UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2017

OR

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

For the transition period from _____ to _____

Commission File Number: 001-38266

SPERO THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**46-4590683**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
675 Massachusetts Avenue, 14th Floor Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (857) 242-1600

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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒ (Do not check if a small reporting company)	Small reporting company	☐
		Emerging growth company	☒

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

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

As of November 30, 2017, the registrant had 14,369,182 shares of common stock, $0.001 par value per share, outstanding.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q, or this Quarterly Report, contains forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other than statements of historical facts contained in this Quarterly Report are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress and results of our preclinical studies and clinical trials, and our research and development programs;
- our ability to retain the continued service of our key professionals and to identify, hire and retain additional qualified professionals;
- our ability to advance product candidates into, and successfully complete, clinical trials;
- the timing or likelihood of regulatory filings and approvals;
- the commercialization of our product candidates, if approved;
- the pricing, coverage and reimbursement of our product candidates, if approved;
- the implementation of our business model, strategic plans for our business and product candidates and our Potentiator Platform;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and our Potentiator Platform;
- our ability to enter into strategic arrangements and/or collaborations and the potential benefits of such arrangements;
- our estimates regarding expenses, capital requirements and needs for additional financing;
- our financial performance;
- developments relating to our competitors and our industry; and
- other risks and uncertainties, including those listed under Part II, Item 1A. “Risk Factors”.

Any forward-looking statements in this Quarterly Report reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under Part II, Item 1A. “Risk Factors” and elsewhere in this Quarterly Report. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Quarterly Report also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

Spero Therapeutics, Inc.
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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

SPERO THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except unit, share and per share amounts)
(Unaudited)

	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 25,373	$ 10,315
Other receivables	537	304
Prepaid expenses and other current assets	1,049	1,253
Total current assets	26,959	11,872
Tax incentive receivables	976	144
Property and equipment, net	1,264	1,500
Deferred offering costs	2,095	—
Deposits	206	206
Restricted cash	50	50
Total assets	$ 31,550	$ 13,772
Liabilities, Bridge Units, Redeemable Convertible Preferred Shares and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 2,011	$ 1,139
Accrued expenses and other current liabilities	4,504	2,928
Derivative liabilities	217	2,708
Deferred rent	142	143
Total current liabilities	6,874	6,918
Deferred rent, net of current portion	399	493
Total liabilities	7,273	7,411
Commitments and contingencies (Note 9)		
Bridge units	—	7,924
Redeemable convertible preferred units (Class A, B, C and Junior); no units authorized, issued or outstanding as of September 30, 2017; 13,549,685 units issued and outstanding as of December 31, 2016, aggregate liquidation preference of $50,326 as of December 31, 2016	—	47,685
Redeemable convertible preferred stock (Series A, B, C and Junior), $0.001 par value; 43,297,267 shares authorized as of September 30, 2017, 43,259,147 shares issued and outstanding as of September 30, 2017; aggregate liquidation preference of $108,371 as of September 30, 2017; no shares authorized, issued or outstanding as of December 31, 2016	106,110	—
Stockholders' deficit:		
Common units, 335,281 units issued and outstanding as of December 31, 2016	—	—
Common stock, $0.001 par value; 61,917,986 shares authorized as of September 30, 3017; 335,281 shares issued and outstanding as of September 30, 2017; no shares authorized, issued or outstanding as of December 31, 2016	—	—
Additional paid-in capital	—	—
Accumulated deficit	(82,194)	(45,440)
Total Spero Therapeutics, Inc. stockholders' deficit	(82,194)	(45,440)
Non-controlling interests	361	(3,808)
Total stockholders' deficit	(81,833)	(49,248)
Total liabilities, bridge units, redeemable convertible preferred shares and stockholders' deficit	$ 31,550	$ 13,772

