our collaborations include an immuno-oncology-focused collaboration with TESARO, Inc. and TESARO Development, Ltd., or collectively TESARO, now a part of GlaxoSmithKline, and an inflammation-focused collaboration with Celgene Corporation, or Celgene, as discussed in Part I—Note 4 above.

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

Program	Therapeutic Indication	Development Stage & Anticipated Milestones						Commercial Rights
		Discovery	Preclinical	Phase 1	Phase 2	Phase 3		
Etokimab (ANB020): Anti-IL-33	Atopic Dermatitis				Phase 2a Data Presented at AAD and EAACI 2018	ATLAS: Phase 2b Top-Line Data H2 2019		
	Eosinophilic Asthma				Phase 2a Top-Line Data Sep 2018	Phase 2b To Be Initiated in 2019		
	Chronic Rhinosinusitis With Nasal Polyps				ECLIPSE: Phase 2 Top-Line Data H2 2019		AnaptysBio	
ANB019: Anti-IL-36R	Generalized Pustular Psoriasis				Phase 1 Data Presented at EAACI 2018	GALLOP: Phase 2 Top-Line Data Mid 2019		
	Palmoplantar Pustulosis					POPLAR: Phase 2 Top-Line Data H1 2020		
Anti-Inflammatory Checkpoint Modulator	Inflammatory Diseases		IND Filing H2 2019					
Dostarlimab (TSR-042): Anti-PD-1	Immuno-Oncology				BLA Filing Anticipated in H2 2019			
TSR-022: Anti-TIM-3	Immuno-Oncology				TSR-042 Combination Trial Ongoing			TESARO
TSR-033: Anti-LAG-3	Immuno-Oncology				TSR-042 Combination Trial Ongoing			
TSR-075: Anti-PD-1/ LAG-3 Bispecific	Immuno-Oncology				IND-Enabling Studies Ongoing			
CC-90006: Anti-PD-1 Agonist	Psoriasis				Ongoing			Celgene
Undisclosed	Inflammation				Ongoing			

Components of Operating Results

Collaboration Revenue

We have not generated any revenue from product sales. Our revenue has been derived from amortization of upfront payments, research and development funding and milestone payments under collaboration and license agreements with our collaborators. From inception through March 31, 2019, we have received \$81.6 million in cash in non-dilutive 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, or CROs, consultants, members of our scientific and therapeutic advisory boards, and Contract Manufacturing Organizations, or 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 recognize the Australian Research and Development Tax Incentive, or the Tax Incentive, as a reduction of research and development expense. The amounts are determined on a cost reimbursement basis based on our eligible research and development expenditures and are non-refundable, provided that in order to qualify for the Australian benefits we must have revenue of less than AUD \$20.0 million during the reimbursable period and cannot be controlled by income tax exempt entities. The Tax Incentive is recognized when there is reasonable assurance that the Tax Incentive will be received, the relevant expenditure has been incurred, and the amount can be reliably measured.

We are conducting research and development activities primarily on inflammation 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 2a trials for etokimab and Phase 1 trials for ANB019 and have ongoing Phase 2 and 2b clinical trials as well. We expect our research and development expenses to be higher for the foreseeable future as we continue to advance our product candidates.

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.

Interest Expense

Interest expense consists of floating interest payments and amortization of discounts on our outstanding notes payable relating to our Loan and Security Agreement with Oxford Finance LLC and Silicon Valley Bank, as amended, which we refer to as the Loan Agreement.

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

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, or 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 February 28, 2019, other than to leases upon adoption of ASC Topic 842, as discussed below.

Leases

Prior to January 1, 2019, we recognized our leases in accordance with ASC 840, Leases, and all current leases were classified as operating leases. Rent expense was recognized on a straight-line basis over the terms of the leases and,

accordingly, we recorded the cumulative difference between cash rent payments and the recognition of rent expense as a deferred rent liability. When an operating lease included lease incentives, such as a rent abatements or leasehold improvement allowances, or required fixed escalations of the minimum lease payments, the aggregate rental expense, including such incentives or increases, was recognized on a straight-line basis over the term of the lease.

Effective January 1, 2019, we adopted ASU 2016-02, ASC 842, Leases, under which all outstanding leases continued to be classified as operating leases. Rent expense is recognized on a straight-line basis. When an operating lease includes rent abatements or requires fixed escalations of the minimum lease payments, the aggregate rental expense is recognized on a straight-line basis over the term of the lease. When an operating lease includes lease incentives such as leasehold improvement allowances, the lease incentive is included in the right-of-use asset "ROU". Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. We account for fixed lease components separately from non-lease components.

Results of Operations - Comparison of the Three Months Ended March 31, 2019 and 2018

Collaboration Revenue

We recognized no collaboration revenue for the three months ended March 31, 2019 and 2018, respectively. 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.

