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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

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**FORM 10-Q**

(Mark One)

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

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2018

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 0-29889

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**Rigel Pharmaceuticals, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of incorporation or organization)

**94-3248524**

(I.R.S. Employer Identification No.)

**1180 Veterans Blvd.  
South San Francisco, CA**

(Address of principal executive offices)

**94080**

(Zip Code)

**(650) 624-1100**

(Registrant's telephone number, including area code)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes  No

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

Large accelerated filer   
Non-accelerated filer   
Emerging Growth Company

(Do not check if a smaller reporting company)

Accelerated filer   
Smaller reporting company

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

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

As of August 2, 2018, there were 166,443,442 shares of the registrant's Common Stock outstanding.

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**RIGEL PHARMACEUTICALS, IN C.**  
**QUARTERLY REPORT ON FORM 10-Q**  
**FOR THE QUARTERLY PERIOD ENDED JUNE 30 2018**

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**PART I. FINANCIAL INFORMATION****Item 1. Financial Statements****RIGEL PHARMACEUTICALS, INC.  
CONDENSED BALANCE SHEETS  
(In thousands)**

	June 30, 2018 (unaudited)	December 31, 2017(1)
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 65,078	\$ 38,290
Short-term investments	69,914	77,461
Accounts receivable, net	1,620	—
Inventories	494	—
Deferred rent	400	—
Prepaid and other current assets	1,551	1,682
Total current assets	<u>139,057</u>	<u>117,433</u>
Property and equipment, net	1,484	875
Other assets	678	803
	<u>\$ 141,219</u>	<u>\$ 119,111</u>
<b>Liabilities and stockholders' equity</b>		
Current liabilities:		
Accounts payable	\$ 3,342	\$ 2,636
Accrued compensation	5,440	7,059
Accrued research and development	5,494	5,028
Other accrued liabilities	3,089	3,330
Deferred liability – sublease, current portion	—	284
Total current liabilities	<u>17,365</u>	<u>18,337</u>
Long-term portion of deferred rent	249	90
Other long-term liabilities	38	38
<b>Commitments</b>		
Stockholders' equity:		
Preferred stock	—	—
Common stock	166	147
Additional paid-in capital	1,312,246	1,239,435
Accumulated other comprehensive loss	(49)	(82)
Accumulated deficit	<u>(1,188,796)</u>	<u>(1,138,854)</u>
Total stockholders' equity	<u>123,567</u>	<u>100,646</u>
	<u>\$ 141,219</u>	<u>\$ 119,111</u>

(1) The balance sheet at December 31, 2017 has been derived from the audited financial statements included in Rigel's Annual Report on Form 10-K for the year ended December 31, 2017.

See Accompanying Notes.

**RIGEL PHARMACEUTICALS, INC.**  
**CONDENSED STATEMENTS OF OPERATION S**  
**(In thousands, except per share amounts)**  
**(unaudited)**

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Revenues:</b>				
Product sales, net	\$ 1,787	\$ —	\$ 1,787	\$ —
Contract revenues from collaborations	—	—	—	3,584
Total revenues	<u>1,787</u>	<u>—</u>	<u>1,787</u>	<u>3,584</u>
<b>Costs and expenses:</b>				
Cost of product sales	30	—	30	—
Research and development	10,797	11,524	22,039	23,900
Selling, general and administrative	17,071	7,820	30,563	15,230
Total costs and expenses	<u>27,898</u>	<u>19,344</u>	<u>52,632</u>	<u>39,130</u>
Loss from operations	(26,111)	(19,344)	(50,845)	(35,546)
Interest income	554	197	903	353
Gain on disposal of assets	—	—	—	732
Net loss	<u>\$ (25,557)</u>	<u>\$ (19,147)</u>	<u>\$ (49,942)</u>	<u>\$ (34,461)</u>
Net loss per share, basic and diluted	<u>\$ (0.16)</u>	<u>\$ (0.16)</u>	<u>\$ (0.32)</u>	<u>\$ (0.29)</u>
Weighted average shares used in computing net loss per share, basic and diluted	<u>161,577</u>	<u>122,500</u>	<u>154,385</u>	<u>118,074</u>

See Accompanying Notes.

**RIGEL PHARMACEUTICALS, INC.**  
**CONDENSED STATEMENTS OF COMPREHENSIVE LOSS**  
**(In thousands)**  
**(unaudited)**

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Net loss	\$ (25,557)	\$ (19,147)	\$ (49,942)	\$ (34,461)
Other comprehensive income (loss):				
Net unrealized gain (loss) on short-term investments	38	10	33	(1)
Comprehensive loss	<u>\$ (25,519)</u>	<u>\$ (19,137)</u>	<u>\$ (49,909)</u>	<u>\$ (34,462)</u>

See Accompanying Notes.

**RIGEL PHARMACEUTICALS, INC.**  
**CONDENSED STATEMENTS OF CASH FLOW S**  
**(In thousands)**  
**(unaudited)**

	<u>Six Months Ended June 30,</u>	
	<u>2018</u>	<u>2017</u>
<b>Operating activities</b>		
Net loss	\$ (49,942)	\$ (34,461)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	2,652	2,055
Gain on disposal of assets	—	(732)
Loss on sublease	—	495
Depreciation and amortization	272	240
Net amortization of premium on short-term investment	(317)	(107)
Changes in assets and liabilities:		
Accounts receivable	(1,620)	—
Inventories	(476)	—
Prepaid and other current assets	131	(42)
Other assets	125	60
Accounts payable	706	(3,508)
Accrued compensation	(1,619)	(426)
Accrued research and development	466	(710)
Other accrued liabilities	(241)	(37)
Deferred rent and other long term liabilities	(525)	(3,059)
Net cash used in operating activities	<u>(50,388)</u>	<u>(40,232)</u>
<b>Investing activities</b>		
Purchases of short-term investments	(41,619)	(44,920)
Maturities of short-term investments	49,516	52,449
Proceeds from disposal of assets	—	732
Capital expenditures	(881)	(55)
Net cash provided by investing activities	<u>7,016</u>	<u>8,206</u>
<b>Financing activities</b>		
Net proceeds from issuances of common stock upon exercise of options and participation in employee stock purchase plan	2,998	810
Proceeds from sale and issuance of common stock, net of offering costs	67,162	46,175
Net cash provided by financing activities	<u>70,160</u>	<u>46,985</u>
Net increase in cash and cash equivalents	26,788	14,959
Cash and cash equivalents at beginning of period	38,290	17,632
Cash and cash equivalents at end of period	<u>\$ 65,078</u>	<u>\$ 32,591</u>

See Accompanying Notes.

**Rigel Pharmaceuticals, In c.**  
**Notes to Condensed Financial Statements**  
**(unaudited)**

In this report, “Rigel,” “we,” “us” and “our” refer to Rigel Pharmaceuticals, Inc.

**1. Nature of Operations**

We were incorporated in the state of Delaware on June 14, 1996. We are a biotechnology company dedicated to discovering, developing and providing novel small molecule drugs that significantly improve the lives of patients with immune and hematologic disorders, cancer and rare diseases. Our pioneering research focuses on signaling pathways that are critical to disease mechanisms.

Our first FDA approved product, TAVALISSE™ (fostamatinib disodium hexahydrate), an oral spleen tyrosine kinase (SYK) inhibitor, for the treatment of adult patients with chronic immune thrombocytopenia (ITP) who have had an insufficient response to a previous treatment, was approved by the U.S. Food and Drug Administration (FDA) in April 2018.

Our current clinical programs include Phase 2 studies of fostamatinib in autoimmune hemolytic anemia and IgA nephropathy, and a Phase 1 study for our interleukin receptor associated kinase (IRAK) program. In addition, we have product candidates in clinical development with partners BerGenBio AS, Daiichi Sankyo, and Aclaris Therapeutics.

**2. Basis of Presentation**

Our accompanying unaudited condensed financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP), for interim financial information and pursuant to the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities Act of 1933, as amended (Securities Act). Accordingly, they do not include all of the information and notes required by U.S. GAAP for complete financial statements. These unaudited condensed financial statements include only normal and recurring adjustments that we believe are necessary to fairly state our financial position and the results of our operations and cash flows. Interim-period results are not necessarily indicative of results of operations or cash flows for a full-year or any subsequent interim period. The balance sheet at December 31, 2017 has been derived from audited financial statements at that date, but does not include all disclosures required by U.S. GAAP for complete financial statements. Because all of the disclosures required by U.S. GAAP for complete financial statements are not included herein, these interim unaudited condensed financial statements and the notes accompanying them should be read in conjunction with our audited financial statements and the notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2017.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ from these estimates.

**3. Summary of Significant Accounting Policies**

**Recent Accounting Pronouncements**

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09—*Revenue from Contracts with Customers*, which supersedes the revenue recognition requirements under Accounting Standards Codification (ASC) Topic 605, *Revenue Recognition*, and most industry-specific guidance under the ASC. Prior to January 1, 2018, our revenues have been derived from license and collaboration agreements. The consideration we are eligible to receive under these agreements includes upfront payments, progress dependent contingent payments on events achieved by our collaboration partners, and royalties on net sales of products sold by such partners under the agreements. ASU No. 2014-09 differs from the previous accounting standard in many respects, such as in the accounting for variable consideration, including milestone payments or contingent payments. Under our

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previous accounting policy, we recognized contingent payments as revenue in the period that the payment-triggering event occurred or is achieved. However, under the new accounting standard, it is possible to start to recognize contingent payments before the payment-triggering event is completely achieved, subject to management's assessment of whether it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. We adopted this new standard on January 1, 2018 using the modified retrospective approach. Because all of the performance obligations for our outstanding collaboration agreements had been completed prior to December 31, 2017, we did not record any adjustment on the opening balance of Accumulated Deficit as of January 1, 2018.

Under this new guidance, the Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine whether arrangements are within the scope of this new guidance, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies its performance obligation. The Company applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of this new guidance, we assess the goods or services promised within each contract and identify, as a performance obligation, and assess whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

In February 2016, the FASB issued ASU No. 2016-02—*Leases*, which is aimed at making leasing activities more transparent, and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. The guidance is effective for all interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted. We plan to adopt this new standard on January 1, 2019. We are currently evaluating the potential impact of the adoption of ASU No. 2016-02 on our financial statements and cannot estimate the impact of adoption at this time.

In March 2018, the FASB issued ASU No. 2018-05—*Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118* (SAB 118), which provides guidance on accounting for the tax effects of the U.S. Tax Cuts and Jobs Act (Tax Act) that was enacted in December 2017. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting. In accordance with this guidance, we have determined that \$117.3 million of the deferred tax expense offset by a full valuation allowance recorded in connection with the remeasurement of certain deferred tax assets and liabilities was a provisional amount and a reasonable estimate at December 31, 2017. We have not made any additional measurement-period adjustments related to these items during the three and six months ended June 30, 2018 and will continue to assess future guidance issued by the U.S. Treasury Department, Internal Revenue Service (IRS), FASB, and other standard-setting and regulatory bodies. In accordance with ASU No. 2018-05, we will complete our accounting for the income tax effects of the Tax Act within the one-year measurement period in 2018 once we have fully analyzed all necessary information related to the Tax Act.

### **Inventories**

Inventories are stated at the lower of cost or estimated net realizable value. We determine the cost of inventories using the standard cost method, which approximates actual cost based on a first-in, first-out (FIFO) basis. Inventories consist primarily of third-party manufacturing costs and allocated internal overhead costs. We began capitalizing inventory costs associated with our product upon regulatory approval when, based on management's judgment, future commercialization was considered probable and the future economic benefit was expected to be realized.

Prior to FDA approval of TAVALISSE™ (fostamatinib disodium hexahydrate), all manufacturing costs were charged to research and development expense in the period incurred. At June 30, 2018, our physical inventory included active pharmaceutical product (API) of which costs have been previously charged to research and development expense.



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However, manufacturing of drug product, finished bottling and other labeling activities that occurred post FDA approval are included in the inventory value at June 30, 2018.

We provide reserves for potential excess, dated or obsolete inventories based on an analysis of forecasted demand compared to quantities on hand and any firm purchase orders, as well as product shelf life. At June 30, 2018, we determined that such reserves are not required.

**Cost of Product Sales**

Cost of product sales consists of third-party manufacturing costs, transportation and freight, and indirect overhead costs associated with the manufacture and distribution of TAVALISSE™ (fostamatinib disodium hexahydrate). A portion of the cost of producing the product sold to date was expensed as research and development prior to the Company's New Drug Application (NDA) approval for TAVALISSE and therefore is not included in the cost of product sales during this period.

**Accounts Receivable**

Accounts receivable are recorded net of customer allowances for prompt payment discounts and any allowance for doubtful accounts. We estimate the allowance for doubtful accounts based on existing contractual payment terms, actual payment patterns of its customers and individual customer circumstances. To date, we have determined that an allowance for doubtful accounts is not required.

**Revenue Recognition**

Revenues from product sales are recognized when the specialty distributors (SDs), who are our customers, obtain control of our product, which occurs at a point in time, upon delivery to such SDs. These SDs subsequently resell our products to specialty pharmacy providers, health care providers, hospitals and clinics. In addition to distribution agreements with these SDs, we also enter into arrangements with specialty pharmacy providers, in-office dispensing providers, group purchasing organizations, and government entities that provide for government-mandated and/or privately-negotiated rebates, chargebacks and discounts with respect to the purchase of our products. Prior to recognizing revenue, we make estimates of the transaction price, including variable consideration that is subject to a constraint. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Revenue from product sales are recorded net of certain variable considerations including estimated government-mandated rebates and chargebacks, distribution fees, estimated product returns and other deductions.

Provisions for returns and other adjustments are provided for in the period the related revenue is recorded. Actual amounts of consideration ultimately received may differ from our estimates. If actual results in the future vary from our estimates, we will adjust these estimates, which would affect net product revenue and earnings in the period such variances become known. The following are our significant categories of sales discounts and allowances:

*Sales Discounts.* We provide our customers prompt payment discounts that are explicitly stated in our contracts and are recorded as a reduction of revenue in the period the related product revenue is recognized.

*Product Returns.* We offer our SDs a right to return product purchased directly from us, which is principally based upon the product's expiration date. Product return allowances are estimated and recorded at the time of sale.

*Government Rebates:* We are subject to discount obligations under state Medicaid programs and Medicare prescription drug coverage gap program. We estimate our Medicaid and Medicare prescription drug coverage gap rebates based upon a range of possible outcomes that are probability-weighted for the estimated payor mix. These reserves are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of a current liability that is included as part of Other Accrued Liabilities account in the Balance Sheet. Our liability for these rebates consists primarily of estimates of claims for the current quarter, and estimated future

claims that will be made for product that has been recognized as revenue, but remains in the distribution channel inventories at the end of each reporting period.

*Chargebacks and Discounts:* Chargebacks for fees and discounts represent the estimated obligations resulting from contractual commitments to sell products to certain specialty pharmacy providers, in-office dispensing providers, group purchasing organizations, and government entities at prices lower than the list prices charged to our SDs who directly purchase the product from us. These SDs charge us for the difference between what they pay for the product and our contracted selling price to these specialty pharmacy providers, in-office dispensing providers, group purchasing organizations, and government entities. These reserves are established in the same period that the related revenue is recognized, resulting in a reduction of product revenue. Chargeback amounts are generally determined at the time of resale to the specialty pharmacy providers, in-office dispensing providers, group purchasing organizations, and government entities by our SDs.

*Co-Payment Assistance:* We offer co-payment assistance to commercially insured patients meeting certain eligibility requirements. The calculation of the accrual for co-pay assistance is based on an estimate of claims and the cost per claim that we expect to receive associated with product that has been recognized as revenue.

#### **Research and Development Accruals**

We have various contracts with third parties related to our research and development activities. Costs that are incurred but not billed to us as of the end of the period are accrued. We make estimates of the amounts incurred in each period based on the information available to us and our knowledge of the nature of the contractual activities generating such costs. Clinical trial contract expenses are accrued based on units of activity. Expenses related to other research and development contracts, such as research contracts, toxicology study contracts and manufacturing contracts are estimated to be incurred generally on a straight-line basis over the duration of the contracts. Raw materials and study materials not related to our approved drug, purchased for us by third parties are expensed at the time of purchase.

#### **4. Stock Award Plans**

On May 16, 2018, our stockholders approved the adoption of the Company's 2018 Equity Incentive Plan (2018 Plan). The 2018 Plan is the successor plan to the 2011 Equity Incentive Plan, the 2000 Equity Incentive Plan, and the 2000 Non-Employee Directors' Stock Option Plan.

To date, we have two stock option plans, our 2018 Plan and the Inducement Plan (collectively, the Equity Incentive Plans), that provide for granting to our officers, directors and all other employees and consultants options to purchase shares of our common stock. We also have our Employee Stock Purchase Plan (Purchase Plan), wherein eligible employees can purchase shares of our common stock at a price per share equal to the lesser of 85% of the fair market value on the first day of the offering period or 85% of the fair market value on the purchase date. The fair value of each option award is estimated on the date of grant using the Black-Scholes option pricing model which considered our stock price, as well as assumptions regarding a number of complex and subjective variables. These variables include, but are not limited to, volatility, expected term, risk-free interest rate and dividends. We estimate volatility over the expected term of the option using historical share price performance. For expected term, we take into consideration our historical data of options exercised, cancelled and expired. The risk-free rate is based on the U.S. Treasury constant maturity rate. We have not paid and do not expect to pay dividends in the foreseeable future. We use the straight-line attribution method over the requisite employee service period for the entire award in recognizing stock-based compensation expense. We account for forfeitures as they occur.

We granted performance-based stock options to purchase shares of our common stock which will vest upon the achievement of certain corporate performance-based milestones. We determined the fair values of these performance-based stock options using the Black-Scholes option pricing model at the date of grant. For the portion of the performance-based stock options of which the performance condition is considered probable of achievement, we recognize stock-based compensation expense on the related estimated fair value of such options on a straight-line basis from the date of grant up to the date when we expect the performance condition will be achieved. For the performance conditions that are not considered probable of achievement at the grant date or upon quarterly re-evaluation, prior to the

event actually occurring, we recognize the related stock-based compensation expense when the event occurs or when we can determine that the performance condition is probable of achievement. In those cases, we recognize the change in estimate at the time we determine the condition is probable of achievement (by recognizing stock-based compensation expense as cumulative catch-up adjustment as if we had estimated at the grant date that the performance condition would have been achieved) and recognize the remaining compensation cost up to the date when we expect the performance condition will be achieved, if any.

## 5. Net Loss Per Share

Basic net loss per share is computed by dividing net loss by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is computed by dividing net loss by the weighted-average number of shares of common stock outstanding during the period and the number of additional shares of common stock that would have been outstanding if potentially dilutive securities had been issued. Potentially dilutive securities include stock options and shares issuable under our stock award plans. The dilutive effect of these potentially dilutive securities is reflected in diluted earnings per share by application of the treasury stock method. Under the treasury stock method, an increase in the fair market value of our common stock can result in a greater dilutive effect from potentially dilutive securities.

We had securities which could potentially dilute basic loss per share, but were excluded from the computation of diluted net loss per share, as their effect would have been antidilutive. These securities consist of the following (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Outstanding stock options	21,762	21,958	21,762	21,958
Purchase Plan	257	187	163	124
Total	22,019	22,145	21,925	22,082

## 6. Stock-Based Compensation

Total stock-based compensation related to all of our share-based payments that we recognized for the three and six months ended June 30, 2018 and 2017 were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Selling, general and administrative	\$ 779	\$ 764	\$ 1,719	\$ 1,359
Research and development	333	336	933	696
Total stock-based compensation	\$ 1,112	\$ 1,100	\$ 2,652	\$ 2,055

The fair value of each option award is estimated on the date of grant using the Black-Scholes option pricing model. We have segregated option awards into the following three homogenous groups for the purposes of determining fair values of options: officers and directors, all other employees, and consultants. We account for forfeitures as they occur.

We determined weighted-average valuation assumptions separately for each of these groups as follows:

- Volatility—We estimated volatility using our historical share price performance over the expected life of the option. We also considered other factors, such as implied volatility, our current clinical trials and other company activities that may affect the volatility of our stock in the future. We determined that at this time historical volatility is more indicative of our expected future stock performance than implied volatility.

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- Expected term—For options granted to consultants, we use the contractual term of the option, which is generally ten years, for the initial valuation of the option and the remaining contractual term of the option for the succeeding periods. We analyzed various historical data to determine the applicable expected term for each of the other option groups. This data included: (1) for exercised options, the term of the options from option grant date to exercise date; (2) for cancelled options, the term of the options from option grant date to cancellation date, excluding non-vested option forfeitures; and (3) for options that remained outstanding at the balance sheet date, the term of the options from option grant date to the end of the reporting period and the estimated remaining term of the options. The consideration and calculation of the above data gave us reasonable estimates of the expected term for each employee group. We also considered the vesting schedules of the options granted and factors surrounding exercise behavior of the option groups, our current market price and company activity that may affect our market price. In addition, we considered the optionee type (i.e., officers and directors or all other employees) and other factors that may affect the expected term of the options.
- Risk-free interest rate—The risk-free interest rate is based on U.S. Treasury constant maturity rates with similar terms to the expected term of the options for each option group.
- Dividend yield—The expected dividend yield is 0% as we have not paid and do not expect to pay dividends in the future.

The following table summarizes the weighted-average assumptions relating to options granted pursuant to our equity incentive plans for the three and six months ended June 30, 2018 and 2017:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Risk-free interest rate	2.9 %	2.1 %	2.7 %	2.2 %
Expected term (in years)	6.6	6.6	6.7	6.8
Dividend yield	0.0 %	0.0 %	0.0 %	0.0 %
Expected volatility	66.2 %	63.7 %	65.0 %	63.0 %

Starting in May 2018, the exercise price of stock options granted under our 2018 Plan is at the market price of our common stock on the date of grant. The exercise price of stock options under our prior equity incentive plans is at the market price of our common stock on the date immediately preceding the date of grant. Options become exercisable at varying dates and generally expire 10 years from the date of grant.

We granted options to purchase 4,486,225 shares of common stock during the six months ended June 30, 2018 with a grant-date weighted-average fair value of \$2.68 per share. As of June 30, 2018, we have 2,790,000 shares related to outstanding performance-based stock option awards with a grant date fair value of \$5.9 million which will vest upon achievement of certain corporate performance-based milestones. Of this amount, 1,160,000 shares related to performance-based stock option awards that have vested or wherein the achievement of the corresponding corporate-based milestones was probable. Accordingly, we recognized \$1.6 million in stock-based compensation expense, of which \$488,000 was recorded during the six months ended June 30, 2018.

As of June 30, 2018, there was approximately \$15.5 million of unrecognized stock-based compensation cost related to all unvested time-based and performance-based stock options granted under our equity incentive plans, of which approximately \$4.3 million related to the unvested performance stock options.

At June 30, 2018, there were 14,597,716 shares of common stock available for future grant under our equity incentive plan and 823,130 options to purchase shares were exercised during the six months ended June 30, 2018.

**Employee Stock Purchase Plan**

Our Purchase Plan permits eligible employees to purchase common stock at a discount through payroll deductions during defined offering periods. The price at which the stock is purchased is equal to the lesser of 85% of the fair market value of the common stock on the first day of the offering or 85% of the fair market value of our common stock on the purchase date. The initial offering period commenced on the effective date of our initial public offering.

The fair value of awards granted under our Purchase Plan is estimated on the date of grant using the Black-Scholes option pricing model, which uses weighted-average assumptions. Our Purchase Plan provides for a twenty-four month offering period comprised of four six-month purchase periods with a look-back option. A look-back option is a provision in our Purchase Plan under which eligible employees can purchase shares of our common stock at a price per share equal to the lesser of 85% of the fair market value on the first day of the offering period or 85% of the fair market value on the purchase date. Our Purchase Plan also includes a feature that provides for a new offering period to begin when the fair market value of our common stock on any purchase date during an offering period falls below the fair market value of our common stock on the first day of such offering period. This feature is called a “reset.” Participants are automatically enrolled in the new offering period.

As of June 30, 2018, there were 1,790,451 shares reserved for future issuance under the Purchase Plan and there were \$2.2 million of unrecognized stock-based compensation cost related to our employee stock purchase plan. The following table summarizes the weighted-average assumptions related to our Purchase Plan for the three and six months ended June 30, 2018 and 2017. Expected volatilities for our Purchase Plan are based on the historical volatility of our stock. Expected term represents the weighted-average of the purchase periods within the offering period. The risk-free interest rate for periods within the expected term is based on U.S. Treasury constant maturity rates.

	Six Months Ended June 30,	
	2018	2017
Risk-free interest rate	0.6 %	0.5 %
Expected term (in years)	2.0	1.5
Dividend yield	0.0 %	0.0 %
Expected volatility	63.8 %	63.1 %

**7. Revenue from Product Sales**

Our first FDA approved product, TAVALISSE™ (fostamatinib disodium hexahydrate), an oral spleen tyrosine kinase (SYK) inhibitor, for the treatment of adult patients with chronic ITP who have had an insufficient response to a previous treatment, was approved by the U.S. FDA in April 2018. We commenced commercial sale of TAVALISSE in the U.S. in May 2018. We recorded net product sales of \$1.8 million during the three and six months ended June 30, 2018 related to the sale of TAVALISSE.

In addition to the distribution agreements with our customers, the SDs, we also enter into arrangements with specialty pharmacy providers, in-office dispensing providers, group purchasing organizations, and government entities that provide for government-mandated and/or privately-negotiated rebates, chargebacks and discounts with respect to the purchase of our products which reduced our gross product sales. Also refer to Revenue Recognition policy discussion in Note 3. The following table summarizes the provisions related to our current product sales for the six-month ended June 30, 2018 (in thousands). There were no credits or payments made during the six months ended June 30, 2018 related to these revenue reserves.

	June 30, 2018	
Chargebacks, discounts and fees	\$	234
Government and other rebates		220
Returns		46
Total	\$	500

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The above provisions, which represent our contract liability as of June 30, 2018, are included as part of Other Accrued Liabilities in the balance sheet.

**8. Inventories**

The following table summarizes inventories as of June 30, 2018 and December 31, 2017 (in thousands):

	June 30, 2018	December 31, 2017
Work in process	\$ 222	\$ —
Finished goods	272	—
Total inventories	<u>\$ 494</u>	<u>\$ —</u>

**9. Sponsored Research and License Agreements**

We conduct research and development programs independently and in connection with our corporate collaborators. Currently, we are a party to collaboration agreements, but do not have ongoing performance obligations, with Bristol-Myers Squibb Company (BMS) for the discovery, development and commercialization of cancer immunotherapies based on our small molecule TGF beta receptor kinase inhibitors, Aclaris Therapeutics International Limited (Aclaris) for the development and commercialization of janus kinase (JAK) inhibitors for the treatment of alopecia areata and other dermatological conditions, AstraZeneca (AZ) for the development and commercialization of R256, an inhaled JAK inhibitor, BerGenBio AS (BerGenBio) for the development and commercialization of AXL inhibitors in oncology, and Daiichi Sankyo (Daiichi) to pursue research related to MDM2 inhibitors, a novel class of drug targets called ligases. Under these agreements, which we entered into in the ordinary course of business, we received or may be entitled to receive upfront cash payments, payments contingent upon specified events achieved by such partners and royalties on any net sales of products sold by such partners under the agreements. Total future contingent payments to us under all of these current agreements could exceed \$532.4 million if all potential product candidates achieved all of the payment triggering events under all of our current agreements (based on a single product candidate under each agreement). Of this amount, up to \$145.5 million relates to the achievement of development events, up to \$345.6 million relates to the achievement of regulatory events and up to \$41.3 million relates to the achievement of certain commercial or launch events. This estimated future contingent amount does not include any estimated royalties that could be due to us if the partners successfully commercialize any of the licensed products. Future events that may trigger payments to us under the agreements are based solely on our partners' future efforts and achievements of specified development, regulatory and/or commercial events. In July 2018, BMS informed us that they will be terminating their preclinical collaboration with us.

In June 2011, we entered into an exclusive license agreement with BerGenBio for the development and commercialization of an oncology program. BerGenBio is responsible for all activities it wishes to perform under the license we granted to it. In February 2017, we received \$3.3 million from BerGenBio as a result of BerGenBio advancing BGB324, an AXL kinase inhibitor licensed under the agreement, to a Phase 2 clinical study. All deliverables under the agreement had been previously delivered, as such, the above payments of \$3.3 million was recognized as revenue in the first quarter of 2017.

**10. Cash, Cash Equivalents and Short-Term Investments**

Cash, cash equivalents and short-term investments consisted of the following (in thousands):

	June 30, 2018	December 31, 2017
Cash	\$ 964	\$ 582
Money market funds	8,165	2,795
U.S. treasury bills	5,240	6,726
Government-sponsored enterprise securities	4,184	7,826
Corporate bonds and commercial paper	116,439	97,822
	<u>\$ 134,992</u>	<u>\$ 115,751</u>
Reported as:		
Cash and cash equivalents	\$ 65,078	\$ 38,290
Short-term investments	69,914	77,461
	<u>\$ 134,992</u>	<u>\$ 115,751</u>

Cash equivalents and short-term investments include the following securities with gross unrealized gains and losses (in thousands):

June 30, 2018	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. treasury bills	\$ 5,247	\$ —	\$ (7)	\$ 5,240
Government-sponsored enterprise securities	4,194	—	(10)	4,184
Corporate bonds and commercial paper	116,471	7	(39)	116,439
Total	<u>\$ 125,912</u>	<u>\$ 7</u>	<u>\$ (56)</u>	<u>\$ 125,863</u>
December 31, 2017	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. treasury bills	\$ 6,733	\$ —	\$ (7)	\$ 6,726
Government-sponsored enterprise securities	7,835	—	(9)	7,826
Corporate bonds and commercial paper	97,888	1	(67)	97,822
Total	<u>\$ 112,456</u>	<u>\$ 1</u>	<u>\$ (83)</u>	<u>\$ 112,374</u>

As of June 30, 2018, our cash equivalents and short-term investments, which have contractual maturities within one year, had a weighted-average time to maturity of approximately 85 days. We view our short-term investments portfolio as available for use in current operations. We have the ability to hold all investments as of June 30, 2018 through their respective maturity dates. At June 30, 2018, we had no investments that had been in a continuous unrealized loss position for more than 12 months. As of June 30, 2018, a total of 27 individual securities had been in an unrealized loss position for 12 months or less, and the losses were determined to be temporary. The gross unrealized losses above were caused by interest rate increases. No significant facts or circumstances have arisen to indicate that there has been any significant deterioration in the creditworthiness of the issuers of the securities held by us. Based on our review of these securities, including the assessment of the duration and severity of the unrealized losses and our ability and intent to hold the investments until maturity, there were no other-than-temporary impairments for these securities at June 30, 2018.

The following table shows the fair value and gross unrealized losses of our investments in individual securities that are in an unrealized loss position, aggregated by investment category (in thousands):

<u>June 30, 2018</u>	<u>Fair Value</u>	<u>Unrealized Losses</u>
U. S. treasury bills	\$ 5,240	\$ (7)
Government-sponsored enterprise securities	4,184	(10)
Corporate bonds and commercial paper	33,654	(39)
Total	<u>\$ 43,078</u>	<u>\$ (56)</u>

## 11. Fair Value

Under FASB ASC 820, *Fair Value Measurements and Disclosures*, fair value is defined as the price at which an asset could be exchanged or a liability transferred in a transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or parameters are not available, valuation models are applied.

Assets and liabilities recorded at fair value in our financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels directly related to the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities, are as follows:

Level 1—Inputs are unadjusted, quoted prices in active markets for identical assets at the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.

The fair valued assets we hold that are generally included under this Level 1 are money market securities where fair value is based on publicly quoted prices.

Level 2—Inputs, other than quoted prices included in Level 1, that are either directly or indirectly observable for the asset or liability through correlation with market data at the reporting date and for the duration of the instrument's anticipated life.

The fair valued assets we hold that are generally assessed under Level 2 included government-sponsored enterprise securities, U.S. treasury bills and corporate bonds and commercial paper. We utilize third party pricing services in developing fair value measurements where fair value is based on valuation methodologies such as models using observable market inputs, including benchmark yields, reported trades, broker/dealer quotes, bids, offers and other reference data. We use quotes from external pricing service providers and other on-line quotation systems to verify the fair value of investments provided by our third party pricing service providers. We review independent auditor's reports from our third party pricing service providers particularly regarding the controls over pricing and valuation of financial instruments and ensure that our internal controls address certain control deficiencies, if any, and complementary user entity controls are in place.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities and which reflect management's best estimate of what market participants would use in pricing the asset or liability at the reporting date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

We do not have fair valued assets and liabilities classified under Level 3.

### *Fair Value on a Recurring Basis*

Financial assets measured at fair value on a recurring basis are categorized in the tables below based upon the lowest level of significant input to the valuations (in thousands):



	Assets at Fair Value as of June 30, 2018			
	Level 1	Level 2	Level 3	Total
Money market funds	\$ 8,165	\$ —	\$ —	\$ 8,165
U.S. treasury bills	—	5,240	—	5,240
Government-sponsored enterprise securities	—	4,184	—	4,184
Corporate bonds and commercial paper	—	116,439	—	116,439
<b>Total</b>	<b>\$ 8,165</b>	<b>\$ 125,863</b>	<b>\$ —</b>	<b>\$ 134,028</b>

	Assets at Fair Value as of December 31, 2017			
	Level 1	Level 2	Level 3	Total
Money market funds	\$ 2,795	\$ —	\$ —	\$ 2,795
U.S. treasury bills	—	6,726	—	6,726
Government-sponsored enterprise securities	—	7,826	—	7,826
Corporate bonds and commercial paper	—	97,822	—	97,822
<b>Total</b>	<b>\$ 2,795</b>	<b>\$ 112,374</b>	<b>\$ —</b>	<b>\$ 115,169</b>

## 12. Lease Agreements

We currently lease our research and office space under a noncancelable lease agreement with our landlord, HCP BTC, LLC (formerly known as Slough BTC, LLC) which was originally set to expire in 2018. The lease term provides for renewal option for up to two additional periods of five years each. In July 2017, we exercised our option to extend the term of our lease for another five years through January 2023 and modified the amount of monthly base rent during such renewal period. We reevaluated our lease classification and continue to classify our lease as an operating lease during the renewal period.

In December 2014, we entered into a sublease agreement, which was amended in 2017, with an unrelated third party to occupy approximately 57,000 square feet of our research and office space. In February 2017, we entered into an amendment to the sublease agreement to increase the subleased research and office space for an additional 9,328 square feet under the same term of the sublease. Effective July 2017, the sublease agreement was amended primarily to extend the term of the sublease through January 2023 and modified the monthly base rent to equal the amount we will pay our landlord. Because the future sublease income under the extended sublease agreement is the same as the amount we will pay our landlord, we did not recognize any loss on sublease relative to this amendment. We expect to receive approximately \$20.2 million in future sublease income (excluding our subtenant's share of facilities operating expenses) through January 2023.

## 13. Common Stock

### *Authorized Shares of Common Stock*

On May 18, 2018, we amended our Certificate of Incorporation (the "Charter Amendment") to increase the number of authorized shares of common stock from 200,000,000 to 400,000,000 shares. This Charter Amendment was approved by our stockholders at the annual meeting held on May 16, 2018. The Charter Amendment became effective upon the filing with the Secretary of State of the State of Delaware on May 18, 2018.

### *Common Stock Public Offering*

In the second quarter of 2018, we completed an underwritten public offering in which we sold 18,400,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$3.90 per share. We received net proceeds of approximately \$67.2 million after deducting underwriting discounts and commissions and offering expenses.

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

*This discussion and analysis should be read in conjunction with our financial statements and the accompanying notes included in this report and the audited financial statements and accompanying notes included in our Annual Report on Form 10-K for the year ended December 31, 2017. Operating results for the three and six months ended June 30, 2018 are not necessarily indicative of results that may occur in future interim periods or for the full fiscal year.*

*This Quarterly Report on Form 10-Q contains statements indicating expectations about future performance and other forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve risks and uncertainties. We usually use words such as “may,” “will,” “should,” “could,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “intend,” or the negative of these terms or similar expressions to identify these forward-looking statements. These statements appear throughout this Quarterly Report on Form 10-Q and are statements regarding our current expectation, belief or intent, primarily with respect to our operations and related industry developments. Examples of these statements include, but are not limited to, statements regarding the following: our ongoing commercial launch of TAVALISSE in the U.S., our business and scientific strategies; the progress of our and our collaborators’ product development programs, including clinical testing, and the timing of results thereof; our corporate collaborations and revenues that may be received from our collaborations and the timing of those potential payments; our expectations with respect to regulatory submissions and approvals; our drug discovery technologies; our research and development expenses; protection of our intellectual property; sufficiency of our cash and capital resources and the need for additional capital; and our operations and legal risks. You should not place undue reliance on these forward-looking statements. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including as a result of the risks and uncertainties discussed under the heading “Risk Factors” in Item 1A of Part II of this Quarterly Report on Form 10-Q. Any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor 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.*

**Overview**

We are a biotechnology company dedicated to discovering, developing and providing novel small molecule drugs that significantly improve the lives of patients with immune and hematologic disorders, cancer and rare diseases. Our pioneering research focuses on signaling pathways that are critical to disease mechanisms. Our first FDA-approved product is TAVALISSE™ (fostamatinib disodium hexahydrate), an oral spleen tyrosine kinase (SYK) inhibitor, for the treatment of adult patients with chronic immune thrombocytopenia who have had an insufficient response to a previous treatment. Our current clinical programs include Phase 2 studies of fostamatinib in autoimmune hemolytic anemia and IgA nephropathy, and a Phase 1 study for our IRAK program. In addition, we have product candidates in development with partners BerGenBio AS, Daiichi Sankyo, and Aclaris Therapeutics.

Since inception, we have financed our operations primarily through the sale of equity securities, contract payments under our collaboration agreements and recently, product sales from TAVALISSE. Our research and development activities, including preclinical studies and clinical trials, consume substantial amounts of capital. As of June 30, 2018, we had approximately \$135.0 million in cash, cash equivalents and short term investments. In April 2018, we completed an underwritten public offering in which we sold 18,400,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$3.90 per share. We received net proceeds of approximately \$67.2 million after deducting underwriting discounts and commissions and offering expenses.

We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including our ongoing commercial launch of TAVALISSE in the U.S., through at least the next 12 months from the Form 10-Q filing date. We also continue to evaluate ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipelines.

In May 2018, we announced that TAVALISSE™ (fostamatinib disodium hexahydrate) was available by prescription for the treatment of thrombocytopenia in adult patients with chronic ITP who have had an insufficient response to a previous treatment. TAVALISSE, an oral SYK inhibitor that targets the underlying autoimmune cause of the disease by impeding platelet destruction, was approved by the U.S. FDA in April 2018. We plan to enter into partnership with third parties to commercialize fostamatinib in Europe and Asia.

Our revenues have consisted of revenues from sponsored research and license agreements with our corporate collaborators and recently, product sales from TAVALISSE. Our potential future revenues may include product sales from TAVALISSE, and payments from our current partners and from new partners with whom we enter into agreements in the future, if any, the timing and amount of which is unknown at this time.

***TAVALISSE™ (fostamatinib disodium hexahydrate) - ITP***

*Disease background.* Chronic ITP affects an estimated 65,000 adult patients in the U.S. In patients with ITP, the immune system attacks and destroys the body's own blood platelets, which play an active role in blood clotting and healing. ITP patients can suffer extraordinary bruising, bleeding and fatigue as a result of low platelet counts. Current therapies for ITP include steroids, blood platelet production boosters that imitate thrombopoietin (TPOs) and splenectomy.

*Orally-available fostamatinib program.* Taken in tablet form, fostamatinib blocks the activation of SYK inside immune cells. ITP is typically characterized by the body producing antibodies that attach to healthy platelets in the blood stream. Immune cells recognize these antibodies and affix to them, which activates the SYK enzyme inside the immune cell, and triggers the destruction of the antibody and the attached platelet. When SYK is inhibited by fostamatinib, it interrupts this immune cell function and allows the platelets to escape destruction. The results of our Phase 2 clinical trial, in which fostamatinib was orally administered to sixteen adults with chronic ITP, published in *Blood*, showed that fostamatinib significantly increased the platelet counts of certain ITP patients, including those who had failed other currently available agents.

We designed a Phase 3 clinical program, called fostamatinib in thrombocytopenia (FIT), in which a total of 150 ITP patients were randomized into two identical multi-center, double-blind, placebo-controlled clinical trials. The patients were diagnosed with persistent or chronic ITP, and had blood platelet counts consistently below 30,000 per microliter of blood. Two-thirds of the subjects received fostamatinib orally at 100 mg bid (twice daily) and the other third received placebo on the same schedule. Subjects were expected to remain on treatment for up to 24 weeks. At week four of treatment, subjects who failed to meet certain platelet count and met certain tolerability thresholds could have their dosage of fostamatinib (or corresponding placebo) increased to 150 mg bid. The primary efficacy endpoint of this program was a stable platelet response by week 24 with platelet counts at or above 50,000 per microliter of blood for at least four of the final six qualifying blood draws. In August 2015, the FDA granted our request for Orphan Drug designation for fostamatinib for the treatment of ITP.

On August 30, 2016, we announced the results of the first study, reporting that fostamatinib met the study's primary efficacy endpoint. The study showed that 18% of patients receiving fostamatinib achieved a stable platelet response compared to none receiving a placebo control (p=0.0261). On October 20, 2016, we announced the results of the second study, reporting that the response rate was 18%, consistent with the first study. However, one patient in the placebo group (4%) achieved a stable platelet response, therefore the difference between those on treatment and those on placebo did not reach statistical significance (p=0.152) and the study did not meet its primary endpoint. Using the most conservative sensitivity analysis, rather than the protocol's prespecified analysis, one more patient in the second study is considered a non-responder, resulting in 8 of 50 (16%) responders on fostamatinib (p = 0.256 vs. placebo). When the data from both studies are combined, however, this difference is statistically significant (p=0.007).

Patients from the FIT studies were given the option to enroll in a long-term open-label extension study and receive treatment with fostamatinib, also a Phase 3 trial. A total of 123 patients enrolled in this study. All the patients who responded to fostamatinib in the FIT studies and enrolled in the long-term open-label extension study maintained a median platelet count of 106,500/uL at a median of 16 months. In addition, there were 44 placebo non-responders that enrolled in the long-term open-label extension study. 41 of these patients had at least 12 weeks of follow-up. Of those, 9

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patients (22%) have achieved a prospectively defined stable platelet response, which is statistically significant ( $p=0.0078$ ) and similar to the response rate fostamatinib achieved in the parent studies.

A stable response was defined as a patient achieving platelet counts of greater than 50,000/uL on more than 4 of the 6 visits between weeks 14 and 24, without rescue medication. In the post-study analysis we performed, a clinically-relevant platelet response was defined to include patients achieving one platelet count over 50,000/uL during the first 12 weeks of treatment, in absence of rescue medication, but who did not otherwise meet the stable response criteria. Once the platelet count of greater than 50,000/uL is achieved, a loss of response was defined as two consecutive platelet counts of less than 30,000/uL in any subsequent visits. In the combined dataset of both stable and clinically-relevant platelet responders for the FIT studies, the response rate was 43% (43/101), compared to 14% (7/49) for placebo ( $p=0.0006$ ).

The most frequent adverse events were gastrointestinal-related, and the safety profile of the product was consistent with prior clinical experience, with no new or unusual safety issues uncovered.

We submitted an NDA for fostamatinib in ITP in April 2017, which was accepted by the FDA in June 2017, with an action date for the FDA to complete its review by April 17, 2018, under the PDUFA. On April 17, 2018, we announced that the FDA had approved TAVALISSE™ (fostamatinib disodium hexahydrate) for the treatment of thrombocytopenia in adult patients with chronic ITP who have had an insufficient response to a previous treatment. On April 30, 2018, we announced that the American Journal of Hematology published positive results from the FIT Phase 3 clinical program. We launched TAVALISSE in the U.S. on our own in May 2018. We plan to enter into partnership with third parties to commercialize fostamatinib in Europe and Asia.

### *Commercial launch activities, including sales and marketing*

A significant portion of our operating expenses in 2018 will be related to our commercial launch activities for TAVALISSE. Specifically, our marketing and sales efforts will be focused on targeting approximately 3,000 hematologists and hematologist-oncologists in the United States, who manage chronic adult ITP patients. To support these efforts, we have hired experienced commercial professionals, including sales representatives in the hematology area, and commercial operations, marketing, and market access professionals. In the ordinary course of business, we also entered into contractual agreements with third parties to support our commercial activities.

### *Competitive landscape for TAVALISSE*

Our industry is intensely competitive and subject to rapid and significant technological change. TAVALISSE is competing with other existing therapies. In addition, a number of companies are pursuing the development of pharmaceuticals that target the same diseases and conditions that we are targeting. For example, there are existing therapies and drug candidates in development for the treatment of ITP that may be alternative therapies to TAVALISSE.

Currently, corticosteroids remain the most common first line therapy for ITP, occasionally in conjunction with intravenous immunoglobulin (IVIg) or anti-Rh(D) as added agents to help further augment platelet count recovery, particularly in emergency situations. However, it has been estimated that frontline agents lead to durable remissions in only a small percentage of newly-diagnosed adults with ITP. Moreover, concerns with steroid-related side effects often restrict therapy to approximately 4 weeks. As such, many patients progress to persistent or chronic ITP, requiring other forms of therapeutic intervention.

Other approaches to treat ITP are varied in their mechanism of action, and there is no consensus about the sequence of their use, according to the most recent ITP guideline from the American Society of Hematology. Options include splenectomy, thrombopoietin receptor agonists (TPO-RAs) and various immunosuppressants (such as rituximab). The response rate criteria of the abovementioned options vary, precluding a comparison of response rates for individual therapies.

Even with the above treatment options, a significant number of patients remain severely thrombocytopenic for long durations and are subject to risk of spontaneous or trauma-induced hemorrhage. The addition of fostamatinib to the

treatment options could theoretically be beneficial since it has a different mechanism of action than the thrombopoietin (TPO) agonists. Fostamatinib is a potent and relatively selective SYK inhibitor, and its inhibition of Fc receptors and B-cell receptors signaling pathways make it a potentially broad immunomodulatory agent.

Other products in the U.S. that are approved by the FDA to increase platelet production through binding and TPO receptors on megakaryocyte precursors include PROMACTA® (Novartis) and Nplate® (Amgen, Inc.).

## Clinical Stage Programs

### *Fostamatinib—AIHA*

*Disease background.* AIHA is a rare, serious blood disorder where the immune system produces antibodies that result in the destruction of the body's own red blood cells. Symptoms can include fatigue, shortness of breath, rapid heartbeat, jaundice or enlarged spleen. While no medical treatments are currently approved for AIHA, physicians generally treat acute and chronic cases of the disorder with corticosteroids, other immuno-suppressants, or splenectomy. Research has shown that inhibiting SYK with fostamatinib may reduce the destruction of red blood cells. This disorder affects an estimated 40,000 Americans, for whom no approved treatment options currently exist.

*Orally available fostamatinib program.* Our Phase 2 clinical trial, also known as SOAR study, is currently enrolling patients with warm AIHA in the second stage of the trial. The trial is an open-label, multi-center, two-stage study that will evaluate the efficacy and safety of fostamatinib in patients with warm AIHA who have previously received treatment for the disorder, but have relapsed. Stage 1 completed enrollment for 19 patients (17 patients evaluable for efficacy) who received 150 mg of fostamatinib orally twice a day for a period of 12 weeks, with an option of entering into a long-term extension study. The patients returned to the clinic every two weeks for blood draws and medical assessment. The primary efficacy endpoint of this study was to achieve increased hemoglobin levels by week 12 of greater than 10 g/dL, and greater than or equal to 2 g/dL higher than baseline.

In October 2017, we announced that, on a top-line, preliminary basis, Stage 1 of the AIHA study enrolled 17 patients who have had at least one post-baseline hemoglobin measure. In January 2018, we also announced the updated top-line data as of December 2017 for this open-label study of which 47% of these patients (8 patients out of 17) have responded to fostamatinib treatment. Of the 17, six patients, including the last two patients enrolled, responded during the 12-week evaluation period and an additional two patients met the response criteria in the extension study after 12 weeks of dosing. In February 2018, an additional patient in the Stage 1 extension study met the response criteria. As of February 2018, 53% of evaluable patients (9 of 17) have responded to fostamatinib treatment. The safety profile was consistent with the existing fostamatinib safety database. Given that the Stage 1 of the study met its primary efficacy endpoint, we have begun enrollment of Stage 2 of this study, in which 20 patients will be enrolled under the same protocol. In January 2018, the FDA granted our request for Orphan Drug designation for fostamatinib for the treatment of AIHA. We expect to initiate our pivotal program in AIHA by the end of this year.

### *Fostamatinib—IgAN*

*Disease background.* Immunoglobulin A Nephropathy (IgAN) is an autoimmune disease that severely affects the functioning of the kidneys. An estimated 12,000 Americans are diagnosed with this type of glomerulonephritis each year, with 25% of whom will eventually require dialysis and/or kidney transplantation over time. IgAN is characterized by the deposition of IgA immune complexes in the glomeruli of the kidneys leading to an inflammatory response and subsequent tissue damage that ultimately disrupts the normal filtering function of the kidneys. By inhibiting SYK in kidney cells, fostamatinib may block the signaling of IgA immune complex receptors, reduce the deposition of IgA immune complexes and arrest or slow destruction of the glomeruli.

*Orally-available fostamatinib program.* Our Phase 2 clinical trial in patients with IgAN, called SIGN (SYK Inhibition for Glomerulonephritis) completed enrollment for its first and second cohorts. In January 2017, we announced that the first cohort in the Phase 2 study of fostamatinib in IgAN was completed in various centers throughout Asia, the U.S. and Europe. This cohort evaluated the efficacy, safety, and tolerability of the lower dose of fostamatinib (100mg BID, n=26; placebo n=12) as measured by change in proteinuria, renal function, and histology (comparing the pre- and

post-study renal biopsies). The primary efficacy endpoint was the mean change in proteinuria from baseline at 24 weeks. The study found that at 24 weeks, fostamatinib was well tolerated with a good safety profile. The second cohort evaluates a higher dose of fostamatinib (150mg BID) and completed enrollment in August 2017.

On April 3, 2018, we announced that trial did not achieve statistical significance for its primary endpoint, which was mean change in proteinuria comparing fostamatinib dose groups to placebo controls in all patients studied. However, in a pre-specified subgroup analysis of patients with greater than 1 gram/day of proteinuria at baseline, the initial data showed a greater reduction in proteinuria in fostamatinib-treated patients relative to placebo patients (this finding did not reach statistical significance). Patients with greater than 1 gram/day of proteinuria have an increased risk of disease progression and represent an unmet medical need. Current guidance for clinical trials in IgAN recommends studying patients with greater than 1 gram/day of proteinuria at entry. Further analysis, including histology, are expected in late 2018. We expect to meet with the FDA in August 2018 to determine the path forward for this program.