Research and Development Expenses

Research and development expenses were \$20.6 million during the three months ended March 31, 2019 compared to \$11.8 million during the three months ended March 31, 2018 for an increase of \$8.8 million, primarily due to a \$4.9 million increase in clinical expenses, a \$1.5 million increase in outside services for preclinical and manufacturing expenses, and a \$1.5 million increase in internal costs, including salaries and related expenses such as stock compensation expense.

We do not track fully burdened research and development costs separately for each of our drug 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, share-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 March 31,		Increase
	2019	2018	
External Costs			
Etokimab	\$ 7,515	\$ 3,053	\$ 4,462
ANB019	5,037	3,973	1,064
Preclinical and other unallocated costs	3,430	1,600	1,830
Total External Costs	\$ 15,982	\$ 8,626	\$ 7,356
Internal Costs	4,649	3,184	1,465
Total Costs	\$ 20,631	\$ 11,810	\$ 8,821

We expect our research and development expenses to increase substantially for the foreseeable future as we continue to invest in research and development activities related to developing our product candidates, including investments in manufacturing, as our programs advance into later stages of development and as we conduct additional clinical trials.

General and Administrative Expenses

General and administrative expenses were \$4.1 million during the three months ended March 31, 2019 compared to \$3.9 million during the three months ended March 31, 2018 for an increase of \$0.2 million, primarily due to a \$0.5 million increase in personnel costs including stock compensation expense, partially offset by a \$0.3 million decrease in external legal fees.

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.

Interest Expense

Interest expense was \$0.3 million and \$0.5 million during the three months ended March 31, 2019 and 2018, respectively, and represents effective interest of approximately 13.38% as of March 31, 2019, on an outstanding principal balance of \$6.3 million compared to an effective interest of 12.78% as of March 31, 2018 on an outstanding principal balance of \$13.7 million.

Interest Income

Interest income was \$3.0 million and \$1.2 million during the three months ended March 31, 2019 and 2018, respectively, which primarily related to our short-term and long-term investments, the balance of which increased as a result of the investment of proceeds from our follow-on offering in September 2018.

Other Income (Expense), Net

Other income (expense), net was a gain (loss) of less than \$0.1 million during each of the three months ended March 31, 2019 and 2018, and primarily related to foreign exchange transactions through our Australian subsidiary and with our foreign CROs.

Liquidity and Capital Resources

From our inception through March 31, 2019, we have received an aggregate of \$718.1 million to fund our operations which included \$617.4 million from the sale of equity securities, \$81.6 million from our collaboration agreements and \$19.1 million from venture debt. As of March 31, 2019, we had \$484.2 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. 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 and is uncertain at this time. Our rights to payments under our collaboration agreements are our only committed external source of funds.

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.

Under our original Loan Agreement, as defined in Part I Item 1- Note 5. Notes Payable, we could borrow up to \$15.0 million in three separate draws of \$5.0 million each. In January 2016, we amended the Loan Agreement to combine Term B Loans and Term C Loans for a total of \$10.0 million available for draw and delay the principal repayments for our Term A Loans from February 1, 2016 until February 1, 2017.

In December 2016, we further amended the Loan Agreement to (i) allow for the Term B Loans and Term C Loans to be drawn on December 30, 2016, (ii) delay principal repayments of all Term Loans until February 1, 2018 and (iii) amend the interest rate for each Term Loan. The Term B Loans and the Term C Loans were drawn on December 30, 2016; principal repayments began in February 2018. As of March 31, 2019, there are 10 equal monthly principal and interest payments remaining on the Term Loans, with final maturity in January 2020. The Term Loans bear interest equal to the greater of 3-month U.S. LIBOR plus 6.37% or 7.3%. The interest rate was 8.99% as of March 31, 2019.

Funding Requirements

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 \$484.2 million as of March 31, 2019, compared to \$500.2 million as of December 31, 2018. We believe that our existing cash, cash equivalents and investments will fund our current operating plan at least through the end of 2020. 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 drug candidates in clinical trials 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 three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,		
	2019	2018	Change
Net cash (used in) provided by:			
Operating activities	\$ (16,099)	\$ (12,478)	\$ 3,621
Investing activities	9,657	2,146	(7,511)
Financing activities	(1,301)	(1,383)	(82)
Net decrease in cash, cash equivalents and restricted cash	\$ (7,743)	\$ (11,715)	\$ (3,972)

Operating Activities

Net cash used in operating activities during the three months ended March 31, 2019 of \$16.1 million was primarily due to our net loss of \$22.1 million, adjusted for addbacks for non-cash expenses of \$2.1 million which includes stock-based compensation and net increases in working capital of \$3.9 million. Net cash used in operating activities during the three months ended March 31, 2018 of \$12.5 million was primarily due to our net loss of \$15.1 million, adjusted for non-cash expenses of \$2.4 million which includes stock-based compensation.