#### ***R835, an IRAK1/4 Inhibitor for Autoimmune and Inflammatory Diseases***

During the second quarter of 2018, we selected R835, a proprietary molecule from our interleukin receptor associated kinase (IRAK) preclinical development program, for human clinical trials. This investigational candidate, R835, is an orally available, potent and selective inhibitor of IRAK1 and IRAK4 that blocks inflammatory cytokine production in response to toll-like receptor (TLR) and the interleukin-1 family receptor (IL-1R) signaling. TLRs and IL-1Rs play a critical role in the innate immune response and dysregulation of these pathways can lead to a variety of inflammatory conditions including psoriasis, rheumatoid arthritis, inflammatory bowel disease and gout (among others). R835 prevents cytokine release in response to TLR and IL-1R activation in vitro. R835 is active in multiple rodent models of inflammatory disease including psoriasis, arthritis, lupus, multiple sclerosis and gout. Preclinical studies show that R835 inhibits both the IRAK1 and IRAK4 signaling pathways, which play a key role in inflammation and immune responses to tissue damage. Dual inhibition of IRAK1 and IRAK4 allows for more complete suppression of pro-inflammatory cytokine release.

We initiated a Phase 1 study to assess safety, tolerability, pharmacokinetics and pharmacodynamics of R835 in healthy subjects in the second quarter of 2018. This Phase 1 study is a randomized, placebo-controlled, double-blind trial in up to 91 healthy subjects, ages 18 to 55. The study design aims to assess the tolerability and safety of R835 in both single ascending and multiple ascending doses.

#### **Partnered Clinical Programs**

##### ***R548 (ATI-501 and ATI-502) - Aclaris***

Aclaris is developing ATI-501 and ATI-502 an oral and topical Janus Kinase (JAK) 1/3 inhibitor. ATI-501 is being developed as an oral treatment for patients with alopecia areata (AA), including the more severe forms of AA that result in total scalp hair loss, known as alopecia totalis, and total hair loss on the scalp and body, known as alopecia universalis. This Phase 1 cross-over trial was conducted in 12 healthy volunteers at one investigational center in the U.S. to assess the safety, bioavailability, and pharmacodynamics of ATI-501.

In the trial, treatment with ATI-501 capsules was well tolerated, with a safety profile similar to placebo. No clinically significant laboratory abnormalities were observed. These data are consistent with results from an earlier Phase 1 clinical trial in 44 healthy volunteers in which the study drug was well tolerated at all doses, with a safety profile similar to placebo. During the fourth quarter of 2017, three Phase 2 studies with the topical treatment ATI-502 in AA and Vitilago were initiated. In June 2018, Aclaris announced positive interim data from its Phase 2 clinical trial of ATI-502 for the treatment of Alopecia Totalis (AT) or Alopecia Universalis (AU), the more severe variants of AA. The randomized, double-blind clinical trial is being conducted at two study sites and will evaluate the pharmacokinetics, pharmacodynamics and safety of ATI-502 compared with vehicle in 11 patients with AT or AU over 28 days of treatment, followed by a 6-month open label period when all patients receive the drug.

**Pharmacokinetic Results:**

- Systemic exposure was low as indicated by plasma drug levels that were below the limits of quantification (1ng/ml) in all subjects at day 28.
- Consistent with low systemic exposure, no significant changes in circulating T, B and NK cells were observed at day 28.
- To assess skin penetration, punch biopsies were obtained at baseline and day 28 which demonstrated topical ATI-502 absorption consistent with pre-clinical skin models.
- Mean of 5650 nanograms/gram at day 28 (range 3130 - 8170 ng/g).

**Pharmacodynamic / RNA Sequencing Results:**

- Two patients had marked elevation of the interferon gamma and cytotoxic T-cell gene expression signatures at baseline: one received active drug and one received vehicle. At day 28, the patient on active drug demonstrated a positive change in the two biomarkers, while the patient on vehicle did not demonstrate a positive change in the 2 biomarkers.
- Two patients had low elevation of the interferon gamma and cytotoxic T-cell gene expression signatures at baseline: one received active drug, one received vehicle. At day 28 both patients showed a partial positive change in the two biomarkers.
- Two patients had no elevation of the interferon gamma and cytotoxic T-cell gene expression signatures at baseline: both patients received active drug. At day 28, neither patient showed any material change in the two biomarkers.

**Safety**

- No serious adverse events (SAEs) were reported during the 28-day dosing period. One subject receiving ATI-502 withdrew from the trial due to an unrelated SAE of major depression during the open label extension period.

The above interim data is the first indication that ATI-502 is absorbed through human skin in the clinical setting and engages the target. The results also demonstrate the pharmacodynamic effect of modulating the appropriate genes associated with the interferon gamma pathway and cytotoxic T-lymphocytes, which are 2 of 3 biomarker components of the Alopecia Areata Disease Activity Index (ALADIN) score.

In July 2018, Aclaris also announced that the FDA has granted Fast Track designation to ATI-502 for the treatment of AA, including patchy AA and the more severe variants of the disease, AT and AU. Aclaris recently initiated its Phase 2 trials for ATI-501 in the second half of 2018.

***BGB324 - BerGenBio***

BerGenBio's first-in-class selective AXL kinase inhibitor, BGB324, has demonstrated compelling efficacy as a single agent, and in combination with standard of care cancer therapies and checkpoint inhibitors, thereby supporting clinical utility across multiple cancers in preclinical studies. Early clinical studies in healthy volunteers and cancer patients have shown BGB324 to be well-tolerated with a favorable safety profile, and encouraging evidence of single agent and combination activity in acute myeloid leukemia (AML) and NSCLC. A strong correlation has also been observed with predictive biomarkers and the patients that respond. BGB324 has received Orphan Drug Designation in the U.S. for AML.

BerGenBio initiated Phase 1/2 studies with BGB324 as a single agent in relapsed AML and myelodysplastic syndrome (MDS); and in combination with erlotinib (Tarceva®) in advanced (EGFR-positive) NSCLC. BerGenBio is also conducting Phase 2 studies with BGB324 in combination with KEYTRUDA® (pembrolizumab) in non-small cell adenocarcinoma of the lung and triple negative breast cancer (TNBC) in collaboration with another company.

***DS-3032 - Daiichi***

DS-3032 is an investigational oral selective inhibitor of the murine double minute 2 (MDM2) protein currently being investigated by Daiichi in three Phase 1 clinical trials for solid and hematological malignancies including acute

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myeloid leukemia (AML), acute lymphocytic leukemia (ALL), chronic myeloid leukemia (CML) in blast phase, lymphoma and myelodysplastic syndrome (MDS). DS-3032 has not been approved by any regulatory authority for uses under investigation.

Preliminary safety and efficacy data from a Phase 1 study of DS-3032 suggests that DS-3032 may be a promising treatment for hematological malignancies including relapsed/refractory AML and high-risk MDS. Evaluation of additional dosing schedules of DS-3032 is underway and combination studies currently being planned by Daiichi.

**Research/Preclinical Programs**

We are conducting proprietary research in the broad disease areas of inflammation/immunology, immuno-oncology and cancers. Within each disease area, our researchers are investigating mechanisms of action as well as screening compounds against potential novel targets and optimizing those leads that appear to have the greatest potential.

**Sponsored Research and License Agreements**

We conduct research and development programs independently and in connection with our corporate collaborators. Currently, we are a party to collaboration agreements, but do not have ongoing performance obligations, with BMS for the discovery, development and commercialization of cancer immunotherapies based on our small molecule TGF beta receptor kinase inhibitors, Aclaris for the development and commercialization of JAK inhibitors for the treatment of alopecia areata and other dermatological conditions, AZ for the development and commercialization of R256, an inhaled JAK inhibitor, BerGenBio for the development and commercialization of AXL inhibitors in oncology, and Daiichi to pursue research related to MDM2 inhibitors, a novel class of drug targets called ligases. Under these agreements, which we entered into in the ordinary course of business, we received or may be entitled to receive upfront cash payments, payments contingent upon specified events achieved by such partners and royalties on any net sales of products sold by such partners under the agreements. Total future contingent payments to us under all of these current agreements could exceed \$532.4 million if all potential product candidates achieved all of the payment triggering events under all of our current agreements (based on a single product candidate under each agreement). Of this amount, up to \$145.5 million relates to the achievement of development events, up to \$345.6 million relates to the achievement of regulatory events and up to \$41.3 million relates to the achievement of certain commercial or launch events. This estimated future contingent amount does not include any estimated royalties that could be due to us if the partners successfully commercialize any of the licensed products. Future events that may trigger payments to us under the agreements are based solely on our partners' future efforts and achievements of specified development, regulatory and/or commercial events.

In June 2011, we entered into an exclusive license agreement with BerGenBio for the development and commercialization of an oncology program. BerGenBio is responsible for all activities it wishes to perform under the license we granted to it. In February 2017, we received \$3.3 million from BerGenBio as a result of BerGenBio advancing BGB324, an AXL kinase inhibitor licensed under the agreement, to a Phase 2 clinical study. All deliverables under the agreement had been previously delivered, as such, the above payments of \$3.3 million was recognized as revenue in the first quarter of 2017.



**Results of Operations**

**Three and Six Months Ended June 30, 2018 and 2017**

**Revenues**

	Three Months Ended June 30,		Aggregate Change	Six Months Ended June 30,		Aggregate Change
	2018	2017 (in thousands)		2018	2017 (in thousands)	
<i>Product sales, net</i>	\$ 1,787	\$ —	\$ 1,787	\$ 1,787	\$ —	\$ 1,787
<i>Contract revenues from collaborations</i>	—	—	—	—	3,584	(3,584)
<b><i>Total revenues</i></b>	<b>\$ 1,787</b>	<b>\$ —</b>	<b>\$ 1,787</b>	<b>\$ 1,787</b>	<b>\$ 3,584</b>	<b>\$ (1,797)</b>

Product sales during the three and six months ended June 30, 2018 relates to sales of TAVALISSE™ (fostamatinib disodium hexahydrate) in the U.S. There were no product sales during the three and six months ended June 30, 2017.

There were no contract revenues from collaborations during the three months ended June 30, 2018 and 2017. Contract revenues from collaborations of \$3.6 million during the six months ended June 30, 2017 is comprised primarily of the \$3.3 million payment from BerGenBio as a result of advancing BGB324, a selective, potent and orally available small molecule, to a Phase 2 clinical study.

Our potential future revenues may include product sales from TAVALISSE, payments from our current partners and from new partners with whom we enter into agreements in the future, if any, the timing and amount of which is unknown at this time.

**Cost of Product Sales**

	Three Months Ended June 30,		Aggregate Change	Six Months Ended June 30,		Aggregate Change
	2018	2017 (in thousands)		2018	2017 (in thousands)	
<i>Cost of product sales</i>	\$ 30	\$ —	\$ 30	\$ 30	\$ —	\$ 30

We recognized \$30,000 in cost of sales related to our product, TAVALISSE, which was approved by the FDA in April 2018. Prior to the FDA approval, manufacturing and related costs were charged to research and development expense. Therefore, these costs were not capitalized and as a result, are not fully reflected in the costs of sales during the current period. We will continue to have a lower cost of product sales that excludes the cost of the API that was produced prior to FDA approval until we sell TAVALISSE that includes newly manufactured API. We expect that this will be the case for the near-term and as a result, our cost of product sales in the near-term will be less than we anticipate it will be in future periods. As we produce TAVALISSE in the future, our inventory cost in the Balance Sheet and Cost of Product Sales will increase as that would reflect the full cost of manufacturing.

**Research and Development Expense**

	Three Months Ended June 30,		Aggregate Change	Six Months Ended June 30,		Aggregate Change
	2018	2017 (in thousands)		2018	2017 (in thousands)	
<i>Research and development expense</i>	\$ 10,797	\$ 11,524	\$ (727)	\$ 22,039	\$ 23,900	\$ (1,861)
<i>Stock-based compensation expense included in research and development expense</i>	\$ 333	\$ 336	\$ (3)	\$ 933	\$ 696	\$ 237

The decreases in research and development expense for the three months ended June 30, 2018, compared to the same period in 2017, were primarily due to the completion of our pivotal Phase 3 clinical trials in ITP in 2017, as well as

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the completion of the submission of our NDA for fostamatinib in ITP in 2017 of \$1.9 million, and allocated facility costs of \$675,000, partially offset by increases in personnel costs of \$781,000 and research and development costs for our clinical trials in IRAK and AIHA programs of \$943,000 and \$421,000, respectively.

The decreases in research and development expense for the six months ended June 30, 2018, compared to the same period in 2017, were primarily due the completion of our pivotal Phase 3 clinical trials in ITP as well as the completion of the related submission of our NDA for fostamatinib in ITP in 2017 of \$4.8 million and allocated facility costs of \$1.0 million, partially offset by increases in certain personnel costs of \$2.1 million and research and development costs for our clinical trials in IRAK and AIHA programs of \$1.4 million and \$602,000, respectively.

We expect our research and development expense in the second half of 2018 to increase compared with the previous quarters in 2018.

Our research and development expenditures include costs related to preclinical and clinical trials, scientific personnel, supplies, equipment, consultants, sponsored research, stock based compensation, and allocated facility costs.

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 three categories: research, development, and other. Our research team is focused on creating a portfolio of product candidates that can be developed into small molecule therapeutics in our own proprietary programs or with potential collaborative partners and utilizes our robust discovery engine to rapidly discover and validate new product candidates in our focused range of therapeutic indications. "Research" expenses relate primarily to personnel expenses, lab supplies, fees to third party research consultants and compounds. Our development group leads the implementation of our clinical and regulatory strategies and prioritizes disease indications in which our compounds may be studied in clinical trials. "Development" expenses relate primarily to clinical trials, personnel expenses, costs related to the submission and management of our NDA, lab supplies and fees to third party research consultants. "Other" expenses primarily consist of allocated facilities costs and allocated stock based compensation expense relating to personnel in research and development groups.

In addition to reviewing the three categories of research and development expenses described in the preceding paragraph, we principally consider qualitative factors in making decisions regarding our research and development programs, which include enrollment in clinical trials and the results thereof, the clinical and commercial potential for our drug candidates and competitive dynamics. We also make our research and development decisions in the context of our overall business strategy, which includes the evaluation of potential collaborations for the development of our drug candidates.

We do not have reliable estimates regarding the timing of our clinical trials. Preclinical testing and clinical development are long, expensive and uncertain processes. In general, biopharmaceutical development involves a series of steps, beginning with identification of a potential target and including, among others, proof of concept in animals and Phase 1, 2 and 3 clinical trials in humans. Significant delays in clinical testing could materially impact our product development costs and timing of completion of the clinical trials. We do not know whether planned clinical trials will begin on time, will need to be halted or revamped or will be completed on schedule, or at all. Clinical trials can be delayed for a variety of reasons, including delays in obtaining regulatory approval to commence a trial, delays from scale up, delays in reaching agreement on acceptable clinical trial agreement terms with prospective clinical sites, delays in obtaining institutional review board approval to conduct a clinical trial at a prospective clinical site or delays in recruiting subjects to participate in a clinical trial.

We currently do not have reliable estimates of total costs for a particular drug candidate to reach the market. Our potential products are subject to a lengthy and uncertain regulatory process that may involve unanticipated additional clinical trials and may not result in receipt of the necessary regulatory approvals. Failure to receive the necessary regulatory approvals would prevent us from commercializing the product candidates affected. In addition, clinical trials of our potential products may fail to demonstrate safety and efficacy, which could prevent or significantly delay regulatory approval.

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The following table presents our total research and development expense by category (in thousands).

	Three Months Ended June 30,		Six Months Ended June 30,		From January 1, 2007* to June 30, 2018
	2018	2017	2018	2017	
<b>Categories:</b>					
Research	\$ 2,431	\$ 2,500	\$ 4,938	\$ 5,127	\$ 231,304
Development	6,952	6,939	13,590	14,471	355,759
Other	1,414	2,085	3,511	4,302	233,837
	<u>\$ 10,797</u>	<u>\$ 11,524</u>	<u>\$ 22,039</u>	<u>\$ 23,900</u>	<u>\$ 820,900</u>

\* We started tracking research and development expense by category on January 1, 2007.

“Other” expenses mainly represent allocated facilities costs of approximately \$1.1 million and \$1.7 million for the three months ended June 30, 2018 and 2017, respectively, and allocated stock-based compensation expenses of approximately \$333,000 and \$336,000 for the three months ended June 30, 2018 and 2017, respectively. For the six months ended June 30, 2018 and 2017, allocated facilities costs were approximately \$2.6 million and \$3.6 million, respectively, and allocated stock-based compensation expenses were approximately \$933,000 and \$696,000, respectively.

For the three and six months ended June 30, 2018, a major portion of our total research and development expense was associated with salaries of our research and development personnel, our ITP, IRAK, AIHA and IgAN programs, and allocated facilities costs. For the three and six months ended June 30, 2017, a major portion of our total research and development expense was associated with salaries of our research and development personnel, our ITP, IRAK and IgAN programs, and allocated facilities costs.

**Selling, General and Administrative Expense**

	Three Months Ended June 30,		Aggregate Change	Six Months Ended June 30,		Aggregate Change
	2018	2017		2018	2017	
	(in thousands)			(in thousands)		
<i>Selling, general and administrative expense</i>	\$ 17,071	\$ 7,820	\$ 9,251	\$ 30,563	\$ 15,230	\$ 15,333
<i>Stock-based compensation expense included in selling, general and administrative expense</i>	\$ 779	\$ 764	\$ 15	\$ 1,719	\$ 1,359	\$ 360

The increases in selling, general and administrative expense for the three and six months ended June 30, 2018, compared to the same periods in 2017, was primarily due to the increase in personnel costs, related to the hiring of our sales force and medical affairs personnel to launch TAVALISSE™ (fostamatinib disodium hexahydrate) of \$8.1 million for the three months ended June 30, 2018 and \$13.2 million for the six months ended June 30, 2018.

We expect our selling, general and administrative expense in the second half of 2018 to remain relatively consistent on a quarterly basis.

**Interest Income**

	Three Months Ended June 30,		Aggregate Change	Six Months Ended June 30,		Aggregate Change
	2018	2017		2018	2017	
	(in thousands)			(in thousands)		
<i>Interest income</i>	\$ 554	\$ 197	\$ 357	\$ 903	\$ 353	\$ 550

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Interest income results from our interest-bearing cash and investment balances. The increases in interest income for the three and six months ended June 30, 2018, as compared to the same periods in 2017 were primarily due to the higher yield on our investments, as well as higher average cash and investment balances.

**Gain on Disposal of Assets**

	Three Months Ended		Aggregate Change	Six Months Ended		Aggregate Change
	June 30,			June 30,		
	2018	2017 (in thousands)		2018	2017 (in thousands)	
<i>Gain on disposal of assets</i>	\$ —	\$ —	\$ —	\$ —	\$ 732	\$ (732)

Gain on disposal of assets during the six months ended June 30, 2017 related to the proceeds from the sale of our fully depreciated property and equipment.

**Critical Accounting Policies and the Use of Estimates**

Our discussion and analysis of our financial condition and results of operations is based upon our financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. We evaluate our estimates, including those related to revenue recognition, recoverability of our assets, including accounts receivables and inventories, stock based compensation and the probability of achievement of corporate performance-based milestone for our performance-based stock option awards, impairment issues, the estimated useful life of assets, and estimated accruals, particularly research and development accruals, on an ongoing basis. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that with the exception of revenue recognition, inventories and adopting ASU 2014-09 as of January 1, 2018, as discussed below, there have been no significant changes in our critical accounting policies and estimates disclosed in our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC.

**Revenue recognition**

Our revenues from product sales are recognized at net sales price when our customers, the SDs, obtain control of our product, which occurs at a point in time, upon delivery to such SDs. Prior to recognizing revenue, we make estimates of the transaction price, including variable consideration that is subject to a constraint. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Revenue from product sales are recorded net of estimated government-mandated rebates and chargebacks, distribution fees, estimated product returns and other deductions.

Provisions for estimated returns and other adjustments are provided for in the period the related revenue is recorded. Our estimates are based on available customer and payer data received from the specialty pharmacies and distributors, as well as third-party market research data. For a further description of our estimated returns and other adjustments, see “Note 3. Summary of Significant Accounting Policies” above. Actual amounts of consideration ultimately received may differ from our estimates. If actual results in the future vary from our estimates, we will adjust these estimates, which would affect net product revenue and earnings in the period such variances become known.

**Inventories**

We value our inventories at the lower of cost or estimated net realizable value. We determine the cost of inventories using the standard cost method, which approximates actual cost based on a FIFO basis. Prior to the regulatory approval of our product candidates, we incur expenses for the manufacture of drug product that could

potentially be available to support the commercial launch of our products. Until the first reporting period when regulatory approval has been received or is otherwise considered probable, we record all such costs as research and development expense. We perform an assessment of the recoverability of capitalized inventories during each reporting period, and write down any excess and obsolete inventories to its net realizable value in the period in which the impairment is first identified.

### Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09—*Revenue from Contracts with Customers*, which supersedes the revenue recognition requirements under ASC Topic 605, *Revenue Recognition*, and most industry-specific guidance under the ASC. Prior to January 1, 2018, our revenues have been derived from license and collaboration agreements. The consideration we are eligible to receive under these agreements includes upfront payments, progress dependent contingent payments on events achieved by our collaboration partners, and royalties on net sales of products sold by such partners under the agreements. ASU No. 2014-09 differs from the previous accounting standard in many respects, such as in the accounting for variable consideration, including milestone payments or contingent payments. Under our previous accounting policy, we recognized contingent payments as revenue in the period that the payment-triggering event occurred or is achieved. However, under the new accounting standard, it is possible to start to recognize contingent payments before the payment-triggering event is completely achieved, subject to management's assessment of whether it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. We adopted this new standard on January 1, 2018 using the modified retrospective approach. Because all of the performance obligations for our outstanding collaboration agreements had been completed prior to December 31, 2017, we did not record any adjustment on the opening balance of Accumulated Deficit as of January 1, 2018.

Under this new guidance, the Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine whether arrangements are within the scope of this new guidance, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies its performance obligation. The Company applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of this new guidance, we assess the goods or services promised within each contract and identify, as a performance obligation, and assess whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

In February 2016, the FASB issued ASU No. 2016-02—*Leases*, which is aimed at making leasing activities more transparent, and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. The guidance is effective for all interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted. We plan to adopt this new standard on January 1, 2019. We are currently evaluating the potential impact of the adoption of ASU No. 2016-02 on our financial statements and cannot estimate the impact of adoption at this time.

In March 2018, the FASB issued ASU No. 2018-05—*Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118*, which provides guidance on accounting for the tax effects of the Tax Act that was enacted in December 2017. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting. In accordance with this guidance, we have determined that \$117.3 million of the deferred tax expense offset by a full valuation allowance recorded in connection with the remeasurement of certain deferred tax assets and liabilities was a provisional amount and a reasonable estimate at December 31, 2017. We have not made any additional measurement-period adjustments related to these items during the three and six months ended June 30, 2018 and will continue to assess future guidance issued by the U.S. Treasury Department, IRS, FASB, and other standard-setting and regulatory bodies. In accordance with ASU

No. 2018-05, we will complete our accounting for the income tax effects of the Tax Act within the one-year measurement period in 2018 once we have fully analyzed all necessary information related to the Tax Act.

## **Liquidity and Capital Resources**

### **Cash Requirements**

From inception, we have financed our operations primarily through sales of equity securities, contract payments under our collaboration agreements and sale of TAVALISSE™ (fostamatinib disodium hexahydrate). We have consumed substantial amounts of capital to date as we continue our research and development activities, including preclinical studies and clinical trials and our ongoing commercial launch of TAVALISSE.

As of June 30, 2018, we had approximately \$135.0 million in cash, cash equivalents and short-term investments, as compared to approximately \$115.8 million as of December 31, 2017, an increase of approximately \$19.2 million. The increase was primarily attributable to the completed underwritten public offering whereby we received approximately \$67.2 million, net of underwriting discounts and commissions and offering expenses, as well as the \$3.0 million proceeds from issuances of common stock upon exercise of options and participation in our employee stock purchase plan, partially offset by the payments associated with funding our operating expenses during the six months ended June 30, 2018.

In December 2014, we entered into a sublease agreement with an unrelated third party to occupy a portion of our research and office space. This sublease agreement was amended in February 2017 to sublease additional research and office space. Effective July 2017, the sublease agreement was amended primarily to extend the term of the sublease through January 2023. During the six months ended June 30, 2018, we received approximately \$2.9 million of sublease income and reimbursements. We expect to receive approximately \$20.2 million in future sublease income (excluding our subtenant's share of facility's operating expenses) through January 2023. In the second quarter of 2018, we completed an underwritten public offering in which we sold 18,400,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$3.90 per share. We received net proceeds of approximately \$67.2 million after deducting underwriting discounts and commissions and offering expenses.

We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including the ongoing commercial launch of TAVALISSE in the U.S., through at least the next 12 months from the Form 10-Q filing date. We also continue to evaluate ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipelines. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with commercial launch, the development of our product candidates and other research and development activities, we are unable to estimate with certainty our future product revenues, our revenues from our current and future collaborative partners, the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials and other research and development activities.

Our operations will require significant additional funding for the foreseeable future. Unless and until we are able to generate a sufficient amount of product, royalty or milestone revenue, we expect to finance future cash needs through public and/or private offerings of equity securities, debt financings and/or collaboration and licensing arrangements, and to a much lesser extent through the proceeds from exercise of stock options and interest income earned on the investment of our excess cash balances and short-term investments. With the exception of contingent and royalty payments that we may receive under our existing collaborations, we do not currently have any committed future funding. To the extent we raise additional capital by issuing equity securities, our stockholders could at that time experience substantial dilution. Any debt financing that we are able to obtain may involve operating covenants that restrict our business. To the extent that we raise additional funds through collaboration and licensing arrangements, we

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may be required to relinquish some of our rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us.

Our future funding requirements will depend upon many factors, including, but not limited to:

- the ongoing costs to commercialize TAVALISSE™ (fostamatinib disodium hexahydrate) for the treatment of ITP in the United States, or any other future product candidates, if any such candidate receives regulatory approval for commercial sale;
- the progress and success of our clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- our ability to sell TAVALISSE in the United States;
- our ability to enter into ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipeline;
- the costs and timing of regulatory filings and approvals by us and our collaborators;
- the progress of research and development programs carried out by us and our collaborative partners;
- any changes in the breadth of our research and development programs;
- the ability to achieve the events identified in our collaborative agreements that may trigger payments to us from our collaboration partners;
- our ability to acquire or license other technologies or compounds that we may seek to pursue;
- our ability to manage our growth;
- competing technological and market developments;
- the costs and timing of obtaining, enforcing and defending our patent and other intellectual property rights; and
- expenses associated with any unforeseen litigation, including any securities class action lawsuits.

Insufficient funds may require us to delay, scale back or eliminate some or all of our commercial efforts and/or research or development programs, to lose rights under existing licenses or to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose or may adversely affect our ability to operate as a going concern.

For the six months ended June 30, 2018 and 2017, we maintained an investment portfolio primarily in money market funds, U. S. treasury bills, government-sponsored enterprise securities, and corporate bonds and commercial paper. Cash in excess of immediate requirements is invested with regard to liquidity and capital preservation. Wherever possible, we seek to minimize the potential effects of concentration and degrees of risk. We will continue to monitor the impact of the changes in the conditions of the credit and financial markets to our investment portfolio and assess if future changes in our investment strategy are necessary.

**Cash Flows from Operating, Investing and Financing Activities**

	Six Months Ended June 30,	
	2018	2017
	(in thousands)	
Net cash provided by (used in):		
Operating activities	\$ (50,388)	\$ (40,232)
Investing activities	7,016	8,206
Financing activities	70,160	46,985
Net increase in cash and cash equivalents	\$ 26,788	\$ 14,959

Net cash used in operating activities was approximately \$50.4 million for the six months ended June 30, 2018, compared to approximately \$40.2 million for the six months ended June 30, 2017. Net cash used in operating activities for the six months ended June 30, 2018 was primarily due to the cash payments related to our research and development programs and the cost of our ongoing commercial launch. Net cash used in operating activities for the six months ended June 30, 2017 was primarily due to the cash payments related to our research and development programs, partially offset by the \$3.3 million payment we received from BerGenBio. The timing of cash requirements may vary from period to period depending on our commercial launch activities related to TAVALISSE™ (fostamatinib disodium hexahydrate) our research and development activities, including our planned preclinical and clinical trials, and future requirements to establish commercial capabilities for any products that we may develop.

Net cash provided by investing activities was approximately \$7.0 million for the six months ended June 30, 2018, compared to approximately \$8.2 million for the six months ended June 30, 2017. Net cash provided by investing activities for the six months ended June 30, 2018 related to net maturities of short-term investments, partially offset by capital expenditures. Net cash provided by investing activities for the six months ended June 30, 2017 related to net maturities of short-term investments as well proceeds from disposals of assets, partially offset by capital expenditures. Capital expenditures were approximately \$732,000 for the six months ended June 30, 2018, compared to approximately \$55,000 for the same period in 2017.

Net cash provided by financing activities was approximately \$70.2 million for the six months ended June 30, 2018, compared to approximately \$47.0 million for the six months ended June 30, 2017. Net cash provided by financing activities for the six months ended June 30, 2018 consisted of net proceeds of \$67.2 million from issuance of common stock pursuant to the underwritten public offering and \$3.0 million proceeds from exercise of stock options and participation in the Purchase Plan. Net cash provided by financing activities for the six months ended June 30, 2017 consisted of net proceeds of \$43.0 million from issuance of common stock pursuant to the underwritten public offering, \$3.6 million from issuance of shares under our Controlled Equity Offering<sup>SM</sup> Sales Agreement with Cantor Fitzgerald & Co., and \$810,000 in proceeds from exercise of stock options and participation in the Purchase Plan.

**Off-Balance Sheet Arrangements**

As of June 30, 2018, we had no off-balance sheet arrangements (as defined in Item 303(a)(4)(ii) of Regulation S-K under the Exchange Act).

**Contractual Obligations**

We conduct our commercial activities and research and development programs internally and through third parties that include, among others, arrangements with universities, consultants and contract research organizations (CRO). We have contractual arrangements with these parties, however our contracts with them are cancelable generally on reasonable notice within one year and our obligations under these contracts are primarily based on services performed. We do not have any purchase commitments under any collaboration arrangements.

We have agreements with certain clinical research organizations (CROs) to conduct our clinical trials and with third parties relative to our commercial launch of TAVALISSE. The timing of payments for any amounts owed under the respective agreements will depend on various factors including, but not limited to, patient enrollment and other progress of the clinical trial and various activities related to commercial launch. We will continue to enter into contracts in the



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normal course of business with various third parties who support our clinical trials, support our preclinical research studies, and provide other services related to our operating purposes as well as our commercial launch of TAVALISSE™ (fostamatinib disodium hexahydrate). We can terminate these agreements at any time, and if terminated, we would not be liable for the full amount of the respective agreements. Instead, we will be liable for services provided through the termination date plus certain cancellation charges, if any, as defined in each of the respective agreements. In addition, these agreements may, from time to time, be subjected to amendments as a result of any change orders executed by the parties.

We currently lease our research and office space under a noncancelable lease agreement with our landlord of which we have future minimum lease payments and obligations. As of June 30, 2018, we had the following contractual commitments:

	Total	Less than 1 Year	Payment Due By Period		More than 5 Years
			1 - 3 Years	3 - 5 Years	
			(in thousands)		
Facilities lease (1)	\$ 44,955	\$ 9,142	\$ 19,394	\$ 16,419	\$ —

- (1) In December 2014, we entered into a sublease agreement, which was amended in 2017, with an unrelated third party to lease up a portion of the research and office space. The facilities lease obligations above do not include the sublease income of approximately \$20.2 million which we expect to receive over the term of the sublease through January 2023.

We are also subject to claims related to the patent protection of certain of our technologies, as well as purported securities class action lawsuit, other litigations, and other contractual agreements. We are required to assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of probable losses. A determination of the amount of reserves required, if any, for these contingencies is made after careful analysis of each individual matter.

### Item 3. Quantitative and Qualitative Disclosures About Market Risk

During the six months ended June 30, 2018, there were no material changes to our market risk disclosures as set forth in Part II, Item 7A, “Quantitative and Qualitative Disclosures About Market Risk,” of our Annual Report on Form 10-K for the year ended December 31, 2017.

### Item 4. Controls and Procedures

*Evaluation of Disclosure Controls and Procedures.* Based on the evaluation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), our chief executive officer (who serves as our principal executive officer) and our chief financial officer (who serves as our principal financial officer) have concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective.

*Changes in Internal Controls.* Effective March 2018, we implemented a new accounting system to support our financial reporting (as defined in Rule 13a-15(f)). Therefore, modifications to the design and documentation of internal control processes and procedures relating to the new systems to replace and supplement existing internal controls over financial reporting were made as appropriate. The changes were undertaken to enhance our system and reporting capabilities to support our growth, and were not undertaken in response to any actual or perceived deficiencies in our internal control over financial reporting.

*Limitations on the Effectiveness of Controls.* A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within a company have been detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the objectives of our disclosure control system are met and, as set forth above,

our chief executive officer and chief financial officer have concluded, based on their evaluation as of the end of the period covered by this report, that our disclosure controls and procedures were sufficiently effective to provide reasonable assurance that the objectives of our disclosure control system were met.

## **PART II. OTHER INFORMATION**

### **Item 1. Legal Proceedings**

None.

### **Item 1A. Risk Factors**

*In evaluating our business, you should carefully consider the following risks, as well as the other information contained in this Quarterly Report on Form 10-Q. These risk factors could cause our actual results to differ materially from those contained in forward-looking statements we have made in this Quarterly Report on Form 10-Q and those we may make from time to time. If any of the following risks actually occurs, our business, financial condition and operating results could be harmed. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business.*

*We have marked with an asterisk (\*) those risk factors below that reflect a substantive change from the risk factors included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 6, 2018.*

***Our prospects are highly dependent on the successful commercialization of TAVALISSE™ (fostamatinib disodium hexahydrate), which received approval in April 2018 from the FDA for patients with chronic ITP who have had an insufficient response to a previous treatment. To the extent that TAVALISSE is not commercially successful, our business, financial condition and results of operations may be materially adversely affected and the price of our common stock may decline. \****

TAVALISSE is our only drug that has been approved for sale and it has only been approved in the United States for patients with chronic ITP who have had an insufficient response to a previous treatment. We are focusing a significant portion of our activities and resources on fostamatinib, and we believe our prospects are highly dependent on, and a significant portion of the value of our Company relates to, our ability to successfully commercialize TAVALISSE in the United States.

Successful commercialization of TAVALISSE is subject to many risks. We have never, as an organization, launched or commercialized a product, and there is no guarantee that we will be able to do so successfully with fostamatinib for its approved indication. There are numerous examples of unsuccessful product launches and failures to meet high expectations of market potential, including by pharmaceutical companies with more experience and resources than us.

Market acceptance of fostamatinib and any our or collaborative partners' future product candidates that may receive approval, will depend on a number of factors, including:

- the efficacy and safety as demonstrated in clinical trials;
- the timing of market introduction of the product as well as competitive products;
- the clinical indications for which the product is approved;
- acceptance by physicians, the medical community and patients of the product as a safe and effective treatment;

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- the ability to distinguish safety and efficacy from existing, less expensive generic alternative therapies, if any;
- the convenience of prescribing, administering and initiating patients on the product and the length of time the patient is on the product;
- the potential and perceived advantages of the product over alternative treatments;
- the potential and perceived value of the product over alternative treatments;
- the cost of treatment in relation to alternative treatments, including any similar generic treatments;
- the availability of coverage and adequate reimbursement and pricing by third-party payors and government authorities;
- the prevalence and severity of adverse side effects; and
- the effectiveness of sales and marketing efforts.

Even if we are successful in building out our commercial team, there are many factors that could cause the launch and commercialization of TAVALISSE™ (fostamatinib disodium hexahydrate) to be unsuccessful, including a number of factors that are outside our control. The commercial success of TAVALISSE depends on the extent to which patients and physicians accept and adopt TAVALISSE for patients with chronic ITP who have had an insufficient response to a previous treatment. We also do not know how physicians, patients and payors will respond to the pricing of fostamatinib. In particular, our insight into pricing sensitivity may be delayed because as part of our initial launch strategy, we intend to provide some free product as samples during a trial period, and do not know whether physicians that initially use TAVALISSE will continue to do so after using the free product samples.

Physicians may not prescribe TAVALISSE and patients may be unwilling to use TAVALISSE if coverage is not provided or reimbursement is inadequate to cover a significant portion of the cost. Additionally, any negative development for fostamatinib in clinical development in additional indications, may adversely impact the commercial results and potential of fostamatinib. Thus, significant uncertainty remains regarding the commercial potential of fostamatinib.

If the launch or commercialization of TAVALISSE is unsuccessful or perceived as disappointing, our stock price could decline significantly and the long-term success of the product and our company could be harmed.

We also may not be successful entering into arrangements with third parties to sell and market one or more of our product candidates or may be unable to do so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market one or more of our product candidates effectively, which could damage our reputation. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

***Even if we, or any of our collaborative partners, are able to continue to commercialize TAVALISSE or any product candidate that we, or they, develop, the product may become subject to unfavorable pricing regulations, third-party payor reimbursement practices or labeling restrictions, any of which could harm our business.\****

The commercial success of any product for which we have obtained regulatory approval, or for which we obtain regulatory approval in the future will depend substantially on the extent to which the costs of our product candidates will be paid by third-party payors, including government health care programs and private health insurers. If coverage is not available, or reimbursement is limited, we, or any of our collaborative partners, may not be able to successfully commercialize TAVALISSE or any of our product candidates. Even if coverage is provided, the approved

reimbursement amount may not be high enough to allow us, or any of our collaborative partners, to establish or maintain pricing sufficient to realize a sufficient return on our or their investments. In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors and coverage and reimbursement levels for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time consuming and costly process that may 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.

There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved drugs. Marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we, or any of our collaborative partners, might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability or the ability of any future collaborators to recoup our or their investment in one or more product candidates, even if our product candidates obtain marketing approval.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Therefore, our ability, and the ability of any of our collaborative partners, to successfully commercialize fostamatinib or any of our product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from third-party payors.

Additionally, the approved labeling ultimately approved for any of our product candidates for which we have or may obtain regulatory approval may include restrictions on their uses and may be subject to ongoing FDA requirements governing the labeling, packaging, storage, distribution, safety surveillance, advertising, promotion, record-keeping and reporting of safety and other post-market information. If we or any of our collaborative partners do not timely obtain or comply with the labeling approval by the FDA on any of our product candidates, it may delay or inhibit our ability to successfully commercialize our products and generate revenues.

***If we are unable to effectively train and equip our sales force, our ability to successfully commercialize TAVALISSE (fostamatinib disodium hexahydrate) will be harmed.\****

We currently have limited experience in marketing and selling pharmaceutical products. TAVALISSE is a newly-marketed drug and, therefore, none of the members of our sales force will have ever promoted TAVALISSE prior to its launch. As a result, we will be required to expend significant time and resources and to continuously to train our sales force to be credible, persuasive and compliant with applicable laws in marketing TAVALISSE for patients with chronic ITP who have had an insufficient response to a previous treatment. In addition, we must train our sales force to ensure that an appropriate and compliant message about TAVALISSE is being delivered. If we are unable to effectively train our sales force and equip them with compliant and effective materials, including medical and sales literature to help them appropriately inform and educate regarding its potential benefits and proper administration, our efforts to successfully commercialize TAVALISSE could be put in jeopardy, which would negatively impact our ability to generate product revenues.

***Regulatory approval for any approved product is limited by the FDA to those specific indications and conditions for which clinical safety and efficacy have been demonstrated, and we may incur significant liability if it is determined that we are promoting the “off-label” use of TAVALISSE or any of our future product candidates if approved.\****

Any regulatory approval is limited to those specific diseases, indications and patient populations for which a product is deemed to be safe and effective by the FDA. For example, the FDA-approved label for TAVALISSE is only approved for use in adults with ITP who have had an insufficient response to other treatments. In addition to the FDA approval required for new formulations, any new indication for an approved product also requires FDA approval. If we

are not able to obtain FDA approval for any desired future indications for our products and product candidates, our ability to effectively market and sell our products may be reduced and our business may be adversely affected.

While physicians may choose to prescribe drugs for uses that are not described in the product's labeling and for uses that differ from those tested in clinical studies and approved by the regulatory authorities, our ability to promote the products is limited to those indications and patient populations that are specifically approved by the FDA. These "off-label" uses are common across medical specialties and may constitute an appropriate treatment for some patients in varied circumstances. We have implemented compliance and monitoring policies and procedures, including a process for internal review of promotional materials, to deter the promotion of TAVALISSE for off-label uses. We cannot guarantee that these compliance activities will prevent or timely detect off-label promotion by sales representatives or other personnel in their communications with health care professionals, patients and others, particularly if these activities are concealed from the Company. Regulatory authorities in the United States generally do not regulate the behavior of physicians in their choice of treatments. Regulatory authorities do, however, restrict communications by pharmaceutical companies on the subject of off-label use. If our promotional activities fail to comply with the FDA's regulations or guidelines, we may be subject to warnings from, or enforcement action by, these regulatory authorities. In addition, our failure to follow FDA rules and guidelines relating to promotion and advertising may cause the FDA to issue warning letters or untitled letters, suspend or withdraw an approved product from the market, require a recall or institute fines, which could result in the disgorgement of money, operating restrictions, injunctions or civil or criminal enforcement, and other consequences, any of which could harm our business.

Notwithstanding the regulatory restrictions on off-label promotion, the FDA and other regulatory authorities allow companies to engage in truthful, non-misleading and non-promotional scientific exchange concerning their products. We engage in medical education activities and communicate with investigators and potential investigators regarding our clinical trials. If the FDA or other regulatory or enforcement authorities determine that our communications regarding our marketed product are not in compliance with the relevant regulatory requirements and that we have improperly promoted off-label uses, or that our communications regarding our investigational products are not in compliance with the relevant regulatory requirements and that we have improperly engaged in pre-approval promotion, we may be subject to significant liability, including civil and administrative remedies as well as criminal sanctions.

***Enacted or future legislation, including potentially unfavorable pricing regulations or other healthcare reform initiatives, may increase the difficulty and cost for us to obtain regulatory approval of our product candidates and /or commercialize fostamatinib or our product candidates, once approved, and affect the prices we may set or obtain.\****

The regulations that govern, among other things, regulatory approvals, coverage, pricing and reimbursement for new drug products vary widely from country to country. In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay regulatory approval of our product candidates, restrict or regulate post-approval activities and affect our ability to successfully sell fostamatinib or any product candidates for which we obtain regulatory approval in the future. In particular, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively, the Affordable Care Act, was enacted, which substantially changes the way health care is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The Affordable Care Act and its implementing regulations, among other things, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs and biologics, including our approved product and product candidates, that are inhaled, infused, instilled, implanted or injected, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate Program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, provided incentives to programs that increase the federal government's comparative effectiveness research and established a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (and 70% starting January 1, 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D.

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Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least \$1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments, will remain 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, or the ATRA, which, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

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

- the demand for fostamatinib or our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

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

Since its enactment, there have been judicial and Congressional challenges to numerous provisions of the Affordable Care Act, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act. Since January 2017, President Trump has signed two Executive Orders designed to delay the implementation of certain provisions of the Affordable Care Act or otherwise circumvent some of the requirements for health insurance mandated by the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Affordable Care Act. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the Affordable Care Act have been enacted. 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 Affordable Care Act 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, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain mandated fees under the Affordable Care Act, 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 Affordable Care Act, effective January 1, 2019, to increase from 50 percent to 70 percent 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". More recently, in July 2018, the Centers for Medicare and Medicaid Services, or CMS, published a final rule permitting further collections and payments to and from certain Affordable Care Act qualified health plans and health insurance issuers under the Affordable Care Act risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. Congress may consider other legislation to repeal and replace elements of the Affordable Care Act. Any repeal and replace legislation may have the effect of limiting the amounts that government agencies will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressure, or may lead to significant deregulation, which could make the introduction of

competing products and technologies much easier. Policy changes, including potential modification or repeal of all or parts of the Affordable Care Act or the implementation of new health care legislation could result in significant changes to the health care system, which could have a material adverse effect on our business, results of operations and financial condition.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the regulatory approvals of our product candidates, if any, may be.

In the United States, the European Union and other potentially significant markets for our current and future products, government authorities and third-party payors are increasingly attempting to limit or regulate the price of medical products and services, particularly for new and innovative products and therapies, which has resulted in lower average selling prices. For example, in the United States, there have been several recent Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. Further, the Trump administration released a "Blueprint", or plan, to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase drug manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products, and reduce the out of pocket costs of drug products paid by consumers. The United States Department of Health and Human Services has already started the process of soliciting feedback on some of these measures while concurrently implementing others under its existing authority. While some proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, to encourage importation from other countries and bulk purchasing. Furthermore, the increased emphasis on managed healthcare in the United States and on country and regional pricing and reimbursement controls in the European Union will put additional pressure on product pricing, reimbursement and usage, which may adversely affect our sales and results of operations. These pressures can arise from rules and practices of managed care groups, judicial decisions and governmental laws and regulations related to Medicare, Medicaid and healthcare reform, pharmaceutical reimbursement policies and pricing in general.

***We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and other federal and state healthcare laws, and the failure to comply with such laws could result in substantial penalties. Our employees, independent contractors, consultants, principal investigators, CROs, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.\****

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payers and customers, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell and distribute any product for which we have obtained regulatory approval, or for which we obtain regulatory approval in the future. In particular, the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare 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, including off-label uses of our products, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use or

misrepresentation of information obtained in the course of patient recruitment for clinical trials, creating fraudulent data in our preclinical studies or clinical trials or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. The laws that may affect our ability to operate include, but are not limited to:

- the Federal Anti-Kickback Statute, which prohibits, among other things, individuals and entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- federal civil and criminal false claims laws and civil monetary penalty laws, including the federal civil False Claims Act, which impose criminal and civil penalties, through government or civil whistleblower, or qui tam, actions, on individuals and entities for, among other things, knowingly presenting, or causing to be presented, claims for payment or approval from the federal government, including federal healthcare programs, such as Medicare, Medicaid that are false, fictitious or fraudulent, or knowingly making, using or causing to be made or used, a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. Entities can be held liable under the federal civil False Claims Act if they are deemed to “cause” the submission of false or fraudulent claims by, for example, providing inaccurate billing or coding information to customers, promoting a product off label, or for providing medically unnecessary services or items. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the Federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private), willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false, fictitious or fraudulent statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses, as well as their respective business associates that perform services for them that involve the creation, use, maintenance or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization;
- the federal physician payment transparency requirements, sometimes referred to as the “Physician Payments Sunshine Act,” created under the Affordable Care Act, and its implementing regulations, which require certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children’s Health Insurance Program (with certain exceptions) to report annually to CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- the U.S. Federal Food, Drug and Cosmetic Act, or FDCA, which prohibits, among other things, the adulteration or misbranding of drugs and medical devices; and



- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we are subject to state and foreign equivalents of each of the healthcare fraud and abuse laws described above, among others, some of which may be broader in scope and may apply regardless of the payor. We may also be subject to : state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state laws that restrict payments that may be made to healthcare providers; state laws that require pharmaceutical manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; state and local laws that require the registration of pharmaceutical sales representatives; and equivalent foreign laws and regulations. Further, we may be subject to state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

We are also exposed to the risk of fraud, misconduct or other illegal activity by our employees, independent contractors, consultants, principal investigators, CROs, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with the laws of the FDA and other similar foreign regulatory bodies; provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies; comply with manufacturing standards we have established; comply with federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations in the United States and similar foreign fraudulent misconduct laws; or report financial information or data accurately or to disclose unauthorized activities to us. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent inappropriate conduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

We are also subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. Efforts to ensure that our business arrangements will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and 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 civil, criminal and administrative penalties, damages, disgorgement, monetary fines, individual imprisonment, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. In addition, the approval and commercialization of any of our product candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

***Even for those product candidates that have or may receive regulatory approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors and others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable. \****

For our product candidates that have or may receive regulatory approval, they may nonetheless fail to gain sufficient market acceptance by physicians, hospital administrators, patients, healthcare payors and others in the medical community. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including the following:

- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these

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- therapies;
- the willingness of physicians to change their current treatment practices;
- the willingness of hospitals and hospital systems to include our product candidates as treatment options;
- demonstration of efficacy and safety in clinical trials;
- the prevalence and severity of any side effects;
- the ability to offer product candidates for sale at competitive prices;
- the price we charge for our product candidates;
- the strength of marketing and distribution support; and
- the availability of third-party coverage and adequate reimbursement.

Efforts to educate the physicians, patients, healthcare payors and others in the medical community on the benefits of our product candidates may require significant resources and may not be successful. If any of our product candidates are approved, if at all, but do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable on a sustained basis.

***We rely and may continue to rely on a single distribution facility for the sale of TAVALISSE™ (fostamatinib disodium hexahydrate) and potential sale of any of our product candidates.\****

Our distribution operations for the sale of TAVALISSE is concentrated in a single distribution center owned by a third party logistics provider. Our distribution operations, if and when we launch any of our product candidate in the future, may also be concentrated in a single distribution center owned by a third party logistics provider. Any significant disruption in the operation of the facility due to natural disaster or severe weather, or events such as fire, accidents, power outages, system failures, or other unforeseen causes, could devalue or damage a significant portion of our inventories and could adversely affect our product distribution and sales until such time as we could secure an alternative facility. If we encounter difficulties with our distribution facility or other problems or disasters arise, we cannot ensure that critical systems and operations will be restored in a timely manner or at all, and this would have a material adverse effect on our business. In addition, growth could require us to further expand our current facility, which could affect us adversely in ways that we cannot predict.

***We lack the capability to manufacture compounds for clinical development and we intend to rely on third parties for commercial supply, manufacturing and distribution if any of our product candidates which receive regulatory approval and we may be unable to obtain required material or product in a timely manner, at an acceptable cost or at a quality level required to receive regulatory approval.***

We currently do not have the manufacturing capabilities or experience necessary to produce TAVALISSE (fostamatinib disodium hexahydrate) or any product candidates for clinical trials, including fostamatinib in AIHA and IgAN. We currently use one manufacturer of fostamatinib. We do not currently have, nor do we plan to acquire the infrastructure or capability to supply, manufacture or distribute preclinical, clinical or commercial quantities of drug substances or products. For each clinical trial of our unpartnered product candidates, we rely on third-party manufacturers for the active pharmaceutical ingredients, as well as various manufacturers to manufacture starting components, excipients and formulated drug products. Our ability to develop our product candidates, and our ability to commercially supply our products will depend, in part, on our ability to successfully obtain the APIs and other substances and materials used in our product candidates from third parties and to have finished products manufactured by third parties in accordance with regulatory requirements and in sufficient quantities for preclinical and clinical testing and commercialization. If we fail to develop and maintain supply relationships with these third parties, we may be unable to continue to develop or commercialize our product candidates.

We rely and will continue to rely on certain third parties as the sole source of the materials they supply or the finished products they manufacture. The drug substances and other materials used in our product candidates are currently available only from one or a limited number of supplier or manufacturer and certain of our finished product candidates are manufactured by one or a limited number of contract manufacturers. Any of these existing supplier or manufacturer may:

- fail to supply us with product on a timely basis or in the requested amount due to unexpected damage to or destruction of facilities or equipment or otherwise;
- fail to increase manufacturing capacity and produce drug product and components in larger quantities and at higher yields in a timely or cost-effective manner, or at all, to sufficiently meet our commercial needs;
- be unable to meet our production demands due to issues related to their reliance on sole-source suppliers and manufacturers;
- supply us with product that fails to meet regulatory requirements;
- become unavailable through business interruption or financial insolvency;
- lose regulatory status as an approved source;
- be unable or unwilling to renew current supply agreements when such agreements expire on a timely basis, on acceptable terms or at all; or
- discontinue production or manufacturing of necessary drug substances or products.