Investing Activities

Net cash provided by investing activities during the three months ended March 31, 2019 and 2018 primarily relates to the maturities of our investments, which was used to acquire additional debt securities and fund our operating expenses.

Financing Activities

The net cash used in financing activities during the three months ended March 31, 2019 of \$1.3 million primarily related to principal payments of \$1.9 million made on our Term Loans, offset by \$0.6 million in proceeds from the issuance of common stock upon the exercise of stock options. The cash used in financing activities during the three months ended March 31, 2018 of \$1.4 million was primarily related to principal payments of \$1.3 million made on our Term Loans.

Contractual Obligations

Operating Leases

We have two non-cancellable office leases with remaining lease terms of approximately 2.5 years, each of which are classified as operating leases. Only one of our leases has remaining renewal options, which includes three options to renew for one additional year. The exercise of lease renewal options is at our sole discretion, which we currently do not anticipate exercising and as such were not recognized as part of our ROU asset and lease liabilities. Our lease payments are fixed, and we recognize lease expense for these 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 leases do 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 8.59%.

At March 31, 2019, the future minimum annual obligations under non-cancellable operating lease commitments are \$0.7 million, \$1.0 million, and \$0.7 million, for the remainder of fiscal years ending 2019, 2020, and 2021, respectively.

Other Commitments and Contingencies

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.

Guarantees and Indemnifications

We enter into standard indemnification arrangements in the ordinary course of business. Pursuant to certain of these arrangements, we indemnify, hold harmless, and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified party for third-party claims in connection with our breach of the agreement, our negligence or willful misconduct in connection with the agreement, or any trade secret, copyright, patent or other intellectual property infringement claim with respect to our technology. The term of these indemnification arrangements is generally perpetual. The maximum potential amount of future payments we could be required to make under these agreements is not determinable because it involves claims that may be made against us in the future, but have not yet been made.

We indemnify our officers and directors for certain events or occurrences, subject to certain limits, while the officer or director is or was serving in such capacity, as permitted under Delaware law, in accordance with our certificate of incorporation and bylaws, and pursuant to agreements providing for indemnification entered into with our officers and directors. The term of the indemnification period lasts as long as an officer or director may be subject to any proceeding arising out of acts or omissions of such officer or director in such capacity.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As of March 31, 2019, 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 Fiscal 2018 Form 10-K.

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, or 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 March 31, 2019, 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 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 March 31, 2019 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 are not presently a party to any legal proceedings that, in the opinion of management, would have a material adverse effect on our business. 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.

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 Phase 2a clinical trials of etokimab may not be representative of the results we will experience in later Phase 2b and registration 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 partnered product candidates are in the early 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 trials of etokimab may not be representative of the results we will experience in later Phase 2b and registration trials. If our later clinical trials are unsuccessful, etokimab may be delayed in development or fail entirely, which would have a material adverse impact on our business.

We have elected to structure our initial Phase 2a clinical trials with etokimab as investigational studies that enroll a relatively limited number of patients and are intended to allow us to better assess patient responses and potential efficacy results before designing and commencing Phase 2b clinical trials. We believe the results we have observed in the initial Phase 2a clinical trials of etokimab in atopic dermatitis and severe adult eosinophilic asthma suggest a reasonable basis for continuing development of etokimab in these indications through larger Phase 2b clinical trials. However, our Phase 2a trials involve relatively small patient populations, for example 12 patients in our Phase 2a trial in atopic dermatitis and 25 patients in our Phase 2a trial in severe adult eosinophilic asthma. The results we have observed in these smaller patient populations may not be predictive of results we will experience in later studies. Furthermore, the average results reported from our Phase 2a trials (for example, the average change in FEV1 reported in connection with our Phase 2a trial in severe adult eosinophilic asthma) are subject to significant variability due to the small number of patients enrolled, and are not expected to be, and are unlikely to be, statistically significant. In addition, we have elected to structure our initial Phase 2a clinical trials as single dose studies, which may not be representative of the efficacy and/or safety observed in subsequent multi-dose Phase 2, Phase 2b or Phase 3 clinical trials.

In addition, later studies may also include different design elements that could contribute to us experiencing different results than we have observed in our Phase 2a trials. One such design element may be differences in efficacy endpoints between Phase 2a trials and subsequent Phase 2, Phase 2b or Phase 3 clinical trials. For instance, while our single dose Phase 2a clinical trial of etokimab demonstrated efficacy in terms of FEV1 improvement versus placebo, we did not structure this trial to assess efficacy in terms of exacerbation reduction, which is the endpoint historically used by the FDA for drug approval in asthma, and hence our future Phase 2, Phase 2b or Phase 3 trials in asthma may not demonstrate efficacy in exacerbation reduction leading to potential delays or failure to obtain approval of etokimab in asthma. In addition, the initial results we have reported from our completed Phase 2a clinical trials have included interim analyses and top-line results at early timepoints, which may not accurately predict the final results of this clinical trial or the results of future clinical trials. For instance, our single dose Phase 2a trial of etokimab in atopic dermatitis demonstrated certain levels of EASI-50 response upon interim analysis at Day 29, but this EASI-50 response level was not maintained at the end of this clinical trial at Day 140. In another example, interim analysis data from our Phase 2a study of severe adult eosinophilic asthma demonstrated FEV1 improvement over placebo at Day 64, but may not demonstrate the same FEV1 efficacy upon study completion at the Day 127 timepoint.

If our later clinical trials of etokimab are unsuccessful, whether for one of the reasons mentioned above or otherwise, etokimab 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 U.S. Food and Drug Administration, or FDA, or foreign regulatory authorities. More specifically, some of our product candidates, including ANB019, 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 have only limited data regarding the safety profile of our wholly-owned 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 early Phase 1 and Phase 2a clinical trials for etokimab, and subsequent patient trials with etokimab are currently ongoing. We also have only recently completed a Phase 1 clinical trial with ANB019. 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. The most frequent treatment-emergent adverse events reported were mild dizziness or vomiting in patients subsequent to placebo dosing, and mild headache, strep throat, upper respiratory tract infection, or in one case, severe neutropenia which was acute and not persistent in patients post-etokimab administration. 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 2a 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 efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we 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 IRB, may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects in such 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 the drug 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 products 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 CTA to conduct clinical trials for both etokimab and ANB019 in the United States and United Kingdom, respectively, before commencing clinical trials in the United States for 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, the Therapeutic Goods Administration in Australia 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 Biologics License Application, or 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 Australia, the United States and United Kingdom, we have not yet discussed with the FDA or foreign regulatory authorities 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 trial designs or product development for our target indications. For example, we believe a small pivotal trial, potentially with approximately 100 patients, may be sufficient to demonstrate substantial evidence of efficacy of ANB019 in generalized pustular psoriasis, or GPP, patients. However, we have not yet discussed clinical trial design for this indication with the FDA, and the FDA may disagree with our proposed trial design, including the number of patients necessary to demonstrate efficacy and/or may require us to conduct more than one pivotal study 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. Products, 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 contract research organizations, or CROs, or failure by such CROs or trials sites to carry out the clinical trial in accordance with our agreed-upon terms;
- 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 experience any of the issues described above, or other similar or related issues, we 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 etokimab and ANB019, and have no other history of conducting clinical trials or 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 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 new 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 atopic dermatitis, our competitors include dupilumab (Dupixent, Regeneron, Sanofi), which has been approved by the FDA, crisaborole (EUCRISA, Pfizer), which has been approved by the FDA, VTP-38543 (Vitae, acquired by Allergan), JAK inhibitors such as baricitinib, PF-04965842 and upadacitinib under development by Lilly/Incyte, Pfizer and Abbvie, respectively, an IL-33 program by Regeneron (REGN3500) in a Phase 2 clinical trial for atopic dermatitis, a recently announced IL-33 related program by Pfizer (PF-06817024) in a Phase 1 clinical trial indicated for various indications, a recently announced IL-33 related program by Lilly in a Phase 1 clinical trial indicated for autoimmune disorders, an IL-1 alpha antibody, bermekimab (XBiotech) and antibodies that bind to IL-13 such as lebrikizumab (Dermira) and tezepelumab (AMG157, MEDI9929, Amgen/AstraZeneca).

For asthma, our competitors include omalizumab (Xolair; Roche), which has received FDA approval and functions by inhibiting the binding between free IgE and FcεRI; antibodies that bind IL-5 and inhibit its interaction with the IL-5 receptor such as mepolizumab (Nucala; Glaxosmithkline) and reslizumab (Cinqair; Teva), both of which the FDA has approved for the add-on maintenance treatment in patients with severe eosinophilic asthma; antibodies such as benralizumab (FASENRA, AstraZeneca) that bind the IL-5 receptor; antibodies that bind the IL-4 receptor and inhibit its signaling through IL-4 and IL-13 cytokines such as dupilumab (Dupixent; Regeneron/Sanofi), which has been approved by the FDA for use with other asthma medicines for the maintenance treatment of moderate-to-severe asthma in patients aged 12 years and older whose asthma is not controlled with their current asthma medicines; antibodies that bind to IL-13 such as lebrikizumab (Dermira), tralokinumab (AstraZeneca, LEO Pharma) and anrukinzumab (Pfizer), which are in clinical testing; antibodies that bind the IL-4 receptor alpha chain, such as AMG 317 (Amgen) in clinical testing; ST2-binding antibodies including Roche's RG6149, GSK's GSK3772847 and Regeneron's IL-33 antibody (REGN3500) each in clinical development for asthma and related conditions; a recently announced IL-33 related program by AstraZeneca (MEDI3506) in a Phase 1 clinical trial indicated for chronic obstructive pulmonary disease; DP-2 antagonists including fevipiprant (Novartis) under development for asthma and GB001 (Gossamer Bio) under development for moderate-to-severe eosinophilic asthma; and an anti-TSLP antibody called tezepelumab (AMG 157, MEDI9929) being developed by Amgen and AstraZeneca for asthma.