Our current and anticipated future dependence upon these third-party manufacturers may adversely affect our ability to develop and commercialize product candidates on a timely and competitive basis, which could have a material adverse effect on sales, results of operations and financial condition. If we were required to transfer manufacturing processes to other third-party manufacturers and we were able to identify an alternative manufacturer, we would still need to satisfy various regulatory requirements. Satisfaction of these requirements could cause us to experience significant delays in receiving an adequate supply of our products and products in development and could be costly. Moreover, we may not be able to transfer processes that are proprietary to the manufacturer, if any. These manufacturers may not be able to produce material on a timely basis or manufacture material at the quality level or in the quantity required to meet our development timelines and applicable regulatory requirements and may also experience a shortage in qualified personnel. We may not be able to maintain or renew our existing third-party manufacturing arrangements, or enter into new arrangements, on acceptable terms, or at all. Our third-party manufacturers could terminate or decline to renew our manufacturing arrangements based on their own business priorities, at a time that is costly or inconvenient for us. If we are unable to contract for the production of materials in sufficient quantity and of sufficient quality on acceptable terms, our planned clinical trials may be significantly delayed. Manufacturing delays could postpone the filing of our IND applications and/or the initiation or completion of clinical trials that we have currently planned or may plan in the future.

Drug manufacturers are subject to ongoing periodic unannounced inspection by the FDA, the Drug Enforcement Administration, and other federal and state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. We do not have control over third-party manufacturers' compliance with these regulations and standards and they may not be able to comply. Switching manufacturers may be difficult because the number of potential manufacturers is limited. It may be difficult or impossible for us to find a replacement manufacturer quickly on acceptable terms, or at all. Additionally, if we are required to enter into new supply arrangements, we may not be able to obtain approval from the FDA of any alternate supplier in a timely manner, or at all, which could delay or prevent the clinical development and commercialization of any related product candidates. Failure of our third-party manufacturers or us to comply with applicable regulations could result in sanctions being imposed on us, including fines, civil penalties, delays in or failure to grant marketing approval of our product candidates,

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injunctions, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products and compounds, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect our business.

***Forecasting potential sales for any of our product candidates will be difficult, and if our projections are inaccurate, our business may be harmed and our stock price may be adversely affected.***

Our business planning requires us to forecast or make assumptions regarding product demand and revenues for any of our product candidates if they are approved despite numerous uncertainties. These uncertainties may be increased if we rely on our collaborators or other third parties to conduct commercial activities in certain geographies and provide us with accurate and timely information. Actual results may differ materially from projected results for various reasons, including the following, as well as risks identified in other risk factors:

- the efficacy and safety of any of our product candidates, including as relative to marketed products and product candidates in development by third parties;
- pricing (including discounting or other promotions), reimbursement, product returns or recalls, competition, labeling, adverse events and other items that impact commercialization;
- the rate of adoption in the particular market, including fluctuations in demand for various reasons;
- lack of patient and physician familiarity with the drug;
- lack of patient use and physician prescribing history;
- lack of commercialization experience with the drug;
- actual sales to patients may significantly differ from expectations based on sales to wholesalers; and
- uncertainty relating to when the drug may become commercially available to patients and rate of adoption in other territories.

We expect that our revenues from sales of any of our product candidates will continue to be based in part on estimates, judgment and accounting policies. Any incorrect estimates or disagreements with regulators or others regarding such estimates or accounting policies may result in changes to our guidance, projections or previously reported results. Expected and actual product sales and quarterly and other results may greatly fluctuate, including in the near-term, and such fluctuations can adversely affect the price of our common stock, perceptions of our ability to forecast demand and revenues, and our ability to maintain and fund our operations.

***We might not be able to commercialize our product candidates successfully if problems arise in the clinical testing and approval process.\****

Commercialization of our product candidates depends upon successful completion of extensive preclinical studies and clinical trials to demonstrate their safety and efficacy for humans. Preclinical testing and clinical development are long, expensive and uncertain processes.

In connection with clinical trials of our product candidates, we face the risks that:

- the product candidate may not prove to be effective;
- the product candidate may cause harmful side effects;
- the clinical results may not replicate the results of earlier, smaller trials;

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- we, or the FDA or similar foreign regulatory authorities, may terminate or suspend the trials;
- our results may not be statistically significant;
- patient recruitment and enrollment may be slower than expected;
- patients may drop out of the trials; and
- regulatory and clinical trial requirements, interpretations or guidance may change.

We do not know whether we will be permitted to undertake clinical trials of potential products beyond the trials already concluded and the trials currently in process. It will take us, or our collaborative partners several years to complete any such testing, and failure can occur at any stage of testing. Interim results of trials do not necessarily predict final results, and acceptable results in early trials may not be repeated in later trials. A number of companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in advanced clinical trials, even after achieving promising results in earlier trials. For example, in April 2018, we announced that our Phase 2 clinical trial in patients with IgAN did not achieve statistical significance for its primary endpoint, which was mean change in proteinuria comparing fostamatinib dose groups to placebo controls in all patients studied.

We cannot assure you that we will be able to successfully complete the clinical development of our product candidates or receive regulatory approval to ultimately commercialize any of our other product candidates. For example, if we are unable to successfully commercialize fostamatinib, our business will be harmed.

***Any product for which we have obtained regulatory approval, or for which we obtain approval in the future, is subject to, or will be subject to, extensive ongoing regulatory requirements by the FDA, European Medicines Agency (EMA) and other comparable regulatory authorities, and if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, we may be subject to penalties, we will be unable to generate revenue from the sale of such products, our potential for generating positive cash flow will be diminished, and the capital necessary to fund our operations will be increased.\****

In April 2018, we announced that the FDA had approved TAVALISSE™ (fostamatinib disodium hexahydrate) for the treatment of thrombocytopenia in adult patients with chronic ITP who have had insufficient response to previous treatment. We launched fostamatinib in the United States on our own in late May 2018. We plan to enter into partnerships with third parties to commercialize fostamatinib in Europe and Asia. Any product for which we have obtained regulatory approval, or for which we obtain regulatory approval in the future, along with the manufacturing processes and practices, post-approval clinical research, product labeling, advertising and promotional activities for such product, are subject to continual requirements of, and review by, the FDA, the EMA and other comparable international regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, current good manufacturing practices (cGMP) requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians, import and export requirements and recordkeeping.

Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we will not be able to promote any products we develop for indications or uses for which they are not approved.

In addition, the FDA often requires post-marketing testing and surveillance to monitor the effects of products. The FDA, the EMA and other comparable international regulatory agencies may condition approval of our product candidates on the completion of such post-marketing clinical studies. These post-marketing studies may suggest that a product causes undesirable side effects or may present a risk to the patient. Additionally, the FDA may require Risk Evaluation and Mitigation Strategies, or REMS, to help ensure that the benefits of the drug outweigh its risks. A REMS may be required to include various elements, such as a medication guide or patient package insert, a communication plan to educate healthcare providers of the drug's risks, limitations on who may prescribe or dispense the drug, requirements

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that patients enroll in a registry or undergo certain health evaluations or other measures that the FDA deems necessary to ensure the safe use of the drug.

Discovery after approval of previously unknown problems with any of our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in actions such as:

- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on product manufacturing processes;
- restrictions on the marketing of a product;
- restrictions on product distribution;
- requirements to conduct post-marketing clinical trials;
- untitled or warning letters or other adverse publicity;
- withdrawal of products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- refusal to permit the import or export of our products;
- product seizure;
- fines, restitution or disgorgement of profits or revenue;
- refusal to allow us to enter into supply contracts, including government contracts;
- injunctions; or
- imposition of civil or criminal penalties.

If such regulatory actions are taken, the value of our company and our operating results will be adversely affected. Additionally, if the FDA, the EMA or any other comparable international regulatory agency withdraws its approval of a product that is or may be approved, we will be unable to generate revenue from the sale of that product in the relevant jurisdiction, our potential for generating positive cash flow will be diminished and the capital necessary to fund our operations will be increased. Accordingly, we continue to expend significant time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance, post-marketing studies and quality control.

***If we are unable to obtain regulatory approval to market products in the United States and foreign jurisdictions, we will not be permitted to commercialize products we or our collaborative partners may develop.***

We cannot predict whether regulatory clearance will be obtained for any product that we, or our collaborative partners, hope to develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Of particular significance to us are the requirements relating to research and development and testing.

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Before commencing clinical trials in humans in the United States, we, or our collaborative partners, will need to submit and receive approval from the FDA of an investigational new drug (IND) application. Clinical trials are subject to oversight by institutional review boards and the FDA and:

- must be conducted in conformance with the FDA's good clinical practices and other applicable regulations;
- must meet requirements for institutional review board oversight;
- must meet requirements for informed consent;
- are subject to continuing FDA and regulatory oversight;
- may require large numbers of test subjects; and
- may be suspended by us, our collaborators or the FDA at any time if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the IND or the conduct of these trials.

While we have stated that we intend to file additional INDs for future product candidates, this is only a statement of intent, and we may not be able to do so because we may not be able to identify potential product candidates. In addition, the FDA may not approve any IND we or our collaborative partners may submit in a timely manner, or at all.

Before receiving FDA approval to market a product, we must demonstrate with substantial clinical evidence that the product is safe and effective in the patient population and the indication that will be treated. Data obtained from preclinical and clinical activities are susceptible to varying interpretations that could delay, limit or prevent regulatory approvals. In addition, delays or rejections may be encountered based upon additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. Failure to comply with applicable FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, total or partial suspension of production or injunction, adverse publicity, as well as other regulatory action against our potential products or us. Additionally, we have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approval.

If regulatory approval of a product is granted, this approval will be limited to those indications or disease states and conditions for which the product is demonstrated through clinical trials to be safe and efficacious. We cannot assure you that any compound developed by us, alone or with others, will prove to be safe and efficacious in clinical trials and will meet all of the applicable regulatory requirements needed to receive marketing approval.

Outside the United States, our ability, or that of our collaborative partners, to market a product is contingent upon receiving a marketing authorization from the appropriate regulatory authorities. This foreign regulatory approval process typically includes all of the risks and costs associated with FDA approval described above and may also include additional risks and costs, such as the risk that such foreign regulatory authorities, which often have different regulatory and clinical trial requirements, interpretations and guidance from the FDA, may require additional clinical trials or results for approval of a product candidate, any of which could result in delays, significant additional costs or failure to obtain such regulatory approval. For example, there can be no assurance that we or our collaborative partners will not have to provide additional information or analysis, or conduct additional clinical trials, before receiving approval to market product candidates.

### ***We will need additional capital in the future to sufficiently fund our operations and research.\****

We have consumed substantial amounts of capital to date as we continue our research and development activities, including preclinical studies and clinical trials and our preparation for the commercial launch of TAVALISSE™ (fostamatinib disodium hexahydrate). We may seek another collaborator or licensee in the future for further clinical development and commercialization of fostamatinib, as well as our other clinical programs, which we may not be able to obtain on commercially reasonable terms or at all. We also continue to evaluate ex-U.S. partnerships

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for fostamatinib and other partnering opportunities across our pipeline. We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including the commercial launch of TAVALISSE in the U.S. in late May 2018, through at least the next 12 months from the Form 10-Q filing date. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with commercial launch, the development of our product candidates and other research and development activities, we are unable to estimate with certainty our future product revenues, our revenues from our current and future collaborative partners, the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials and other research and development activities.

We will continue to need additional capital and the amount of future capital needed will depend largely on the success of our commercial launch of TAVALISSE and the success of our internally developed programs as they proceed in later and more expensive clinical trials, including any additional clinical trials that we may decide to conduct with respect to fostamatinib. Unless and until we are able to generate a sufficient amount of product, royalty or milestone revenue, which may never occur, we expect to finance future cash needs through public and/or private offerings of equity securities, debt financings or collaboration and licensing arrangements, as well as through proceeds from exercise of stock options and interest income earned on the investment of our cash balances and short-term investments. With the exception of product sales from TAVALISSE, contingent and royalty payments that we may receive under our existing collaborations, we do not currently have any commitments for future funding. We do not know whether additional financing will be available when needed, or that, if available, we will obtain financing on reasonable terms. To the extent we raise additional capital by issuing equity securities in the future, our stockholders could at that time experience substantial dilution. In addition, we have a significant number of stock options outstanding. To the extent that outstanding stock options have been or may be exercised or other shares issued, our stockholders may experience further dilution. Further, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans, including through an “at-the-market” equity offering program. Any debt financing that we are able to obtain may involve operating covenants that restrict our business. To the extent that we raise additional funds through any new collaboration and licensing arrangements, we may be required to relinquish some rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us.

***Our future funding requirements will depend on many uncertain factors.\****

Our future funding requirements will depend upon many factors, many of which are beyond our control, including, but not limited to:

- the costs to commercialize fostamatinib for the treatment of ITP in the United States, or any other future product candidates, if any such candidate receives regulatory approval for commercial sale;
- the progress and success of clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- the costs and timing of regulatory filings and approvals by us and our collaborators;
- the progress of research and development programs carried out by us and our collaborative partners;
- any changes in the breadth of our research and development programs;
- the ability to achieve the events identified in our collaborative agreements that may trigger payments to us from our collaboration partners;
- our ability to acquire or license other technologies or compounds that we may seek to pursue;
- our ability to manage our growth;



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- competing technological and market developments;
- the costs and timing of obtaining, enforcing and defending our patent and other intellectual property rights; and
- expenses associated with any unforeseen litigation, including any securities class action lawsuits.

Insufficient funds may require us to delay, scale back or eliminate some or all of our commercial efforts and/or research and development programs, to reduce personnel and operating expenses, to lose rights under existing licenses or to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose or may adversely affect our ability to operate as a going concern.

***There is a high risk that drug discovery and development efforts might not generate successful product candidates.***

At the present time, a significant portion of our operations are focused on various stages of drug identification and development. We currently have various product candidates in the clinical testing stage. In our industry, it is statistically unlikely that the limited number of compounds that we have identified as potential product candidates will actually lead to successful product development efforts. We have invested a significant portion of our efforts and financial resources into the development of fostamatinib. Our ability to generate product revenue, which will not occur until after regulatory approval, if ever, will depend on the successful development, regulatory approval and eventual commercialization of one of our product candidates.

Our compounds in clinical trials and our future leads for potential drug compounds are subject to the risks and failures inherent in the development of pharmaceutical products. These risks include, but are not limited to, the inherent difficulty in selecting the right drug and drug target and avoiding unwanted side effects, as well as unanticipated problems relating to product development, testing, enrollment, obtaining regulatory approvals, maintaining regulatory compliance, manufacturing, competition and costs and expenses that may exceed current estimates. In future clinical trials, we or our partners may discover additional side effects and/or higher frequency of side effects than those observed in previously completed clinical trials. The results of preliminary and mid-stage clinical trials do not necessarily predict clinical or commercial success, and larger later-stage clinical trials may fail to confirm the results observed in the previous clinical trials. Similarly, a clinical trial may show that a product candidate is safe and effective for certain patient populations in a particular indication, but other clinical trials may fail to confirm those results in a subset of that population or in a different patient population, which may limit the potential market for that product candidate. With respect to our own compounds in development, we have established anticipated timelines with respect to the initiation of clinical trials based on existing knowledge of the compounds. However, we cannot provide assurance that we will meet any of these timelines for clinical development. Additionally, the initial results of a completed earlier clinical trial of a product candidate do not necessarily predict final results and the results may not be repeated in later clinical trials.

Because of the uncertainty of whether the accumulated preclinical evidence (pharmacokinetic, pharmacodynamic, safety and/or other factors) or early clinical results will be observed in later clinical trials, we can make no assurances regarding the likely results from our future clinical trials or the impact of those results on our business. If our clinical trials fail to meet the primary efficacy endpoints, the commercial prospects of our business may be harmed, our ability to generate product revenues may be delayed or eliminated or we may be forced to undertake other strategic alternatives that are in our shareholders' best interests, including cost reduction measures. If we are unable to obtain adequate financing or engage in a strategic transaction on commercially reasonable terms or at all, we may be required to implement further cost reduction strategies which could significantly impact activities related to our commercial efforts and/or research and development of our future product candidates, and could significantly harm our business, financial condition and results of operations. In addition, these cost reduction strategies could cause us to further curtail our operations or take other actions that would adversely impact our shareholders.

***Delays in clinical testing could result in increased costs to us.***

We may not be able to initiate or continue clinical studies or trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these clinical trials as required by the FDA or

other regulatory authorities. Even if we are able to enroll a sufficient number of patients in our clinical trials, if the pace of enrollment is slower than we expect, the development costs for our product candidates may increase and the completion of our clinical trials may be delayed or our clinical trials could become too expensive to complete. Significant delays in clinical testing could materially impact our product development costs and timing. Our estimates regarding timing are based on a number of assumptions, including assumptions based on past experience with our other clinical programs. If we are unable to enroll the patients in these trials at the projected rate, the completion of the clinical program could be delayed and the costs of conducting the program could increase, either of which could harm our business.

Clinical trials can be delayed for a variety of reasons, including delays in obtaining regulatory approval to commence a study, delays from scaling up of a study, delays in reaching agreement on acceptable clinical trial agreement terms with prospective clinical sites, delays in obtaining institutional review board approval to conduct a study at a prospective clinical site or delays in recruiting subjects to participate in a study. In addition, we typically rely on third-party clinical investigators to conduct our clinical trials and other third-party organizations to oversee the operations of such trials and to perform data collection and analysis. The clinical investigators are not our employees, and we cannot control the amount or timing of resources that they devote to our programs. Failure of the third-party organizations to meet their obligations could adversely affect clinical development of our products. As a result, we may face additional delaying factors outside our control if these parties do not perform their obligations in a timely fashion. For example, any number of those issues could arise with our clinical trials causing a delay. Delays of this sort could occur for the reasons identified above or other reasons. If we have delays in conducting the clinical trials or obtaining regulatory approvals, our product development costs will increase. For example, we may need to make additional payments to third-party investigators and organizations to retain their services or we may need to pay recruitment incentives. If the delays are significant, our financial results and the commercial prospects for our product candidates will be harmed, and our ability to become profitable will be delayed. Moreover, these third-party investigators and organizations may also have relationships with other commercial entities, some of which may compete with us. If these third-party investigators and organizations assist our competitors at our expense, it could harm our competitive position.

***We have obtained orphan drug designation from the FDA for fostamatinib for the treatment of ITP and AIHA, but we may not be able to obtain or maintain orphan drug designation or exclusivity for fostamatinib for the treatment of ITP, warm AIHA or our other product candidates, or we may be unable to maintain the benefits associated with orphan drug designation, including the potential for market exclusivity.***

We have obtained orphan drug designation in the United States for fostamatinib for the treatment of ITP and AIHA. We may seek orphan drug designation for other product candidates in the future. Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biologic intended to treat a rare disease or condition, which is defined as one occurring in a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. In addition, if a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including a full NDA, to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or where the manufacturer is unable to assure sufficient product quantity.

We cannot assure you that any future application for orphan drug designation with respect to any other product candidate will be granted. If we are unable to obtain orphan drug designation with respect to other product candidates in the United States, we will not be eligible to obtain the period of market exclusivity that could result from orphan drug designation or be afforded the financial incentives associated with orphan drug designation. Even though we have received orphan drug designation for fostamatinib for the treatment of ITP and warm AIHA, we may not be the first to obtain marketing approval for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products. In addition, exclusive marketing rights in the United States for fostamatinib for the treatment of ITP, AIHA or any future product candidate may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Even after an orphan product is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is safer, more effective, or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

***Our research and development efforts will be seriously jeopardized if we are unable to attract and retain key employees and relationships.***

As a small company, our success depends on the continued contributions of our principal management and scientific personnel and on our ability to develop and maintain important relationships with leading academic institutions, scientists and companies in the face of intense competition for such personnel. In particular, our research programs depend on our ability to attract and retain highly skilled chemists, other scientists, and development, regulatory and clinical personnel. If we lose the services of any of our key personnel, our research and development efforts could be seriously and adversely affected. Our employees can terminate their employment with us at any time.

***Our success as a company is uncertain due to our history of operating losses and the uncertainty of any future profitability.\****

We incurred a loss from operations of approximately \$50.8 million for the six months ended June 30, 2018. Other than for 2010, we have historically incurred losses from operations each year since we were incorporated in June 1996, due in large part to the significant research and development expenditures required to identify and validate new product candidates and pursue our development efforts, and recently our significant expenses related to the costs of our ongoing commercial launch of TAVALISSE (fostamatinib disodium hexahydrate). We expect to continue to incur losses from operations, at least in the next twelve months, and there can be no assurance that we will generate operating income in the foreseeable future. Currently, our potential sources of revenues are our sales of TAVALISE, upfront payments, research and development contingent payments and royalty payments pursuant to our collaboration arrangements, which may never materialize if our collaborators do not achieve certain events or generate net sales to which these contingent payments are dependent on. If our future drug candidates fail or do not gain regulatory approval, or if our drugs do not achieve market acceptance, we may not be profitable. As of June 30, 2018, we had an accumulated deficit of approximately \$1.2 billion. The extent of our future losses or profitability, if any, is highly uncertain.

***If our corporate collaborations or license agreements are unsuccessful, or if we fail to form new corporate collaborations or license agreements, our research and development efforts could be delayed.***

Our strategy depends upon the formation and sustainability of multiple collaborative arrangements and license agreements with third parties now and in the future. We rely on these arrangements for not only financial resources, but also for expertise we need now and in the future relating to clinical trials, manufacturing, sales and marketing, and for licenses to technology rights. To date, we have entered into several such arrangements with corporate collaborators; however, we do not know if these collaborations or additional collaborations with third parties, if any, will dedicate sufficient resources or if any development or commercialization efforts by third parties will be successful. In addition, our corporate collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a drug candidate or development program. Should a collaborative partner fail to develop or

commercialize a compound or product to which it has rights from us for any reason, including corporate restructuring, such failure might delay our ongoing research and development efforts, because we might not receive any future payments, and we would not receive any royalties associated with such compound or product. We conducted a Phase 3 clinical program to study fostamatinib in ITP on our own. We may seek another collaborator or licensee in the future for clinical development and commercialization of fostamatinib, as well as our other clinical programs, which we may not be able to obtain on commercially reasonable terms or at all. If we are unable to form new collaborations or enter into new license agreements, our research and development efforts could be delayed. In addition, the continuation of some of our partnered drug discovery and development programs may be dependent on the periodic renewal of our corporate collaborations.

Each of our collaborations could be terminated by the other party at any time, and we may not be able to renew these collaborations on acceptable terms, if at all, or negotiate additional corporate collaborations on acceptable terms, if at all. If these collaborations terminate or are not renewed, any resultant loss of revenues from these collaborations or loss of the resources and expertise of our collaborative partners could adversely affect our business.

Conflicts also might arise with collaborative partners concerning proprietary rights to particular compounds. While our existing collaborative agreements typically provide that we retain milestone payments and royalty rights with respect to drugs developed from certain derivative compounds, any such payments or royalty rights may be at reduced rates, and disputes may arise over the application of derivative payment provisions to such drugs, and we may not be successful in such disputes. Additionally, the management teams of our collaborators may change for various reasons including due to being acquired. Different management teams or an acquiring company of our collaborators may have different priorities which may have adverse results on the collaboration with us.

We are also a party to various license agreements that give us rights to use specified technologies in our research and development processes. The agreements pursuant to which we have in-licensed technology permit our licensors to terminate the agreements under certain circumstances. If we are not able to continue to license these and future technologies on commercially reasonable terms, our product development and research may be delayed or otherwise adversely affected.

***If conflicts arise between our collaborators or advisors and us, any of them may act in their self-interest, which may be adverse to our stockholders' interests.***

If conflicts arise between us and our corporate collaborators or scientific advisors, the other party may act in its self-interest and not in the interest of our stockholders. Some of our corporate collaborators are conducting multiple product development efforts within each disease area that is the subject of the collaboration with us or may be acquired or merged with a company having a competing program. In some of our collaborations, we have agreed not to conduct, independently or with any third party, any research that is competitive with the research conducted under our collaborations. Our collaborators, however, may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of these collaborations. Competing products, either developed by our collaborators or to which our collaborators have rights, may result in their withdrawal of support for our product candidates.

If any of our corporate collaborators were to breach or terminate its agreement with us or otherwise fail to conduct the collaborative activities successfully and in a timely manner, the preclinical or clinical development or commercialization of the affected product candidates or research programs could be delayed or terminated. We generally do not control the amount and timing of resources that our corporate collaborators devote to our programs or potential products. We do not know whether current or future collaborative partners, if any, might pursue alternative technologies or develop alternative products either on their own or in collaboration with others, including our competitors, as a means for developing treatments for the diseases targeted by collaborative arrangements with us.

***Our success is dependent on intellectual property rights held by us and third parties, and our interest in such rights is complex and uncertain.\****

Our success will depend to a large part on our own, our licensees' and our licensors' ability to obtain and defend patents for each party's respective technologies and the compounds and other products, if any, resulting from the application of such technologies. As of June 30, 2018, we had 57 pending patent applications and 382 issued and active patents in the United States, as well as corresponding pending foreign patent applications and issued foreign patents. In the future, our patent position might be highly uncertain and involve complex legal and factual questions. For example, we may be involved in post-grant proceedings before the United States Patent and Trademark Office. Post-grant proceedings are complex and expensive legal proceedings and there is no assurance we will be successful in any such proceedings. A post-grant proceeding could result in our losing our patent rights and/or our freedom to operate and/or require us to pay significant royalties. Additional uncertainty may result because no consistent policy regarding the breadth of legal claims allowed in biotechnology patents has emerged to date. Accordingly, we cannot predict the breadth of claims allowed in our or other companies' patents.