Our competitors in CRSwNP include dupilumab (Regeneron/Sanofi), mepolizumab (GSK), benralizumab (AstraZeneca), omalizumab (Novartis), GB001 (Gossamer Bio) and PF-06817024 (Pfizer), each of which are in clinical testing.

For GPP and PPP, our competitors include marketed therapies such as secukinumab (Cosentyx; Novartis), which binds IL-17A; ustekinumab (Stelara; Janssen), which blocks IL-12 and 23 cytokine function; and acitretin (Soriatane; Glaxosmithkline), as well as therapies in development such as guselkumab (Janssen), which blocks IL-23 cytokine function, gevokizumab (Xoma 052) and canakinumab (Ilaris, Novartis), which binds IL-1 beta, anakinra (Kineret; Swedish Orphan Biovitrum AB), a recombinant form the IL-1 receptor antagonist and an anti-IL-36 receptor antibody called BI-655130 (Boehringer Ingelheim).

With the enactment of the Biologics Price Competition and Innovation Act of 2009, or 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, as well as in 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, or 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 ANB019 for the treatment of GPP or PPP by designing our pivotal trial or trials of ANB019 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 ANB019, 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. 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 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. Moreover, if the FDA determines that our manufacturer is not in compliance with FDA laws and regulations, including those governing current good manufacturing practices, or 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.

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. 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.

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. 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.

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 product sales.

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 TESARO and Celgene research collaboration and license agreements, 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. Our net loss was \$22.1 million for the three months ended March 31, 2019 and \$15.1 million for the three months ended March 31, 2018, with no collaboration revenue in either quarter. As of March 31, 2019, we had an accumulated deficit of \$168.8 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, private placements of our preferred stock and the issuance of debt. We have devoted substantially all of our efforts to research and development. We have only recently initiated clinical development for two of our product candidates and expect that it will be many 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 and milestone 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 products;
- 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 trials in addition to those that we currently anticipate. Even if ANB019 and etokimab, or any of our other 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 at least through the end of 2020. 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, or our collaborators may not elect to pursue the development and commercialization of any of our product candidates that are subject to their respective agreements with us. 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 product collaborations 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. 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;
- 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;
- 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. 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 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. 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. 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.

The manufacture of biotechnology products is complex and manufacturers often encounter difficulties in production. If we or any of our third-party manufacturers encounter any loss of our master cell banks or if any of our third-party manufacturers encounter other difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide product candidates for clinical trials or our products to patients, once approved, could be delayed or stopped.

The manufacture of biotechnology products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. We and our contract manufacturers must comply with cGMP regulations and guidelines for the manufacturing of biologics used in clinical trials and, if approved, marketed products. Manufacturers of biotechnology products often encounter difficulties in production, particularly in scaling up and validating initial production. Furthermore, if microbial, viral or other contaminations are discovered in our products or in the manufacturing facilities in which our products are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. Delays in raw materials availability and supply may also extend the period of time required to develop our products.

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.

We cannot assure you that any stability or other issues relating to the manufacture of any of our product candidates or products will not occur in the future. Additionally, our manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our manufacturers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide product candidates to patients in planned clinical trials and products to patients, once approved, would be jeopardized. 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. We may also have to take inventory write-offs and incur other charges and expenses for product candidates or products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain 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.

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 significant 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 conduct certain operations through our Australian wholly-owned subsidiary. If we lose our ability to operate in Australia, or if our subsidiary is unable to receive the research and development tax credit allowed by Australian regulations, our business and results of operations will suffer.

In March 2015, we formed a wholly-owned Australian subsidiary, AnaptysBio Pty Ltd, or AnaptysBio Pty, to develop and commercialize our ANB019 and etokimab antibody program in Australia. Due to the geographical distance and lack of employees currently in Australia, as well as our lack of experience operating in Australia, we may not be able to efficiently or successfully monitor, develop and commercialize our lead products or antibody program in Australia, including conducting clinical trials. Furthermore, we have no assurance that the results of any clinical trials that we conduct for our product candidates in Australia will be accepted by the FDA or foreign regulatory authorities for development and commercialization approvals.

In addition, current Australian tax regulations provide for a refundable research and development tax credit equal to 43.5% of qualified expenditures. If we are ineligible or unable to receive the research and development tax credit, required to repay all or a portion of the credit, lose our ability to operate AnaptysBio Pty in Australia, or if the Australian government significantly reduces or eliminates the tax credit, our business and results of operation would be adversely affected.

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 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 or other disasters 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 collaborations, including those with TESARO and Celgene, are important to our business, and future collaborations may also be important to us. If we are unable to maintain any of these collaborations, or if these collaborations are not successful, our business could be adversely affected.

We have entered into collaborations with TESARO and Celgene to develop several of our product candidates. We have also entered into antibody generation and/or development collaborations with various collaborators, including TESARO and Celgene, under which we have generated therapeutic quality antibodies using our technology platform and conducted certain preclinical studies in collaboration. We are currently aware that TESARO and Celgene have advanced multiple antibodies generated through our collaboration into clinical trials. If our collaborators terminate any of our collaborations, we may not receive all or any of this funding, which would adversely affect our business or financial condition. Our operational obligations under each of our collaborations has ended.

Moreover, both TESARO and Celgene recently announced agreements to be acquired by large pharmaceutical companies. On December 3, 2018, GlaxoSmithKline plc announced an agreement to acquire TESARO, which closed on January 22, 2019, and on January 3, 2019, Bristol-Myers Squibb Co. announced an agreement to acquire Celgene Corp, which is expected to close during the third quarter of 2019. There can be no assurance that these collaborators, following their respective acquisitions by third parties, or such third-party acquirers, will continue to develop and commercialize these product candidates consistent with and with similar timelines as done previous to the acquisitions or that they will comply with the covenants, restrictions, sub-license and other agreement provisions, which, if they don't comply, could lead us into disputes and potentially trigger breaches of our agreements with other partners.

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.

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

In addition to our current licensing arrangements with TESARO and Celgene, a part of our strategy is to enter into additional strategic product development 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 development 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 development collaborations, the terms that we agree upon may not be favorable to us, and we may not be able to maintain such development 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 development 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 development 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 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, contract research organizations (for non-clinical and clinical activities), or CROs, contract manufacturing organizations, or 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 manufacturer 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.

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 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, or GCPs, 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 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, 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 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 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. Since 2004, these 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. 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.

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

In order to market and sell our products in other jurisdictions, we 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 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 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. Our 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 plan to seek Orphan Drug Designation for ANB019 or certain of our other product candidates and we may not be able to obtain or maintain Orphan Drug Designation or obtain the benefits associated with Orphan Drug status, including market exclusivity.

We plan to seek Orphan Drug Designation for ANB019 or certain of our other product candidates. Regulatory authorities in some jurisdictions, including the United States and the European Union, or 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, which is generally defined as a patient population of fewer than 200,000 individuals in the United States. 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, in the United States, or the European Medicines Agency, or EMA, in 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 ANB019 for any indication, and may not be able to obtain designation or any of the potential benefits associated with it. For example, we plan to seek FDA Orphan Drug Designation for ANB019 for the treatment of GPP and PPP, which will likely require that we demonstrate to FDA that GPP and PPP are distinct diseases from psoriasis generally (a non-rare disease) or that use of ANB019 may be appropriate for the treatment of GPP and PPP but not appropriate for use in the general psoriasis population.

Even if we obtain Orphan Drug Designation, we may not receive Orphan Drug exclusivity, and such exclusivity, if obtained, may not effectively protect the candidate from competition because different drugs or biologics can be approved for the same condition and only the first biologic with an Orphan Drug Designation to receive regulatory approval for a particular indication will receive marketing exclusivity. Even after a drug or biological with Orphan Drug Designation is approved, the FDA can subsequently approve another biologic containing the same active moiety (which in the case of an antibody is the 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.

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 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 we obtain marketing approval. If coverage and reimbursement are not available or reimbursement is available only at limited levels, we may not successfully commercialize any product candidate for which we obtain marketing approval.

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

If we are unable to establish or sustain coverage and adequate reimbursement for any future product candidates from third-party payors, the adoption of those products 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.

Recently enacted legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.

Some of the provisions of the ACA have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the ACA. In addition, the current administration and Congress have previously sought, and will likely continue to seek, legislative and regulatory changes, including repeal and replacement of all or certain provisions of the ACA. While Congress has not passed repeal legislation, the Tax Cuts and Jobs Act of 2017 includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the “individual mandate”. Additionally, the current administration signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called “Cadillac” tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, among other things, amends the ACA, effective January 1, 2019, to increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the “donut hole”. Congress may consider other legislation to repeal or replace elements of the ACA.

We may face difficulties from changes to current regulations and future legislation.