Because the degree of future protection for our proprietary rights is uncertain, we cannot assure you that:

- we were the first to make the inventions covered by each of our pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our pending patent applications will result in issued patents;
- any patents issued to us or our collaborators will provide a basis for commercially-viable products or will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies that are patentable; or
- the patents of others will not have a negative effect on our ability to do business.

We rely on trade secrets to protect technology where we believe patent protection is not appropriate or obtainable; however, trade secrets are difficult to protect. While we require employees, collaborators and consultants to enter into confidentiality agreements, we may not be able to adequately protect our trade secrets or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of such information.

We are a party to certain in-license agreements that are important to our business, and we generally do not control the prosecution of in-licensed technology. Accordingly, we are unable to exercise the same degree of control over this intellectual property as we exercise over our internally-developed technology. Moreover, some of our academic institution licensors, research collaborators and scientific advisors have rights to publish data and information in which we have rights. If we cannot maintain the confidentiality of our technology and other confidential information in connection with our collaborations, our ability to receive patent protection or protect our proprietary information may otherwise be impaired. In addition, some of the technology we have licensed relies on patented inventions developed using U.S. government resources.

The U.S. government retains certain rights, as defined by law, in such patents, and may choose to exercise such rights. Certain of our in-licenses may be terminated if we fail to meet specified obligations. If we fail to meet such obligations and any of our licensors exercise their termination rights, we could lose our rights under those agreements. If we lose any of our rights, it may adversely affect the way we conduct our business. In addition, because certain of our licenses are sublicenses, the actions of our licensors may affect our rights under those licenses.

***If a dispute arises regarding the infringement or misappropriation of the proprietary rights of others, such dispute could be costly and result in delays in our research and development activities and partnering.***

Our success will depend, in part, on our ability to operate without infringing or misappropriating the proprietary rights of others. There are many issued patents and patent applications filed by third parties relating to products or processes that are similar or identical to our licensors or ours, and others may be filed in the future. There may also be copyrights or trademarks that third parties hold. There can be no assurance that our activities, or those of our licensors, will not violate intellectual property rights of others. We believe that there may be significant litigation in the industry regarding patent and other intellectual property rights, and we do not know if our collaborators or we would be successful in any such litigation. Any legal action against our collaborators or us claiming damages or seeking to enjoin commercial activities relating to the affected products, our methods or processes could:

- require our collaborators or us to obtain a license to continue to use, manufacture or market the affected products, methods or processes, which may not be available on commercially reasonable terms, if at all;
- prevent us from using the subject matter claimed in the patents held by others;
- subject us to potential liability for damages;
- consume a substantial portion of our managerial and financial resources; and
- result in litigation or administrative proceedings that may be costly, whether we win or lose.

***The recently passed comprehensive tax reform bill could adversely affect our business and financial condition.***

On December 22, 2017, President Trump signed into law new tax legislation, or the Tax Act, which significantly reforms the Internal Revenue Code of 1986, as amended. The Tax Act, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%; limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses); limitation of the deduction for net operating losses generated after 2017 to 80% of current year taxable income, indefinite carryforward of net operating losses and elimination of net operating loss carrybacks; changes in the treatment of offshore earnings regardless of whether they are repatriated; mandatory capitalization of research and development expenses beginning in 2022; immediate deductions for certain new investments instead of deductions for depreciation expense over time; further deduction limits on executive compensation; and modifying, repealing and creating many other business deductions and credits, including the reduction in the orphan drug credit from 50% to 25% of qualifying expenditures. Our federal net operating loss carryovers will be carried forward indefinitely pursuant to the Tax Act. We continue to examine the impact this tax reform legislation may have on our business. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the Tax Act is uncertain and our business and financial condition could be adversely affected. The impact of this tax reform on holders of our common stock is also uncertain and could be adverse. This periodic report does not discuss any such tax legislation or the manner in which it might affect us or our stockholders in the future. We urge our stockholders to consult with their legal and tax advisors with respect to such legislation.

***Our ability to use net operating losses and certain other tax attributes is uncertain and may be limited.***

Our ability to use our federal and state net operating losses to offset potential future taxable income and related income taxes that would otherwise be due is dependent upon our generation of future taxable income before the expiration dates of the net operating losses, and we cannot predict with certainty when, or whether, we will generate sufficient taxable income to use all of our net operating losses. Federal net operating losses generated prior to 2018 will continue to be governed by the net operating loss tax rules as they existed prior to the adoption of the new Tax Act, which means that generally they will expire 20 years after they were generated if not used prior thereto. Many states have similar laws. Accordingly, our federal and state net operating losses could expire unused and be unavailable to offset future income tax liabilities. Under the newly enacted Tax Act, federal net operating losses incurred in 2018 and in future years may be carried forward indefinitely, but the deductibility of such federal net operating losses is limited to

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80% of current year taxable income. It is uncertain if and to what extent various states will conform to the newly enacted federal tax law. In addition, utilization of net operating losses to offset potential future taxable income and related income taxes that would otherwise be due is subject to annual limitations under the “ownership change” provisions of Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (Internal Revenue Code) and similar state provisions, which may result in the expiration of net operating losses before future utilization. In general, under the Code, if a corporation undergoes an “ownership change,” generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation’s ability to use its pre-change net operating losses and other pre-change tax attributes (such as research and development credit carryforwards) to offset its post-change taxable income or taxes may be limited. Our equity offerings and other changes in our stock ownership, some of which are outside of our control, may have resulted or could in the future result in an ownership change. Although we have completed studies to provide reasonable assurance that an ownership change limitation would not apply, we cannot be certain that a taxing authority would reach the same conclusion. If, after a review or audit, an ownership change limitation were to apply, utilization of our domestic net operating losses and tax credit carryforwards could be limited in future periods and a portion of the carryforwards could expire before being available to reduce future income tax liabilities.

***Because we expect to be dependent upon collaborative and license agreements, we might not meet our strategic objectives.***

Our ability to generate revenue in the near term depends on the timing of recognition of certain upfront payments, achievement of certain payment triggering events with our existing collaboration agreements and our ability to enter into additional collaborative agreements with third parties. Our ability to enter into new collaborations and the revenue, if any, that may be recognized under these collaborations is highly uncertain. If we are unable to enter into one or more new collaborations, our business prospects could be harmed, which could have an immediate adverse effect on our ability to continue to develop our compounds and on the trading price of our stock. Our ability to enter into a collaboration may be dependent on many factors, such as the results of our clinical trials, competitive factors and the fit of one of our programs with another company’s risk tolerance, including toward regulatory issues, patent portfolio, clinical pipeline, the stage of the available data, particularly if it is early, overall corporate goals and financial position.

To date, a portion of our revenues have been related to the research or transition phase of each of our collaborative agreements. Such revenues are for specified periods, and the impact of such revenues on our results of operations is at least partially offset by corresponding research costs. Following the completion of the research or transition phase of each collaborative agreement, additional revenues may come only from payments triggered by milestones and/or the achievement of other contingent events, and royalties, which may not be paid, if at all, until certain conditions are met. This risk is heightened due to the fact that unsuccessful research efforts may preclude us from receiving any contingent payments under these agreements. Our receipt of revenues from collaborative arrangements is also significantly affected by the timing of efforts expended by us and our collaborators and the timing of lead compound identification. We have received payments from our collaborations with Aclaris, BMS, AZ, BerGenBio, Janssen Pharmaceutica N.V., a division of Johnson & Johnson, Novartis Pharma A.G., Daiichi, Merck & Co., Inc., Merck Serono and Pfizer. Under many agreements, future payments may not be earned until the collaborator has advanced product candidates into clinical testing, which may never occur or may not occur until some time well into the future. If we are not able to generate revenue under our collaborations when and in accordance with our expectations or the expectations of industry analysts, this failure could harm our business and have an immediate adverse effect on the trading price of our common stock.

Our business requires us to generate meaningful revenue from royalties and licensing agreements. To date, we have not received any revenue from royalties for the commercial sale of drugs, and we do not know when we will receive any such revenue, if at all.

***Securities class action lawsuits or other litigation could result in substantial damages and may divert management’s time and attention from our business.***

We have been subject to class action lawsuits in the past, including a securities class action lawsuit commenced in the United States District Court for the Northern District of California in February 2009, that was ultimately dismissed

in November 2012. However, we may be subject to similar or completely unrelated claims in the future, such as those that might occur if there was to be a change in our corporate strategy. These and other lawsuits are subject to inherent uncertainties, and the actual costs to be incurred relating to the lawsuit will depend upon many unknown factors. The outcome of litigation is necessarily uncertain, and we could be forced to expend significant resources in the defense of such suits, and we may not prevail. Monitoring and defending against legal actions is time-consuming for our management and detracts from our ability to fully focus our internal resources on our business activities. In addition, we may incur substantial legal fees and costs in connection with any such litigation. We have not established any reserves for any potential liability relating to any such potential lawsuits. It is possible that we could, in the future, incur judgments or enter into settlements of claims for monetary damages. A decision adverse to our interests on any such actions could result in the payment of substantial damages, or possibly fines, and could have a material adverse effect on our cash flow, results of operations and financial position.

***Global economic conditions could adversely impact our business.\****

The U.S. government has indicated its intent to alter its approach to international trade policy and in some cases to renegotiate, or potentially terminate, certain existing bilateral or multi-lateral trade agreements and treaties with foreign countries, including the North American Free Trade Agreement (“NAFTA”). In addition, the U.S. government has initiated or is considering imposing tariffs on certain foreign goods. Related to this action, certain foreign governments, including China, have instituted or are considering imposing tariffs on certain U.S. goods. It remains unclear what the U.S. Administration or foreign governments will or will not do with respect to tariffs, NAFTA or other international trade agreements and policies. A trade war or other governmental action related to tariffs or international trade agreements or policies has the potential to disrupt our research activities, affect our suppliers and/or the U.S. economy or certain sectors thereof and, thus, could adversely impact our businesses.

***If our competitors develop technologies that are more effective than ours, our commercial opportunity will be reduced or eliminated.***

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. Many of the drugs that we are attempting to discover will be competing with existing therapies. In addition, a number of companies are pursuing the development of pharmaceuticals that target the same diseases and conditions that we are targeting. For example, there are existing therapies and drug candidates in development for the treatment of ITP that may be alternative therapies to fostamatinib. We face, and will continue to face, intense competition from pharmaceutical and biotechnology companies, as well as from academic and research institutions and government agencies, both in the United States and abroad. Some of these competitors are pursuing the development of pharmaceuticals that target the same diseases and conditions as our research programs. Our major competitors include fully integrated pharmaceutical companies that have extensive drug discovery efforts and are developing novel small-molecule pharmaceuticals. We also face significant competition from organizations that are pursuing the same or similar technologies, including the discovery of targets that are useful in compound screening, as the technologies used by us in our drug discovery efforts.

Competition may also arise from:

- new or better methods of target identification or validation;
- other drug development technologies and methods of preventing or reducing the incidence of disease;
- new small molecules; or
- other classes of therapeutic agents.

Our competitors or their collaborative partners may utilize discovery technologies and techniques or partner with collaborators in order to develop products more rapidly or successfully than we or our collaborators are able to do. Many of our competitors, particularly large pharmaceutical companies, have substantially greater financial, technical and human resources and larger research and development staffs than we do. In addition, academic institutions, government



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agencies and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies and may establish exclusive collaborative or licensing relationships with our competitors.

We believe that our ability to compete is dependent, in part, upon our ability to create, maintain and license scientifically-advanced technology and upon our and our collaborators' ability to develop and commercialize pharmaceutical products based on this technology, as well as our ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary technology or processes and secure sufficient capital resources for the expected substantial time period between technological conception and commercial sales of products based upon our technology. The failure by any of our collaborators or us in any of those areas may prevent the successful commercialization of our potential drug targets.

Many of our competitors, either alone or together with their collaborative partners, have significantly greater experience than we do in:

- identifying and validating targets;
- screening compounds against targets; and
- undertaking preclinical testing and clinical trials.

Accordingly, our competitors may succeed in obtaining patent protection, identifying or validating new targets or discovering new drug compounds before we do.

Our competitors might develop technologies and drugs that are more effective or less costly than any that are being developed by us or that would render our technology and product candidates obsolete and noncompetitive. In addition, our competitors may succeed in obtaining the approval of the FDA or other regulatory agencies for product candidates more rapidly. Companies that complete clinical trials, obtain required regulatory agency approvals and commence commercial sale of their drugs before us may achieve a significant competitive advantage, including certain patent and FDA marketing exclusivity rights that would delay or prevent our ability to market certain products. Any drugs resulting from our research and development efforts, or from our joint efforts with our existing or future collaborative partners, might not be able to compete successfully with competitors' existing or future products or obtain regulatory approval in the United States or elsewhere.

We face and will continue to face intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies, for establishing relationships with academic and research institutions and for licenses to additional technologies. These competitors, either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective than ours.

Our ability to compete successfully will depend, in part, on our ability to:

- identify and validate targets;
- discover candidate drug compounds that interact with the targets we identify;
- attract and retain scientific and product development personnel;
- obtain patent or other proprietary protection for our new drug compounds and technologies; and
- enter commercialization agreements for our new drug compounds.

***Our stock price may be volatile, and our stockholders' investment in our common stock could decline in value.\****

The market prices for our common stock and the securities of other biotechnology companies have been highly volatile and may continue to be highly volatile in the future. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- the progress and success of our clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- our ability to sell TAVALISSE™(fostamatinib disodium hexahydrate) in the United States;
- our ability to enter into ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipeline;
- the receipt or failure to receive the additional funding necessary to conduct our business;
- selling by large stockholders;
- presentations of detailed clinical trial data at medical and scientific conferences and investor perception thereof;
- announcements of technological innovations or new commercial products by our competitors or us;
- developments concerning proprietary rights, including patents;
- developments concerning our collaborations;
- publicity regarding actual or potential medical results relating to products under development by our competitors or us;
- regulatory developments in the United States and foreign countries;
- litigation or arbitration;
- economic and other external factors or other disaster or crisis; and
- period-to-period fluctuations in financial results.

***If we fail to continue to meet the listing standards of Nasdaq, our common stock may be delisted, which could have a material adverse effect on the liquidity of our common stock.***

Our common stock is currently listed on the Nasdaq Global Market. The Nasdaq Stock Market LLC has requirements that a company must meet in order to remain listed on Nasdaq. In particular, Nasdaq rules require us to maintain a minimum bid price of \$1.00 per share of our common stock. If the closing bid price of our common stock were to fall below \$1.00 per share for 30 consecutive trading days or we do not meet other listing requirements, we would fail to be in compliance with Nasdaq listing standards. There can be no assurance that we will continue to meet the minimum bid price requirement, or any other requirement in the future. If we fail to meet the minimum bid price requirement, The Nasdaq Stock Market LLC may initiate the delisting process with a notification letter. If we were to receive such a notification, we would be afforded a grace period of 180 calendar days to regain compliance with the minimum bid price requirement. In order to regain compliance, shares of our common stock would need to maintain a minimum closing bid price of at least \$1.00 per share for a minimum of 10 consecutive trading days. In addition, we may be unable to meet other applicable Nasdaq listing requirements, including maintaining minimum levels of stockholders' equity or market values of our common stock in which case, our common stock could be delisted. If our common stock

were to be delisted, the liquidity of our common stock would be adversely affected and the market price of our common stock could decrease.

***The vote by the United Kingdom (U.K.) electorate in favor of the U.K.'s exit from the European Union (E.U.) could adversely impact our business, results of operations and financial condition.***

The passage of the referendum on the U.K.'s membership in the E.U., referred to as "Brexit," in June 2016 resulted in a determination that the U.K. should exit the E.U. In March 2017, the U.K. government initiated the withdrawal process, with the U.K. scheduled to exit the E.U. by April 2019. Such an exit from the E.U. could cause uncertainty in the credit markets and financial services industry which could result to lower interest paid on certain of our investments and the value of certain securities we hold may decline in the future, which could negatively affect our financial condition, results of operations and cash flow, as well as limit our future access to the capital markets. The Brexit could also cause disruptions to and create uncertainty surrounding the business environment in which we operate. For example, we conduct clinical trials in the U.K. and other E.U. member states. Although the terms of U.K.'s exit from and its future relationship with E.U. are unknown, it is possible that there will be increased regulatory complexities which can disrupt the timing of our clinical trials and regulatory approvals, if any, of our current and future product candidates.

***If product liability lawsuits are successfully brought against us, we may incur substantial liabilities and may be required to limit commercialization of our products.***

The testing and marketing of medical products and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our products. We carry product liability insurance that is limited in scope and amount and may not be adequate to fully protect us against product liability claims. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of pharmaceutical products we develop, alone or with corporate collaborators. We, or our corporate collaborators, might not be able to obtain insurance at a reasonable cost, if at all. While under various circumstances we are entitled to be indemnified against losses by our corporate collaborators, indemnification may not be available or adequate should any claim arise.

***We depend on various scientific consultants and advisors for the success and continuation of our research and development efforts.***

We work extensively with various scientific consultants and advisors. The potential success of our drug discovery and development programs depends, in part, on continued collaborations with certain of these consultants and advisors. We, and various members of our management and research staff, rely on certain of these consultants and advisors for expertise in our research, regulatory and clinical efforts. Our scientific advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We do not know if we will be able to maintain such consulting agreements or that such scientific advisors will not enter into consulting arrangements, exclusive or otherwise, with competing pharmaceutical or biotechnology companies, any of which would have a detrimental impact on our research objectives and could have a material adverse effect on our business, financial condition and results of operations.

***If we use biological and hazardous materials in a manner that causes injury or violates laws, we may be liable for damages, penalties or fines.***

Our research and development activities involve the controlled use of potentially harmful biological materials as well as hazardous materials, chemicals, animals, and various radioactive compounds. We cannot completely eliminate the risk of accidental contamination or injury from the use, storage, handling or disposal of these animals and materials.

In the event of contamination or injury, we could be held liable for damages that result or for penalties or fines that may be imposed, and such liability could exceed our resources. We are also subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. The cost of compliance with, or any potential violation of, these laws and regulations could be significant.

***Our internal computer systems, or those used by our contract research organizations or other contractors or consultants, may fail or suffer security breaches.***

Despite the implementation of security measures, our internal computer systems and those of our contract research organizations and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our drug development programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for a product candidate could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of any product candidates could be delayed.

***Our facilities are located near known earthquake fault zones, and the occurrence of an earthquake or other catastrophic disaster could cause damage to our facilities and equipment, which could require us to cease or curtail operations.***

Our facilities are located in the San Francisco Bay Area near known earthquake fault zones and are vulnerable to significant damage from earthquakes. We are also vulnerable to damage from other types of disasters, including fires, floods, power loss, communications failures and similar events. If any disaster were to occur, our ability to operate our business at our facilities would be seriously, or potentially completely, impaired, and our research could be lost or destroyed. In addition, the unique nature of our research activities and of much of our equipment could make it difficult for us to recover from a disaster. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions.

***Future equity issuances or a sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.\****

Because we will continue to need additional capital in the future to continue to expand our business and our research and development activities, among other things, we may conduct additional equity offerings. For example, under the universal shelf registration statement filed by us in March 2018 and declared effective by the SEC in April 2018, we may offer and sell any combination of common stock, preferred stock, debt securities and warrants in one or more offerings, up to a cumulative value of \$200 million. To date, we have \$128.2 million remaining under such universal shelf registration statement. If we or our stockholders sell, or if it is perceived that we or they will sell, substantial amounts of our common stock (including shares issued upon the exercise of options and warrants) in the public market, the market price of our common stock could fall. A decline in the market price of our common stock could make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate. Furthermore, if we obtain funds through a credit facility or through the issuance of debt or preferred securities, these securities would likely have rights senior to the rights of our common stockholders, which could impair the value of our common stock.

***Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult.***

Provisions of our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us, even if doing so would benefit our stockholders. These provisions:

- establish that members of the board of directors may be removed only for cause upon the affirmative vote of stockholders owning a majority of our capital stock;
- authorize the issuance of “blank check” preferred stock that could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;
- limit who may call a special meeting of stockholders;
- prohibit stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings;
- provide for a board of directors with staggered terms; and
- provide that the authorized number of directors may be changed only by a resolution of our board of directors.

In addition, Section 203 of the Delaware General Corporation Law, which imposes certain restrictions relating to transactions with major stockholders, may discourage, delay or prevent a third party from acquiring us.

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

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

The exhibits listed on the accompanying index to exhibits are filed or incorporated by reference (as stated therein) as part of this Quarterly Report on Form 10-Q.

<b>Exhibit Number</b>	<b>Description of Document</b>
3.1	<a href="#">Amended and Restated Certificate of Incorporation. (1)</a>
3.2	<a href="#">Certificate of Amendment to the Amended and Restated Certificate of Incorporation. (2)</a>
3.3	<a href="#">Amended and Restated Bylaws. (3)</a>
4.1	<a href="#">Form of warrant to purchase shares of common stock. (4)</a>
4.2	<a href="#">Specimen Common Stock Certificate. (5)</a>
4.3	<a href="#">Warrant issued to HCP BTC, LLC for the purchase of shares of common stock. (6)</a>
10.1+#	<a href="#">2018 Equity Incentive Plan.</a>
10.2+#	<a href="#">Offer Letter from Rigel Pharmaceuticals, Inc. to Dean Schorno, dated May 22, 2018</a>
31.1#	<a href="#">Certification required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.</a>
31.2#	<a href="#">Certification required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.</a>
32.1#	<a href="#">Certification required by Rule 13a-14(b) or Rule 15d-14(b) of the Exchange Act and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. 1350).</a>
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

+ Management contract or compensatory plan.

# Filed herewith

- (1) Filed as an exhibit to Rigel's Current Report on Form 8-K (No. 000-29889) filed on May 29, 2012, and incorporated herein by reference.
- (2) Filed as an exhibit to Rigel's Current Report on Form 8-K (No. 000-29889) filed on May 18, 2018, and incorporated herein by reference.
- (3) Filed as an exhibit to Rigel's Current Report on Form 8-K (No. 000-29889) filed on February 2, 2007, and incorporated herein by reference.
- (4) Filed as an exhibit to Rigel's Registration Statement on Form S-1 (No. 333-45864), as amended, and incorporated herein by reference.
- (5) Filed as an exhibit to Rigel's Current Report on Form 8-K (No. 000-29889) filed on June 24, 2003, and incorporated herein by reference.
- (6) Filed as an exhibit to Rigel's Quarterly Report on Form 10-Q (No. 000-29889) for the quarter ended March 31, 2009, and incorporated herein by reference.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

RIGEL PHARMACEUTICALS, INC.

By: /s/ RAUL R. RODRIGUEZ  
Raul R. Rodriguez  
Chief Executive Officer  
(Principal Executive Officer)

Date: August 8, 2018

By: /s/ DEAN L. SCHORNO  
Dean L. Schorno  
Chief Financial Officer  
(Principal Financial Officer)

Date: August 8, 2018

## Rigel Pharmaceuticals, Inc.

## 2018 Equity Incentive Plan

Adopted by the Board of Directors: February 1, 2018  
 Approved by the Stockholders: May 16, 2018

## 1. General.

(a) **Successor to and Continuation of Prior Plans.** The Plan is intended as the successor to and continuation of the Rigel Pharmaceuticals, Inc. 2011 Equity Incentive Plan (the "**2011 Plan**"), the Rigel Pharmaceuticals, Inc. 2000 Equity Incentive Plan, as amended and restated (the "**2000 Plan**"), and the Rigel Pharmaceuticals, Inc. 2000 Non-Employee Directors' Stock Option Plan (the "**2000 Non-Employee Directors' Plan**"), and together with the 2011 Plan, and the 2000 Plan, the "**Prior Plans**"). Following the Effective Date, no additional stock awards may be granted under the Prior Plans. Any unallocated shares remaining available for grant under the Prior Plans as of 12:01 a.m., Pacific Time on the Effective Date (the "**Prior Plans' Available Reserve**") will cease to be available under the such Prior Plans at such time and will be added to the Share Reserve (as further described in Section 3(a) below) and be then immediately available for grant and issuance pursuant to Stock Awards granted under the Plan. In addition, from and after 12:01 a.m., Pacific Time on the Effective Date, all outstanding stock awards granted under the Prior Plans will remain subject to the terms of such Prior Plans, as applicable; *provided, however*, that any shares subject to outstanding stock awards granted under the Prior Plans that (i) expire or terminate for any reason prior to exercise or settlement, (ii) are forfeited, cancelled or otherwise returned to the Company because of the failure to meet a contingency or condition required for the vesting of such shares, or (iii) other than with respect to outstanding options and stock appreciation rights granted under the Prior Plans, with respect to which the exercise or strike price is at least one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the option or stock appreciation right on the date of grant (the "**Prior Plans' Appreciation Awards**"), are reacquired or withheld (or not issued) by the Company to satisfy a tax withholding obligation in connection with a stock award (collectively, the "**Prior Plans' Returning Shares**") will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Prior Plans' Returning Shares and become available for issuance pursuant to Awards granted hereunder. All Stock Awards granted on or after 12:01 a.m., Pacific Time on the Effective Date will be subject to the terms of this Plan.

(b) **Eligible Award Recipients.** Employees, Directors and Consultants are eligible to receive Stock Awards.

(c) **Available Stock Awards.** The Plan provides for the grant of the following types of Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Stock Appreciation Rights, (iv) Restricted Stock Awards, (v) Restricted Stock Unit Awards, (vi) Performance Stock Awards, and (vii) Other Stock Awards.