Existing regulatory policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

More recently, President Trump has signed an executive order and made statements that suggest he plans to seek repeal of all or portions of the ACA. There is uncertainty with respect to which legislation, if any, will be enacted and the impact President Trump’s Administration may have, if any, and any changes likely will take time to unfold, and could have an impact on coverage and reimbursement for health care items and services covered by plans that were authorized by the ACA. However, we cannot predict the ultimate content, timing or effect of any health care reform legislation or the impact of potential legislation on us. In addition, other legislative changes have been proposed and adopted since the ACA was enacted. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, effective April 1, 2013, which, due to subsequent legislative amendments, will stay in effect through 2027 unless additional Congressional action is taken. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other

things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other health care funding, which could have a material adverse effect on customers for our drugs, if approved, and accordingly, our financial operations.

Likewise, the annual Medicare Physician Fee Schedule update, which, until recently, was based on a target-setting formula system called the Sustainable Growth Rate, or SGR, was adjusted to reflect the comparison of actual expenditures to target expenditures. Because one of the factors for calculating the SGR was linked to the growth in the U.S. gross domestic product, or GDP, the SGR formula often resulted in a negative payment update when growth in Medicare beneficiaries' use of services exceeded GDP growth. Congress repeatedly intervened to delay the implementation of negative SGR payment updates. For example, on April 1, 2014, with the enactment of the Protecting Access to Medicare Act of 2014, Congress prevented the 24 percent cut that was to occur by continuing the previously implemented 0.5 percent payment increase through December 31, 2014 and maintaining a zero percent payment update from January 1, 2015 through March 31, 2015. However, on April 14, 2015, Congress passed the Medicare Access and CHIP Reauthorization Act of 2015, which was signed into law by President Obama on April 16, 2015. This law repeals the SGR methodology from the physician payment formula, institutes a 0% update to the Medicare Physician Fee Schedule for the January 1 to July 1, 2015 period, a 0.5% payment update for July 2015 through the end of 2019, and a 0% payment update for 2020 through 2025, along with a merit-based incentive payment system beginning January 1, 2019, that will replace current incentive programs. For 2026 and subsequent years, the payment update will be either 0.75% or 0.25%, depending on which Alternate Payment Model the physician participates.

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

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for biotechnology products. We cannot be sure whether additional legislative changes will be enacted, or whether FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

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 succeed in marketing products, such claims could result in an FDA investigation of the safety and effectiveness of our products, our manufacturing processes and facilities or our marketing programs and potentially a recall of our products or more serious enforcement action, limitations on the approved indications for which they may be used or suspension or withdrawal of approvals. Regardless of the merits or eventual outcome, liability claims may also result in decreased demand for our products, injury to our reputation, costs to defend the related litigation, a diversion of management's time and our resources, substantial monetary awards to trial participants or patients and a decline in our stock price. 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 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 market, sell and distribute our products for which we obtain marketing approval. 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, or 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.

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, or prohibit prescription drug price gouging. And states such as California, Connecticut, Nevada, and Massachusetts require pharmaceutical companies to implement compliance programs and/or marketing codes. Other states are considering similar proposals. 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 new 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. 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 GDPR is new and the pending EU ePrivacy Regulation is expected to establish, new requirements applicable to the handling of personal data and imposes penalties for non-compliance of up to the greater of €20 million or 4% of worldwide revenue. Additionally, in June 2018, California passed the California Consumer Privacy Act, or CCPA, which provides new data privacy rights for consumers and new operational requirements for companies effective in 2020. 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, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with 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 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, or 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' 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 or collaborators may not be able to prevent third parties from practicing our and our licensors' or collaborators' inventions in all countries outside the United States, or from selling or importing products made using our and our licensors' or collaborators' inventions in and into the United States or other jurisdictions. Competitors may use our and our licensors' 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 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' 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 or collaborators to stop the infringement of our and our licensors' or collaborators' patents or marketing of competing products in violation of our and our licensors' or collaborators' proprietary rights generally. Proceedings to enforce our and our licensors' or collaborators' patent rights in foreign jurisdictions could result in substantial costs and divert our and our licensors' or collaborators' efforts and attention from other aspects of our business, could put our and our licensors' or collaborators' patents at risk of being invalidated or interpreted narrowly and our and our licensors' or collaborators' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors or collaborators. We or our licensors or collaborators may not prevail in any lawsuits that we or our licensors 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' or collaborators' patent applications and the enforcement or defense of our or our licensors' or collaborators' issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act 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 Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

The USPTO has developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and, in particular, the first to file provisions, only became effective in 2013. It is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' or collaborators' patent applications and the enforcement or defense of our or our licensors' or collaborators' issued patents, all of which could have an adverse effect on our business and financial condition. Moreover, in recent years, the 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. (Myriad I), BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litig., (Myriad II), 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' or collaborators' ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by 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' or collaborators' ability to obtain new patents or to enforce existing patents and patents that we and our licensors 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 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, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

We may 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' or collaborators' patents or misappropriate or otherwise violate our or our licensors' or collaborators' intellectual property rights. In the future, we or our licensors or collaborators may initiate legal proceedings to enforce or defend our or our licensors' or collaborators' intellectual property rights, to protect our or our licensors' 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 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' 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 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' 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' or collaborators' patents at risk of being invalidated, held unenforceable or interpreted narrowly.