(d) **Purpose.** The Plan, through the granting of Stock Awards, is intended to help the Company and any Affiliate secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

## 2. Administration.

(a) **Administration by Board.** The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) **Powers of Board.** The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:



(i) To determine (A) who will be granted Stock Awards; (B) when and how each Stock Award will be granted; (C) what type of Stock Award will be granted; (D) the provisions of each Stock Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Stock Award; (E) the number of shares of Common Stock subject to, or the cash value of, a Stock Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Stock Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Stock Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it will deem necessary or expedient to make the Plan or Stock Award fully effective.

(iii) To settle all controversies regarding the Plan and Stock Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which a Stock Award may be exercised or vest (or the time at which cash or shares of Common Stock may be issued in settlement thereof).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or a Stock Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under his or her then-outstanding Stock Award without his or her written consent except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, by adopting amendments relating to Incentive Stock Options and certain nonqualified deferred compensation under Section 409A of the Code and/or to make the Plan or Stock Awards granted under the Plan compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. However, if required by applicable law or listing requirements, and except as provided in Section 10(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Stock Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, or (E) materially expands the types of Stock Awards available for issuance under the Plan. Except as provided in the Plan (including Section 2(b)(viii)) or a Stock Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Stock Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) Section 422 of the Code regarding incentive stock options or (B) Rule 16b-3.

(viii) To approve forms of Stock Award Agreements for use under the Plan and to amend the terms of any one or more Stock Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Stock Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided, however*, that a Participant's rights under any Stock Award will not be impaired by any such amendment unless (A) the Company requests the consent of the affected Participant, and (B) such Participant consents in writing. Notwithstanding the foregoing, (1) a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights, and (2) subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Stock Awards without the affected Participant's consent (A) to maintain the qualified status of the Stock Award as an Incentive Stock Option under Section 422 of the Code; (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Stock Award solely because it impairs the qualified status of the Stock Award as an Incentive Stock Option under Section 422 of the Code; (C) to clarify the manner of exemption from, or to bring the Stock Award

into compliance with, Section 409A of the Code; or (D) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Stock Awards.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Stock Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

**(c) Delegation to Committee.**

(i) **General.** The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee, as applicable). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or re-vest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, re-vest in the Board some or all of the powers previously delegated.

(ii) **Rule 16b-3 Compliance.** The Committee may consist solely of two or more Non-Employee Directors, in accordance with Rule 16b-3.

(d) **Delegation to an Officer.** The Board may delegate to one or more Officers the authority to do one or both of the following (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Stock Awards, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; *provided, however*, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value pursuant to Section 13(u)(iii) below.

(e) **Effect of Board's Decision.** All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

(f) **Repricing; Cancellation and Re-Grant of Stock Awards.** Neither the Board nor any Committee will have the authority to (i) reduce the exercise, purchase or strike price of any outstanding Option or SAR under the Plan, or (ii) cancel any outstanding Option or SAR that has an exercise price or strike price greater than the then-current Fair Market Value of the Common Stock in exchange for cash or other Stock Awards under the Plan, unless the stockholders of the Company have approved such an action within 12 months prior to such an event.

(g) **Dividends and Dividend Equivalents.** Dividends or dividend equivalents may be paid or credited, as applicable, with respect to any shares of Common Stock subject to a Stock Award (other than an Option or SAR), as determined by the Board and contained in the applicable Stock Award Agreement; *provided, however*, that (i) no dividends or dividend equivalents may be paid with respect to any such shares before the date such shares have vested under the terms of such Stock Award Agreement, (ii) any dividends or dividend equivalents that are credited

with respect to any such shares will be subject to all of the terms and conditions applicable to such shares under the terms of such Stock Award Agreement (including, but not limited to, any vesting conditions), and (iii) any dividends or dividend equivalents that are credited with respect to any such shares will be forfeited to the Company on the date, if any, such shares are forfeited to or repurchased by the Company due to a failure to meet any vesting conditions under the terms of such Stock Award Agreement.

**3. Shares Subject to the Plan.**

**(a) Share Reserve.**

(i) Subject to Section 10(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the Effective Date will not exceed (A) 39,070,403 shares (which number is the sum of (i) the number of shares (10,032,133) subject to the Prior Plans' Available Reserve and (ii) an additional 5,000,000 new shares), plus (B) the Prior Plans' Returning Shares, if any, which become available for grant under this Plan from time to time (such aggregate number of shares described in (A) and (B) above, the "**Share Reserve**").

(ii) For clarity, the Share Reserve in this Section 3(a) is a limitation on the number of shares of Common Stock that may be issued pursuant to the Plan. Accordingly, this Section 3(a) does not limit the granting of Stock Awards except as provided in Section 8(a). Shares may be issued in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c) or, if applicable, NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(iii) Subject to Section 3(b), the number of shares of Common Stock available for issuance under the Plan will be reduced by: (A) one share for each share of Common Stock issued pursuant to an Option or SAR with respect to which the exercise or strike price is at least 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date of grant; and (B) one and fifty-four hundredths (1.54) shares for each share of Common Stock issued pursuant to a Full Value Award.

**(b) Reversion of Shares to the Share Reserve.**

(i) **Shares Available For Subsequent Issuance.** If (A) any shares of Common Stock subject to a Stock Award are not issued because such Stock Award or any portion thereof expires or otherwise terminates without all of the shares covered by such Stock Award having been issued or is settled in cash (*i.e.*, the Participant receives cash rather than stock), (B) any shares of Common Stock issued pursuant to a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required for the vesting of such shares, or (C) with respect to a Full Value Award, any shares of Common Stock are reacquired or withheld (or not issued) by the Company to satisfy a tax withholding obligation in connection with such Full Value Award, such shares will again become available for issuance under the Plan (collectively, the "**2018 Plan Returning Shares**"). For each (1) 2018 Plan Returning Share subject to a Full Value Award or (2) Prior Plans' Returning Share subject to a stock award other than a Prior Plans' Appreciation Award, the number of shares of Common Stock available for issuance under the Plan will increase by one and fifty-four hundredths (1.54) shares.

(ii) **Shares Not Available For Subsequent Issuance.** Any shares of Common Stock reacquired or withheld (or not issued) by the Company to satisfy the exercise or purchase price of a Stock Award will no longer be available for issuance under the Plan, including any shares subject to a Stock Award that are not delivered to a Participant because such Stock Award is exercised through a reduction of shares subject to such Stock Award (*i.e.*, "net exercised"). In addition, any shares reacquired or withheld (or not issued) by the Company to satisfy a tax withholding obligation in connection with an Option or Stock Appreciation Right or a Prior Plans' Appreciation Award, or any shares repurchased by the Company on the open market with the proceeds of the exercise or strike price of an Option or Stock Appreciation Right or a Prior Plans' Appreciation Award will no longer be available for issuance under the Plan.

(c) **Incentive Stock Option Limit.** Subject to the Share Reserve and Section 10(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options will be 39,070,403 shares of Common Stock.

(d) **Source of Shares.** The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

#### 4. Eligibility.

(a) **Eligibility for Specific Stock Awards.** Incentive Stock Options may be granted only to employees of the Company or a “parent corporation” or “subsidiary corporation” thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; provided, however, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any “parent” of the Company, as such term is defined in Rule 405, unless (i) the stock underlying such Stock Awards is treated as “service recipient stock” under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction) or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or alternatively comply with the distribution requirements of Section 409A of the Code.

(b) **Ten Percent Stockholders.** A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five years from the date of grant.

#### 5. Non-Discretionary Grants to Non-Employee Directors

(a) **Initial Grants.** Without any further action of the Board, each person who is elected or appointed for the first time to be a Non-Employee Director automatically shall, upon the date of his or her initial election or appointment to be a Non-Employee Director by the Board or stockholders of the Company, be granted an Initial Grant as an Option to purchase eighty thousand (80,000) shares of Common Stock on the terms and conditions set forth herein. Notwithstanding the foregoing, at the election of a Non-Employee Director on or before the date of such Initial Grant, the Initial Grant may be in the form of a Restricted Stock Unit Award that covers a number of shares that has a value equal to an Option to purchase eighty thousand (80,000) shares of Common Stock (calculating the value of each such type of Stock Award based on the grant date fair value of such Stock Award for financial reporting purposes). Each Stock Award granted as an Initial Grant shall vest in accordance with the schedule set forth below that results in a shorter period of full vesting: (i) 1/36th of the shares of Common Stock subject to the Initial Grant shall vest each month after the date of grant over a period of three (3) years; or (ii) the Initial Grant shall vest in equal monthly installments after the date of grant over a period commencing on the date that the Non-Employee Director is appointed for the first time to be a Non-Employee Director by the Board and ending on the date of the Annual Meeting at which the Non-Employee Director is first scheduled to be considered for election to be a Non-Employee Director by the stockholders of the Company.

(b) **Annual Grants.** Without any further action of the Board, a Non-Employee Director shall be granted an Annual Grant as follows: On the day following each Annual Meeting commencing with the Annual Meeting in 2018, each person who is then a Non-Employee Director automatically shall be granted an Annual Grant as an Option to purchase forty thousand (40,000) shares of Common Stock on the terms and conditions set forth herein. Notwithstanding the foregoing, (i) at the election of a Non-Employee Director on or before the date of such Annual Grant, the Annual Grant may be in the form of a Restricted Stock Unit Award that covers a number of shares that has a value equal to an Option to purchase forty thousand (40,000) shares of Common Stock (calculating the value of each such type of Stock Award based on the grant date fair value of such Stock Award for financial reporting purposes), and (ii) if the person has not been serving as a Non-Employee Director for the entire period since the preceding Annual Meeting, then the number of shares subject to the Annual Grant shall be reduced pro rata for each full quarter prior to the date of grant during which such person did not serve as a Non-Employee Director. Each Annual Grant shall vest such that 1/12th of the shares of Common Stock subject to such Annual Grant shall vest each month after the date of grant over a period of one (1) year.

(c) **Limitation on Grants to Non-Employee Directors.** The maximum number of shares of Common Stock subject to Stock Awards granted under the Plan or otherwise during any one calendar year to any Non-Employee Director shall not exceed the limits described in Sections 5(a) and 5(b) above. The maximum amount of cash compensation that may be payable by the Company to a Non-Employee Director shall not exceed \$150,000 per year. The Board may make exceptions to the cash compensation limit in the immediately preceding sentence of this Section 5(c) for individual Non-Employee Directors in extraordinary circumstances (for example, to compensate such individual for interim service in the capacity of an officer of the Company), as the Board may determine in its discretion, provided that the Non-Employee Director receiving such additional cash compensation may not participate in the decision to award such compensation.

## 6. Provisions Relating to Options and Stock Appreciation Rights.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; *provided, however*, that each Stock Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Stock Award Agreement or otherwise) the substance of each of the following provisions:

(a) **Term.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten years from the date of its grant or such shorter period specified in the Stock Award Agreement.

(b) **Exercise Price.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Stock Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Stock Award if such Stock Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) **Purchase Price for Options.** The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or that otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

- (i) by cash, check, bank draft or money order payable to the Company;
- (ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the Common Stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;
- (iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;
- (iv) if an Option is a Nonstatutory Stock Option, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price;

*provided, however*, that the Company will accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the “net exercise,” (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or

(v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Stock Award Agreement.

**(d) Exercise and Payment of a SAR.** To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Award Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR, and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate strike price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Award Agreement evidencing such SAR.

**(e) Transferability of Options and SARs.** The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the restrictions set forth in this Section 6(e) on the transferability of Options and SARs will apply. Notwithstanding the foregoing or anything in the Plan or a Stock Award Agreement to the contrary, no Option or SAR may be transferred to any financial institution without prior stockholder approval.

**(i) Restrictions on Transfer.** An Option or SAR will not be transferable except by will or by the laws of descent and distribution (and pursuant to Sections 6(e)(ii) and 6(e)(iii) below) and will be exercisable during the lifetime of the Participant only by the Participant. Subject to the foregoing paragraph, the Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided in the Plan, neither an Option nor a SAR may be transferred for consideration.

**(ii) Domestic Relations Orders.** Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulations Section 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

**(iii) Beneficiary Designation.** Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, upon the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, upon the death of the Participant, the executor or administrator of the Participant’s estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

**(f) Vesting Generally.** The total number of shares of Common Stock subject to an Option or SAR may vest and become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary.

**(g) Termination of Continuous Service.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date three months following such termination of Continuous Service (or such longer or shorter period specified in the Stock Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR (as applicable) within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(h) Extension of Termination Date.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company or an Affiliate, if the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement. In addition, unless otherwise provided in a Participant's Stock Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement.

**(i) Disability of Participant.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date 12 months following such termination of Continuous Service (or such longer or shorter period specified in the Stock Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR (as applicable) within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(j) Death of Participant.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company or an Affiliate, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Stock Award Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Participant's Option or SAR may be exercised (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within such period of time ending on the earlier of (i) the date 18 months following the date of death (or such longer or shorter period specified in the Stock Award Agreement), and (ii) the expiration of the term of such Option or SAR as set forth in the Stock Award Agreement. If, after the Participant's death, the Option or SAR (as applicable) is not exercised within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(k) Termination for Cause.** Except as explicitly provided otherwise in a Participant's Stock Award Agreement or other individual written agreement between the Participant and the Company or an Affiliate, if a Participant's Continuous Service is terminated for Cause, the Participant's Option or SAR will terminate immediately upon such termination of Continuous Service, and the Participant will be prohibited from exercising his or her Option or SAR from and after the time of such termination of Continuous Service.

**(l) Non-Exempt Employees.** If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least six months following the date of grant of the Option or SAR (although the Stock Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Stock Award Agreement, in another agreement between the Participant and the Company or an Affiliate, or, if no such definition, in accordance with the Company's or Affiliate's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than six months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this Section 6(l) will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

## **7. Provisions of Stock Awards Other than Options and SARs.**

**(a) Restricted Stock Awards.** Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock underlying a Restricted Stock Award may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse, or (ii) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

**(i) Consideration.** A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

**(ii) Vesting.** Shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

**(iii) Termination of Participant's Continuous Service.** If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right any or all of the shares of Common Stock held by the Participant as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

**(iv) Transferability.** Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement. Notwithstanding the foregoing or anything in the Plan or a Restricted Stock Award Agreement to the contrary, no Restricted Stock Award may be transferred to any financial institution without prior stockholder approval.

**(b) Restricted Stock Unit Awards.** Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to



(through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

(i) **Consideration.** At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) **Vesting.** At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) **Payment.** A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) **Additional Restrictions.** At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) **Termination of Participant's Continuous Service.** Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

**(c) Performance Stock Awards.**

(i) **Performance Stock Awards.** A Performance Stock Award is a Stock Award that is payable (including that may be granted, vest or be exercised) contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Stock Award may, but need not, require the Participant's completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Board, in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Stock Award Agreement, the Board may determine that cash may be used in payment of Performance Stock Awards.

(ii) **Discretion.** The Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon the attainment of any Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for a Performance Period.

(d) **Other Stock Awards.** Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (*e.g.*, options or stock appreciation rights with an exercise price or strike price less than 100% of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards granted under Section 6 and this Section 7. Subject to the provisions of the Plan (including, but not limited to, Section 2(g)), the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

**8. Covenants of the Company.**

(a) **Availability of Shares.** The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

**(b) Securities Law Compliance.** The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan the authority required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however*, that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of a Stock Award or the subsequent issuance of cash or Common Stock pursuant to the Stock Award if such grant or issuance would be in violation of any applicable securities law.

**(c) No Obligation to Notify or Minimize Taxes.** The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising a Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of a Stock Award or a possible period in which the Stock Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of a Stock Award to the holder of such Stock Award.

#### **9. Miscellaneous.**

**(a) Use of Proceeds from Sales of Common Stock.** Proceeds from the sale of shares of Common Stock issued pursuant to Stock Awards will constitute general funds of the Company.

**(b) Corporate Action Constituting Grant of Stock Awards.** Corporate action constituting a grant by the Company of a Stock Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Stock Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (*e.g.*, Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (*e.g.*, exercise price, vesting schedule or number of shares) that are inconsistent with those in the Stock Award Agreement or related grant documents as a result of a clerical error in the preparation of the Stock Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect terms in the Stock Award Agreement or related grant documents.

**(c) Stockholder Rights.** No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to a Stock Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Stock Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Stock Award has been entered into the books and records of the Company.

**(d) No Employment or Other Service Rights.** Nothing in the Plan, any Stock Award Agreement or any other instrument executed thereunder or in connection with any Stock Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Stock Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

**(e) Change in Time Commitment.** In the event a Participant's regular level of time commitment in the performance of his or her services for the Company or any Affiliate is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee) after the date of grant of any Stock Award to the Participant, the Board has the right in its sole discretion to (x) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Stock Award that is scheduled to vest or become payable after the date of such change in time commitment, and (y) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Stock Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Stock Award that is so reduced or extended.

**(f) Incentive Stock Option Limitations.** To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds \$100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

**(g) Investment Assurances.** The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (A) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (B) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

**(h) Withholding Obligations.** Unless prohibited by the terms of a Stock Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to a Stock Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; *provided, however*, that no shares of Common Stock are withheld with a value exceeding the maximum amount of tax that may be required to be withheld by law (or such other amount as may be permitted while still avoiding classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from a Stock Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Stock Award Agreement.

**(i) Electronic Delivery.** Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at [www.sec.gov](http://www.sec.gov) (or any successor website thereto) or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

**(j) Deferrals.** To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Stock Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company or an Affiliate. The Board is authorized to make deferrals of Stock Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

**(k) Compliance with Section 409A of the Code.** Unless otherwise expressly provided for in a Stock Award Agreement, the Plan and Stock Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Stock Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. To the extent that the Board determines that any Stock Award granted hereunder is not exempt from and is therefore subject to Section 409A of the Code, the Stock Award Agreement evidencing such Stock Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and, to the extent applicable, the Plan and Stock Award Agreements will be interpreted in accordance with the requirements of Section 409A of the Code.

Notwithstanding anything to the contrary in this Plan (and unless the Stock Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded and a Participant holding a Stock Award that constitutes “deferred compensation” under Section 409A of the Code is a “specified employee” for purposes of Section 409A of the Code, no distribution or payment of any amount will be made upon a “separation from service” before a date that is six months following the date of such Participant’s “separation from service” (as defined in Section 409A of the Code without regard to alternative definitions thereunder) or, if earlier, the date of the Participant’s death.

**(l) Clawback/Recovery.** All Stock Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company’s securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in a Stock Award Agreement as the Board determines necessary or appropriate, including but not limited to a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for “good reason” or “constructive termination” (or similar term) under any agreement with the Company or an Affiliate.

#### **10. Adjustments upon Changes in Common Stock; Other Corporate Events.**

**(a) Capitalization Adjustments.** In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c), (iii) the class(es) and maximum number of securities to be granted as an Initial Grant or as an Annual Grant pursuant to Section 5(a) and 5(b), respectively, and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

**(b) Dissolution or Liquidation.** Except as otherwise provided in the Stock Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company’s right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company’s repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service, *provided, however*, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

**(c) Corporate Transaction.** The provisions of this Section 10(c) will apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in the instrument evidencing the Stock Award or any other written agreement between the Company or any Affiliate and the Participant or in any director compensation policy of the Company or unless otherwise expressly provided by the Board at the time of grant of a Stock Award.

**(i) Stock Awards May Be Assumed.** In the event of a Corporate Transaction, any surviving corporation or acquiring corporation (or the surviving or acquiring corporation’s parent company) may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (including but not limited to, awards to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor’s parent company, if any), in connection with such Corporate Transaction. A surviving corporation or acquiring corporation (or its parent) may choose to assume or continue only a portion of a Stock Award or substitute a similar stock award for only a portion of a Stock Award, or may choose to assume or continue the Stock Awards held by some, but not all Participants. The terms of any assumption, continuation or substitution will be set by the Board.

(ii) **Stock Awards Held by Current Participants.** In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction (referred to as the "Current Participants"), the vesting of such Stock Awards (and, with respect to Options and Stock Appreciation Rights, the time when such Stock Awards may be exercised) will be accelerated in full to a date prior to the effective time of such Corporate Transaction (contingent upon the effectiveness of the Corporate Transaction) as the Board will determine (or, if the Board does not determine such a date, to the date that is five days prior to the effective time of the Corporate Transaction), and such Stock Awards will terminate if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards will lapse (contingent upon the effectiveness of the Corporate Transaction).

(iii) **Stock Awards Held by Persons other than Current Participants.** In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by persons other than Current Participants, such Stock Awards will terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction; *provided, however,* that any reacquisition or repurchase rights held by the Company with respect to such Stock Awards will not terminate and may continue to be exercised notwithstanding the Corporate Transaction.

(iv) **Payment for Stock Awards in Lieu of Exercise.** Notwithstanding the foregoing, in the event a Stock Award will terminate if not exercised prior to the effective time of a Corporate Transaction, the Board may provide, in its sole discretion, that the holder of such Stock Award may not exercise such Stock Award but instead will receive a payment, in such form as may be determined by the Board, equal in value to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction (including, at the discretion of the Board, any unvested portion of such Stock Award), over (B) any exercise price payable by such holder in connection with such exercise. For clarity, this payment may be zero if the value of the property is equal to or less than the exercise price. Payments under this provision may be delayed to the same extent that payment of consideration to the holders of the Company's Common Stock in connection with the Corporate Transaction is delayed as a result of escrows, earn outs, holdbacks or any other contingencies.

(d) **Change in Control.** A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur. Notwithstanding the foregoing, upon a Change in Control, all Stock Awards held by each Director who is not an Employee and whose Continuous Service has not terminated immediately prior to the Change in Control shall become fully vested and exercisable immediately prior to the effectiveness of such Change in Control.

#### **11. Termination or Suspension of the Plan.**

(a) The Board may suspend or terminate the Plan at any time. No Incentive Stock Option will be granted after the tenth anniversary of the earlier of (i) the date the Plan is adopted by the Board, or (ii) the date the Plan is approved by the stockholders of the Company. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) **No Impairment of Rights.** Suspension or termination of the Plan will not materially impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the affected Participant or as otherwise permitted in the Plan.

**12. Effective Date of Plan.**

This Plan will become effective on the Effective Date.

**13. Choice of Law.**

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

**14. Definitions.**

As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "**Affiliate**" means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "**Annual Grant**" means a Stock Award granted annually to all Non-Employee Directors who meet the criteria specified in Section 5(b) of the Plan.

(c) "**Annual Meeting**" means the annual meeting of the stockholders of the Company.

(d) "**Board**" means the Board of Directors of the Company.

(e) "**Capitalization Adjustment**" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(f) "**Cause**" will have the meaning ascribed to such term in any written agreement between the Participant and the Company or an Affiliate defining such term and, in the absence of such agreement, such term will mean, with respect to a Participant, the occurrence of any of the following events: (i) such Participant's conviction of, or plea of no contest with respect to, any crime involving fraud, dishonesty or moral turpitude; (ii) such Participant's attempted commission of or participation in a fraud or act of dishonesty against the Company or an Affiliate that results in (or might have reasonably resulted in) material harm to the business of the Company or an Affiliate; (iii) such Participant's intentional, material violation of any contract or agreement between the Participant and the Company or an Affiliate, or any statutory duty the Participant owes to the Company or an Affiliate; or (iv) such Participant's conduct that constitutes gross misconduct, insubordination, incompetence or habitual neglect of duties and that results in (or might have reasonably resulted in) material harm to the business of the Company or an Affiliate. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause will be made by the Company, in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Stock Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or an Affiliate or such Participant for any other purpose.

(g) "**Change in Control**" will be deemed to have occurred upon the first to occur of an event set forth in any one of the following paragraphs:

(i) the acquisition (other than from the Company, by any person (as such term is defined in Section 13(c) or 14(d) of the Exchange Act) of beneficial ownership (within the meaning of Rule 13d 3

promulgated under the Exchange Act) of fifty percent (50%) or more of the combined voting power of the Company's then outstanding voting securities;

(ii) the individuals who, as of the effective date of the Plan, are members of the Board (the "**Incumbent Board**"), cease for any reason to constitute at least a majority of the Board, unless the election, or nomination for election by the Company's stockholders, of any new director was approved by a vote of at least a majority of the Incumbent Board, and such new director shall, for purposes of this Plan, be considered as a member of the Incumbent Board; or

(iii) the closing of:

(1) a merger or consolidation involving the Company if the stockholders of the Company, immediately before such merger or consolidation, do not, as a result of such merger or consolidation, own, directly or indirectly, more than fifty percent (50%) of the combined voting power of the then outstanding voting securities of the corporation resulting from such merger or consolidation in substantially the same proportion as their ownership of the combined voting power of the voting securities of the Company outstanding immediately before such merger or consolidation; or

(2) a complete liquidation or dissolution of the Company or an agreement for the sale or other disposition of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a Change in Control shall not be deemed to occur solely because fifty percent (50%) or more of the combined voting power of the Company's then outstanding securities is acquired by (i) a trustee or other fiduciary holding securities under one or more employee benefit plans maintained by the Company or any of its subsidiaries or (ii) any corporation which, immediately prior to such acquisition, is owned directly or indirectly by the stockholders of the Company in the same proportion as their ownership of stock in the Company immediately prior to such acquisition.

For the avoidance of doubt, the term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

Notwithstanding the foregoing or any other provision of this Plan, the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Stock Awards subject to such agreement; provided, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply.

(h) "**Code**" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(i) "**Committee**" means a committee of one or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(j) "**Common Stock**" means the common stock of the Company.

(k) "**Company**" means Rigel Pharmaceuticals, Inc., a Delaware corporation.