Accordingly, despite our or our licensors' or collaborators' efforts, we or our licensors 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 or collaborators to protect or enforce our or our licensors' 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' or collaborators' patent applications. An unfavorable outcome in any such proceedings could require us or our licensors 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 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 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 or collaborators.

In addition, if the breadth or strength of protection provided by our or our licensors' 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 and collaborators, to develop, manufacture, market and sell our product candidates and use our and our licensors' 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 our licensors and us and our 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 or collaborators alleging that we or our licensors or collaborators infringe their intellectual property rights, or we or our licensors 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, 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' 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 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 or collaborators to cease using the related technology or 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 or collaborators a license on commercially reasonable terms or at all. Even if we or our licensors 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 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, referred to as 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, industry and market conditions.

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. 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 may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

We incur increased costs and devote substantial management time as a result of operating as a public company.

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company, and these expenses have increased and will continue to increase even more after we are no longer an “emerging growth company.” 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. Moreover, these rules and regulations substantially increase our legal and financial compliance costs and make some activities more time-consuming and costly. The increased costs increase our net loss. 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 of 2002 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. Irrespective 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.

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 may discourage, delay or prevent a change in control of our company. Section 203 imposes certain restrictions on mergers, business combinations and other transactions between us and holders of 15% or more of our common stock.

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, or 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, under the Tax Reform Act of 1986, the benefits from the use of our NOL carryforwards may be impaired or limited under Section 382 of the Internal Revenue Code of 1984, as amended, or 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. In September 2015, we completed a Section 382 and 383 ownership change analysis through December 31, 2014 and determined that there was an ownership change in 2007 that may limit the utilization of approximately \$5.3 million and \$5.4 million in federal and state NOLs, respectively, and \$0.2 million in both federal and state research tax credits. We extended the analysis period of the study through December 31, 2018, noting an additional ownership change during fiscal 2017 that may limit the utilization of federal and state NOLs. 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.

On December 22, 2017, the President of the United States signed into law the Tax Reform Act. The legislation significantly changes U.S. tax law by, among other things, lowering the corporate income tax rates. The Tax Reform Act permanently reduces the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. Additionally, the Tax Reform Act will no longer allow deductions for compensation in excess of \$1 million for certain employees, even if paid as commissions or performance-based compensation. We may be subject to these limitations as provided for under Section 162(m) of the Internal Revenue Code in the future. The Tax Reform Act also limits the amount taxpayers are able to deduct for federal NOL carryforwards generated in taxable years beginning after December 31, 2017 to 80% of the taxpayer's taxable income. The law also generally repeals all carrybacks. However, any NOLs generated in taxable years after December 31, 2017 can be carried forward indefinitely. Losses arising in taxable years beginning before December 31, 2017 may still be carried back two years and are subject to their current expiration period. As of December 31, 2018, we have federal NOLs of approximately \$145.3 million, which expire beginning December 31, 2028 through December 31, 2037, if not used to reduce income taxes payable in the future. The federal net operating loss carryover includes \$85.2 million of net operating losses generated in 2018. Federal net operating losses generated in 2018 carryover indefinitely and may generally be used to offset up to 80% of future taxable income in the year it is utilized.

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

None.

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
31.1	<u>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.</u>
31.2	<u>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.</u>
32.1*	<u>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.</u>
32.2*	<u>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.</u>
101.INS	XBRL Report Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

*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.

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: May 7, 2019

By: /s/ Hamza Suria

Hamza Suria
Chief Executive Officer
(Principal Executive Officer)

Date: May 7, 2019

By: /s/ Dominic G. Piscitelli

Dominic G. Piscitelli
Chief Financial Officer
(Principal Financial and Accounting Officer)

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

I, Hamza Suria, 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: May 7, 2019

/s/ Hamza Suria

Hamza Suria

Chief Executive Officer

(Principal Executive Officer)

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

I, Dominic G. Piscitelli, 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: May 7, 2019

/s/ Dominic G. Piscitelli

Dominic G. Piscitelli

Chief Financial Officer

(Principal Financial Officer)

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

I, Hamza Suria, 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 March 31, 2019 (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: May 7, 2019

/s/ Hamza Suria

Hamza Suria

Chief Executive Officer

(Principal Executive Officer)

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

I, Dominic G. Piscitelli, 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 March 31, 2019 (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: May 7, 2019

/s/ Dominic G. Piscitelli

Dominic G. Piscitelli

Chief Financial Officer

(Principal Financial Officer)