(l) "**Consultant**" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(m) **“Continuous Service”** means that the Participant’s service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant’s service with the Company or an Affiliate, will not terminate a Participant’s Continuous Service; *provided, however*, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board, in its sole discretion, such Participant’s Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party’s sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company’s or Affiliate’s leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(n) **“Corporate Transaction”** means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

- (i) a sale, lease or other disposition of all or substantially all of the assets of the Company;
- (ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;
- (iii) a merger, consolidation or similar transaction in which the Company is not the surviving corporation; or
- (iv) a reverse merger, consolidation or similar transaction in which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

Notwithstanding the foregoing definition or any other provision of this Plan, the term Corporate Transaction will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

(o) **“Director”** means a member of the Board.

(p) **“Disability”** means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months, as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(q) **“Effective Date”** means the effective date of this Plan document, which is the date of the annual meeting of stockholders of the Company held in 2018, provided this Plan is approved by the Company’s stockholders at such meeting.

(r) **“Employee”** means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an “Employee” for purposes of the Plan.

(s) **“Entity”** means a corporation, partnership, limited liability company or other entity.



(t) “*Exchange Act*” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(u) “*Fair Market Value*” means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(v) “*Full Value Award*” means a Stock Award that is not an Option or SAR with respect to which the exercise or strike price is at least 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date of grant.

(w) “*Incentive Stock Option*” means an option granted pursuant to Section 6 that is intended to be, and that qualifies as, an “incentive stock option” within the meaning of Section 422 of the Code.

(x) “*Initial Grant*” means a Stock Award granted to a Non-Employee Director who meets the criteria specified in Section 5(a) of the Plan.

(y) “*Non-Employee Director*” means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act (“*Regulation S-K*”)), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a “non-employee director” for purposes of Rule 16b-3.

(z) “*Nonstatutory Stock Option*” means any option granted pursuant to Section 6 that does not qualify as an Incentive Stock Option.

(aa) “*Officer*” means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(bb) “*Option*” means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(cc) “*Option Agreement*” means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(dd) “*Optionholder*” means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ee) **“Other Stock Award”** means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 7(d).

(ff) **“Other Stock Award Agreement”** means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(gg) **“Own,” “Owned,” “Owner,” “Ownership”** A person or Entity will be deemed to “Own,” to have “Owned,” to be the “Owner” of, or to have acquired “Ownership” of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(hh) **“Participant”** means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(ii) **“Performance Criteria”** means the one or more criteria that the Board shall select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that shall be used to establish such Performance Goals may be based on any one of, or combination of, the following: (i) earnings per share; (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization (EBITDA); (iv) net earnings; (v) total stockholder return; (vi) return on equity; (vii) return on assets, investment, or capital employed; (viii) operating margin; (ix) gross margin; (x) operating income; (xi) net income (before or after taxes); (xii) net operating income; (xiii) net operating income after tax; (xiv) pre- and after-tax income; (xv) pre-tax profit; (xvi) operating cash flow; (xvii) sales or revenue targets; (xviii) increases in revenue or product revenue; (xix) expenses and cost reduction goals; (xx) improvement in or attainment of expense levels; (xxi) improvement in or attainment of working capital levels; (xxii) economic value added (or an equivalent metric); (xxiii) market share; (xxiv) cash flow; (xxv) cash flow per share; (xxvi) share price performance; (xxvii) debt reduction; (xxviii) implementation or completion of projects or processes; (xxix) customer satisfaction; (xxx) total stockholder return; (xxxi) stockholders’ equity; and (xxxii) other measures of performance selected by the Board. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement. The Board shall, in its sole discretion, define the manner of calculating the Performance Criteria it selects to use for such Performance Period.

(jj) **“Performance Goals”** means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. The Board is authorized at any time in its sole discretion, to adjust or modify the calculation of a Performance Goal for such Performance Period in order to prevent the dilution or enlargement of the rights of Participants, (a) in the event of, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (b) in recognition of, or in anticipation of, any other unusual or nonrecurring events affecting the Company, or the financial statements of the Company in response to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; or (c) in view of the Board’s assessment of the business strategy of the Company, performance of comparable organizations, economic and business conditions, and any other circumstances deemed relevant. Specifically, the Board is authorized to make adjustment in the method of calculating attainment of Performance Goals and objectives for a Performance Period as follows: (i) to exclude the dilutive effects of acquisitions or joint ventures; (ii) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; and (iii) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends. In addition, the Board is authorized to make adjustment in the method of calculating attainment of Performance Goals and objectives for a Performance Period as follows: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; (iii) to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects of any items that are “unusual” in nature or occur “infrequently” as determined under generally accepted accounting

principles; (v) to exclude the effects to any statutory adjustments to corporate tax rates; and (vi) to make other appropriate adjustments selected by the Board.

(kk) **“Performance Period”** means the period of time selected by the Board over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant’s right to and the payment of a Performance Stock Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(ll) **“Performance Stock Award”** means a Stock Award granted under the terms and conditions of Section 7(c)(i).

(mm) **“Plan”** means this Rigel Pharmaceuticals, Inc. 2018 Equity Incentive Plan.

(nn) **“Restricted Stock Award”** means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(a).

(oo) **“Restricted Stock Award Agreement”** means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(pp) **“Restricted Stock Unit Award”** means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(b).

(qq) **“Restricted Stock Unit Award Agreement”** means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(rr) **“Rule 16b-3”** means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(ss) **“Rule 405”** means Rule 405 promulgated under the Securities Act.

(tt) **“Securities Act”** means the Securities Act of 1933, as amended.

(uu) **“Stock Appreciation Right”** or **“SAR”** means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 6.

(vv) **“Stock Appreciation Right Agreement”** means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(ww) **“Stock Award”** means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Stock Appreciation Right, a Restricted Stock Award, a Restricted Stock Unit Award, a Performance Stock Award or any Other Stock Award.

(xx) **“Stock Award Agreement”** means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(yy) **“Subsidiary”** means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company

has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

**(zz)** **“Ten Percent Stockholder”** means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate.

May 22, 2018

Dean Schorno  
[Address omitted]

Re: Offer and Employment Terms

Dear Dean:

Rigel Pharmaceuticals, Inc. (the Company) is pleased to offer you the position of Executive Vice President and Chief Financial Officer, reporting to me, Raul Rodriguez, on the following terms. Please take the next few days to carefully review the terms and let us know if you have any questions.

If you accept this offer (the "Agreement"), your annual salary will be \$400,000 (four hundred thousand dollars), less all required withholdings and any voluntary payroll deductions, which salary will be reviewed periodically. In addition, you will be eligible for a company bonus target of 50% of base salary paid on achievement of Company goals. You will be eligible for the Company's standard benefits, including medical insurance, vacation, sick leave, and holidays. Additionally, under the Company's Amended and Restated Severance Plan of 1/24/18, in the instance of a termination in the case of a change-in-control, you will qualify for a severance of 2.5x (salary + eligible bonus), vesting of all stock options, 1 year period to exercise options, and 1.5 years of COBRA, all under certain conditions, and in the absence of a change-in-control, you will qualify for a severance of 1 year (paid monthly), vesting of stock in the amount of that which would vest over the next year, a 2 year period to exercise options, and 1 year of COBRA, all under certain conditions. The Company may modify compensation and benefits from time to time, as it deems necessary.

Additionally, the Compensation Committee will grant you the following equity grant after commencement of your employment: an option to purchase (1) 167,500 (one hundred and sixty-seven thousand five hundred) shares of the Company's common stock, which has a four year vesting period initiated on your start-date, 1/4th (one-fourth) of the shares vest one year after your hire date, and 1/48th (one forty-eighth) of the shares vest monthly thereafter over the next three years ("time-based option grant"), and (2) 83,750 (eighty-three thousand and seven hundred and fifty) shares of the Company's common stock which will vest on achieving [\*], and an additional 83,750 (eighty-three thousand and seven hundred and fifty) shares of the Company's common stock which will vest on achieving [\*] ("performance-based option grants"). The strike price for the time-based and performance-based option grants shall be the same as the close price on NASDAQ, the day prior to the date that the Compensation Committee makes the grant.

Within 30 days of your date of hire, you will receive a sign-on bonus in the amount of \$50,000 (fifty thousand dollars), less all required withholdings. Should you voluntarily terminate employment less than 12 months from your date of hire, you agree to repay, in full, the sign-on bonus amount of \$50,000.

This offer is contingent upon Rigel receiving successful results from a background check conducted on you by our third-party vendor.

As a Rigel employee, you will be expected to sign and comply with the Company Proprietary Information and Inventions Agreement, attached hereto as Exhibit 1, which prohibits unauthorized use or disclosure of Company proprietary information. You will be responsible for all duties customarily associated with this position. You will work at our facility located at 1180 Veterans Boulevard, South San Francisco, California. Of course, the Company may change your position, duties and work location from time to time, as it deems necessary.

You may terminate your employment with the Company at any time and for any reason whatsoever simply by notifying

[\*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

the Company. Likewise, the Company may terminate your employment at any time and for any reason whatsoever, with or without cause or advance notice. This at-will employment relationship cannot be changed except in a writing signed by a Company officer.

You agree that, for one (1) year following the termination of your employment with the Company, you will not personally initiate or participate in the solicitation of any employee of the Company or any of its affiliates to terminate his or her relationship with the Company or any of its affiliates in order to become an employee for any other person or business entity.

To ensure rapid and economical resolution of any disputes which may arise under this Agreement, you and the Company agree that any and all disputes or controversies, whether of law or fact of any nature whatsoever (including, but not limited to, all state and federal statutory and discrimination claims), with the sole exception of those disputes which may arise from your Proprietary Information and Inventions Agreement, arising from or regarding your employment or the termination thereof, or the interpretation, performance, enforcement or breach of this Agreement shall be resolved by confidential, final and binding arbitration under the then-existing Rules of Practice and Procedure of Judicial Arbitration and Mediation Services, Inc. (JAMS), which shall be conducted in San Francisco, California.

This Agreement, including Exhibit 1, constitutes the complete, final and exclusive embodiment of the entire agreement between you and the Company with respect to the terms and conditions of your employment. This Agreement is entered into without reliance upon any promise, warranty or representation, written or oral, other than those expressly contained herein, and it supersedes any other such promises, warranties, representations or agreements. It may not be amended or modified except by a written instrument signed by you and a duly authorized representative of the Company. If any provision of this Agreement is determined to be invalid or unenforceable, in whole or in part, this determination will not affect any other provision of this Agreement. This Agreement shall be construed and interpreted in accordance with the laws of the State of California and shall be deemed drafted by both parties. As required by law, this offer is subject to satisfactory proof of your right to work in the United States.

We are very excited about your joining our team and being part of Rigel's plan for success. As discussed, we expect your start date to be on May 29, 2018. Please formalize your acceptance by providing us with your signature on this letter and the Exhibit 1.

Sincerely,

/s/ Raul Rodriguez

Raul Rodriguez  
CEO, Rigel Pharmaceuticals, Inc.

Accepted:

/s/ Dean Schorno

Dean Schorno

EXHIBIT 1

FORM OF EMPLOYEE CONFIDENTIALITY AND PROPRIETARY RIGHTS/INFORMATION AGREEMENT

In consideration of my employment or continued employment by Rigel Pharmaceuticals, Inc. ("**Rigel**"), and the compensation now and hereafter paid to me, I \_\_\_\_\_ hereby agree to the following terms and conditions:

1. NONDISCLOSURE

1.1 **Recognition of Rigel's Rights; Nondisclosure.** At all times during my employment at Rigel and thereafter, I will hold in strictest confidence and will not disclose, use, lecture upon or publish Rigel's Proprietary Information (defined below), except as such disclosure, use or publication may be required in connection with my work for Rigel, or unless an officer of Rigel expressly authorizes such in writing. I will obtain Rigel's written approval before publishing or submitting for publication any material (written, verbal, or otherwise) that relates to my work at Rigel and/or incorporates any Proprietary Information. I hereby assign to Rigel any rights I may have or acquire in such Proprietary Information and recognize that all Proprietary Information shall be the sole property of Rigel and its assigns.

1.2 **Proprietary Information.** The term "**Proprietary Information**" shall mean any and all confidential and/or proprietary knowledge, data or information of Rigel and its affiliated entities. By way of illustration but not limitation, "**Proprietary Information**" includes (a) trade secrets, inventions, ideas, processes, formulas, data, programs, other works of authorship, know-how, improvements, discoveries, cell lines, chemical compounds, developments, designs and techniques (hereinafter collectively referred to as "**Inventions**"); and (b) information regarding plans for research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, suppliers and customers; and (c) information regarding the skills and compensation of other contract workers placed at Rigel or employees of Rigel. Notwithstanding the foregoing, it is understood that, at all such times, I am free to use information which is generally known in the trade or industry, which is not gained as result of a breach of this Agreement, and my own, skill, knowledge, know-how and experience to whatever extent and in whichever way I wish.

1.3 **Third Party Information.** I understand, in addition, that Rigel has received and in the future will receive from third parties confidential or proprietary information ("**Third Party Information**") subject to a duty on Rigel's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the term of my employment at Rigel and thereafter, I will hold Third Party Information in the strictest confidence and will not disclose to anyone (other than Rigel personnel who need to know such information in connection with their work for Rigel) or use, except in connection with my work for Rigel, Third Party Information unless expressly authorized in writing by an authorized representative of Rigel.

1.4 **No Improper Use of Information of Prior Work Placements, Employers and Others.** During my employment at Rigel I will not improperly use or disclose any confidential information or trade secrets, if any, of any former work placement, employer or any other person to whom I have an obligation of confidentiality, and I will not bring onto the premises of Rigel any unpublished documents or any property belonging to any former work placement, employer or any other person to whom I have an obligation of confidentiality unless consented to in writing by that former work placement, employer or person. I will use in the performance of my duties only information which is generally known and used by persons with training and experience comparable to my own, which is common knowledge in the industry or otherwise legally in the public domain, or which is otherwise provided or developed by Rigel.

2. ASSIGNMENT OF INVENTIONS.

2.1 **Proprietary Rights.** The term "**Proprietary Rights**" shall mean all trade secret, patent, copyright, and other intellectual property rights throughout the world.

**2.2 Prior Inventions.** Inventions, if any, patented or unpatented, which I made prior to the commencement of my employment with Rigel are excluded from the scope of this Agreement. To preclude any possible uncertainty, I have set forth on *Exhibit B* (Previous Inventions) attached hereto a complete list of all Inventions that I have, alone or jointly with others, conceived, developed or reduced to practice or caused to be conceived, developed or reduced to practice prior to the commencement of my work placement with Rigel, that I consider to be my property or the property of third parties and that I wish to have excluded from the scope of this Agreement (collectively referred to as “**Prior Inventions**”). If disclosure of any such Prior Invention would cause me to violate any prior confidentiality agreement, I understand that I am not to list such Prior Inventions in *Exhibit B* but am only to disclose a cursory name for each such invention, a listing of the party(ies) to whom it belongs and the fact that full disclosure as to such inventions has not been made for that reason. A space is provided on *Exhibit B* for such purpose. If no such disclosure is attached, I represent that there are no Prior Inventions. If, in the course of my employment at Rigel, I incorporate a Prior Invention into a Rigel product, process or machine, Rigel is hereby granted and shall have a nonexclusive, royalty-free, irrevocable, perpetual, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to make, have made, modify, use and sell such Prior Invention. Notwithstanding the foregoing, I agree that I will not incorporate, or permit to be incorporated, Prior Inventions in any Rigel Inventions without Rigel’s prior written consent.

**2.3 Assignment of Inventions.** Subject to Sections 2.4, and 2.6, I hereby assign and agree to assign in the future (when any such Inventions or Proprietary Rights are first conceived, reduced to practice or fixed in a tangible medium, as applicable) to Rigel all my right, title and interest in and to any and all Inventions (and all Proprietary Rights with respect thereto) whether or not patentable or registrable under copyright or similar statutes, made or conceived or reduced to practice or learned by me, either alone or jointly with others, during the period of my employment with Rigel. Inventions assigned to Rigel, or to a third party as directed by Rigel pursuant to this Section 2, are hereinafter referred to as “**Rigel Inventions.**”

**2.4 Nonassignable Inventions.** This Agreement does not apply to an Invention that qualifies fully as a nonassignable Invention under Section 2870 of the California Labor Code (hereinafter “**Section 2870**”). I have reviewed the notification on *Exhibit A* (Limited Exclusion Notification) and agree that my signature acknowledges receipt of the notification.

**2.5 Obligation to Keep Rigel Informed.** During the period of my employment at Rigel and for twelve (12) months after termination of my employment at Rigel, I will promptly disclose to Rigel fully and in writing all Inventions authored, conceived or reduced to practice by me, either alone or jointly with others that relate to Rigel’s field of business or to the work I performed for Rigel during my employment at Rigel (“**Related Subsequent Inventions**”). In addition, I will promptly disclose to Rigel all patent applications filed by me or on my behalf within a year after termination of employment at Rigel that claim or disclose Related Subsequent Inventions. At the time of each such disclosure, I will advise Rigel in writing of any Inventions that I believe fully qualify for protection under Section 2870; and I will at that time provide to Rigel in writing all evidence necessary to substantiate that belief. Rigel will keep in confidence and will not use for any purpose or disclose to third parties without my consent any confidential information disclosed in writing to Rigel pursuant to this Agreement relating to Inventions that qualify fully for protection under the provisions of Section 2870. I will preserve the confidentiality of any Invention that does not fully qualify for protection under Section 2870.

**2.6 Government or Third Party.** I also agree to assign all my right, title and interest in and to any particular Invention to a third party, including without limitation the United States, as directed by Rigel.

**2.7 Works for Hire.** I acknowledge that all original works of authorship which are made by me (solely or jointly with others) within the scope of my employment at Rigel and which are protectable by copyright are “works made for hire,” pursuant to United States Copyright Act (17 U.S.C., Section 101).

**2.8 Enforcement of Proprietary Rights.** I will assist Rigel in every proper way to obtain, and from time to time enforce, United States and foreign Proprietary Rights relating to Rigel Inventions in any and all countries. To that end I will execute, verify and deliver such documents and perform such other acts (including appearances as a witness) as Rigel may reasonably request for use in applying for, obtaining, perfecting, evidencing, sustaining and enforcing such Proprietary Rights and the assignment thereof. In addition, I will execute, verify and deliver assignments of such Proprietary Rights to Rigel or its designee. My obligation to assist Rigel with respect to Proprietary Rights relating to



such Rigel Inventions in any and all countries shall continue beyond the termination of my employment at Rigel, but Rigel shall compensate me at a reasonable rate after my termination for the time actually spent by me at Rigel's request on such assistance.

In the event Rigel is unable for any reason, after reasonable effort, to secure my signature on any document needed in connection with the actions specified in the preceding paragraph, I hereby irrevocably designate and appoint Rigel and its duly authorized officers and agents as my agent and attorney in fact, which appointment is coupled with an interest, to act for and in my behalf to execute, verify and file any such documents and to do all other lawfully permitted acts to further the purposes of the preceding paragraph with the same legal force and effect as if executed by me. I hereby waive and quitclaim to Rigel any and all claims, of any nature whatsoever, which I now or may hereafter have for infringement of any Proprietary Rights assigned hereunder to Rigel.

3. **Records.** I agree to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that may be required by Rigel) of all Proprietary Information developed by me and all Inventions made by me during the period of my employment at Rigel, which records shall be available to and remain the sole property of Rigel at all times.

4. **Additional Activities.** I agree that during the period of my employment at Rigel I will not, without Rigel's express written consent, engage in any work placement or employment or business activity which is competitive with, or would otherwise conflict with, my employment with Rigel. I agree further that for the period of my employment by Rigel and for one (1) year after the date of termination of my employment at Rigel I will not induce any employee of Rigel to leave the employ of Rigel.

5. **No Conflicting Obligation.** I represent that my performance of all the terms of this Agreement and as temporary contract worker or intern of Rigel does not and will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my employment at Rigel. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict herewith.

6. **Return of Rigel Documents.** When I leave my employ of Rigel, I will deliver to Rigel any and all drawings, notes, memoranda, specifications, devices, formulas, samples, and documents, together with all copies thereof, and any other material containing or disclosing any Rigel Inventions, Third Party Information or Proprietary Information of Rigel. I further agree that any property situated on Rigel's premises and owned by Rigel, including disks and other storage media, filing cabinets or other work areas, is subject to inspection by Rigel personnel at any time with or without notice. Prior to leaving, I will cooperate with Rigel in completing and signing Rigel's termination statement.

7. **Legal and Equitable Remedies.** Because my services are personal and unique and because I may have access to and become acquainted with the Proprietary Information of Rigel, Rigel shall have the right to enforce this Agreement and any of its provisions by injunction, specific performance or other equitable relief, without bond and without prejudice to any other rights and remedies that Rigel may have for a breach of this Agreement.

8. **Notices.** Any notices required or permitted hereunder shall be given to the appropriate party at the address specified below or at such other address as the party shall specify in writing. Such notice shall be deemed given upon personal delivery to the appropriate address or if sent by certified or registered mail, three (3) days after the date of mailing.

9. **Notification of New Work Placement.** In the event that I leave the employ of Rigel, I hereby consent to the notification of my new work placement or employer of my rights and obligations under this Agreement.

#### 10. **General Provisions.**

10.1 **Governing Law; Consent to Personal Jurisdiction.** This Agreement will be governed by and construed according to the laws of the State of California, as such laws are applied to agreements entered into and to be performed entirely within California between California residents. I hereby expressly consent to the personal jurisdiction of the state and federal courts located in San Mateo County, California for any lawsuit filed there against me by Rigel arising from or related to this Agreement.

10.2 **Severability.** In case any one or more of the provisions contained in this Agreement shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein. If moreover, any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it shall then appear.

10.3 **Successors and Assigns.** This Agreement will be binding upon my heirs, executors, administrators and other legal representatives and will be for the benefit of Rigel, its successors, and its assigns.

10.4 **Survival.** The provisions of this Agreement shall survive the termination of my work placement at Rigel and the assignment of this Agreement by Rigel to any successor in interest or other assignee.

10.5 **Employment.** I agree and understand that nothing in this Agreement shall confer any right with respect to continuation of my employment at Rigel, nor shall it interfere in any way with my right or Rigel's right to terminate my employment at Rigel at any time, with or without cause.

10.6 **Waiver.** No waiver by Rigel of any breach of this Agreement shall be a waiver of any preceding or succeeding breach. No waiver by Rigel of any right under this Agreement shall be construed as a waiver of any other right. Rigel shall not be required to give notice to enforce strict adherence to all terms of this Agreement.

10.7 **Entire Agreement.** The obligations pursuant to Sections 1 and 2 of this Agreement shall apply to any time during which I was previously placed at Rigel, or am in the future placed at Rigel, by Rigel as a consultant if no other agreement governs nondisclosure and assignment of inventions during such period. No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, will be effective unless in writing and signed by the party to be charged. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

This Agreement shall be effective as of the first day of my employment at Rigel, namely: \_\_\_\_\_

**I HAVE READ THIS AGREEMENT CAREFULLY AND UNDERSTAND ITS TERMS. I HAVE COMPLETELY FILLED OUT EXHIBIT B TO THIS AGREEMENT.**

**ACCEPTED AND AGREED:**

Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Dated: \_\_\_\_\_

**RIGEL PHARMACEUTICALS, INC.**

By: \_\_\_\_\_  
Name & Title: \_\_\_\_\_

**EXHIBIT A**

**LIMITED EXCLUSION NOTIFICATION**

**THIS IS TO NOTIFY** you in accordance with Section 2872 of the California Labor Code that the foregoing Agreement between you and Rigel does not require you to assign or offer to assign to Rigel any invention that you developed entirely on your own time without using Rigel's equipment, supplies, facilities or trade secret information except for those inventions that either:

- (1) Relate at the time of conception or reduction to practice of the invention to Rigel's business, or actual or demonstrably anticipated research or development of Rigel;
- (2) Result from any work performed by you for Rigel.

To the extent a provision in the foregoing Agreement purports to require you to assign an invention otherwise excluded from the preceding paragraph, the provision is against the public policy of this state and is unenforceable.

This limited exclusion does not apply to any patent or invention covered by a contract between Rigel and the United States or any of its agencies requiring full title to such patent or invention to be in the United States.

**I ACKNOWLEDGE RECEIPT** of a copy of this notification.

By: \_\_\_\_\_  
Name \_\_\_\_\_

**WITNESSED:**

By: \_\_\_\_\_  
Dated: \_\_\_\_\_

**EXHIBIT B**

**TO: Rigel Pharmaceuticals, Inc.**

**FROM:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**SUBJECT: Previous Inventions**

1. Except as listed in Section 2 below, the following is a complete list of all inventions or improvements relevant to the subject matter of my employment at Rigel Pharmaceuticals, Inc. that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by Rigel Pharmaceuticals, Inc.:

No inventions or improvements.

See below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional sheets attached.

2. Due to a prior confidentiality agreement, I cannot complete the disclosure under Section 1 above with respect to inventions or improvements generally listed below, the proprietary rights and duty of confidentiality with respect to which I owe to the following party(ies):

	<b>Invention or Improvement</b>	<b>Party(ies)</b>	<b>Relationship</b>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Additional sheets attached

## CERTIFICATIONS

I, Raul R. Rodriguez, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Rigel Pharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2018

/s/ RAUL R. RODRIGUEZ  
Raul R. Rodriguez  
Chief Executive Officer

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## CERTIFICATIONS

I, Dean L. Schorno, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Rigel Pharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2018

/s/ DEAN L. SCHORNO  
Dean L. Schorno  
Chief Financial Officer

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## CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Raul R. Rodriguez, Chief Executive Officer of Rigel Pharmaceuticals, Inc. (the "Company"), and Dean L. Schorno, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended June 30, 2018, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act, and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

In Witness Whereof, the undersigned have set their hands hereto as of August 8, 2018.

/s/ RAUL R. RODRIGUEZ

Raul R. Rodriguez  
Chief Executive Officer

/s/ DEAN L. SCHORNO

Dean L. Schorno  
Chief Financial Officer

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

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