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

SPERO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share data)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenue	$ 597	$ —	$ 986	$ —
Operating expenses:				
Research and development	6,910	6,005	20,366	19,406
General and administrative	3,653	1,909	8,350	5,005
Total operating expenses	10,563	7,914	28,716	24,411
Loss from operations	(9,966)	(7,914)	(27,730)	(24,411)
Other income (expense):				
Change in fair value of derivative liabilities	(2)	(4)	1,547	(37)
Interest income and other income (expense), net	124	—	165	4
Total other income (expense), net	122	(4)	1,712	(33)
Net loss and comprehensive loss	(9,844)	(7,918)	(26,018)	(24,444)
Less: Net loss attributable to non-controlling interest	(8)	(1,602)	(1,137)	(6,164)
Net loss attributable to Spero Therapeutics, Inc.	(9,836)	(6,316)	(24,881)	(18,280)
Cumulative dividends on redeemable convertible preferred shares	(2,052)	(916)	(5,313)	(2,523)
Accretion of redeemable bridge units and redeemable convertible preferred shares to redemption value	(188)	(178)	(1,133)	(792)
Net loss attributable to common stockholders of Spero Therapeutics, Inc.	$ (12,076)	$ (7,410)	$ (31,327)	$ (21,595)
Net loss per share attributable to common stockholders, basic and diluted	$ (36.02)	$ (23.23)	$ (93.96)	$ (70.15)
Weighted average common shares outstanding, basic and diluted:	335,285	318,948	333,402	307,852

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

SPERO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2017	2016
Cash flows from operating activities:		
Net loss	$(26,018)	$(24,444)
Adjustments to reconcile net loss to net cash used in operating activities:		
Non-cash research and development expense	—	4,595
Depreciation and amortization	264	194
Change in fair value of derivative liabilities	(1,547)	37
Share-based compensation	1,054	117
Unrealized foreign currency transaction gain	(93)	—
Changes in operating assets and liabilities:		
Other receivables	(233)	10
Prepaid expenses and other current assets	204	(759)
Tax incentive receivables	(806)	—
Deposits	—	(53)
Related party receivable (payable), net	—	(14)
Accounts payable	(112)	(679)
Accrued expenses and other current liabilities	1,011	2,226
Deferred rent	(95)	(56)
Advance payments from collaborator	—	(929)
Net cash used in operating activities	(26,371)	(19,755)
Cash flows from investing activities:		
Purchases of property and equipment	—	(569)
Net cash used in investing activities	—	(569)
Cash flows from financing activities:		
Proceeds from issuance of Class B preferred units, net of issuance costs	—	25,913
Proceeds from issuance of Class C preferred units, net of issuance costs	43,111	—
Payment of offering costs	(507)	—
Cash payment for non-controlling interests	(1,175)	—
Net cash provided by financing activities	41,429	25,913
Net increase in cash and cash equivalents	15,058	5,589
Cash and cash equivalents at beginning of period	10,315	5,691
Cash and cash equivalents at end of period	$ 25,373	$ 11,280
Supplemental disclosure of non-cash investing and financing activities:		
Conversion of bridge units into preferred units	$ 8,500	$ —
Settlement of derivative liability upon issuance of preferred units	$ 944	$ —
Issuance of tranche rights with preferred units	$ —	$ 909
Deemed contribution of capital	$ —	$ 2,408
Cumulative dividends on redeemable convertible preferred units	$ 5,313	$ 2,523
Accretion of redeemable convertible preferred units to redemption value	$ 557	$ 792
Accretion of bridge units to redemption value	$ 576	$ —
Issuance of additional shares of common stock to minority investors under anti-dilution rights	$ —	$ 980
Elimination of non-controlling interest balance upon repurchase of the non-controlling interest	$ 5,306	$ —
Purchases of property and equipment in accounts payable, accrued expense and deferred rent	$ 28	$ 25
Deferred offering costs in accounts payable and accrued expenses	$ 1,588	$ —

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

SPERO THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Nature of the Business and Basis of Presentation

Spero Therapeutics, Inc., together with its consolidated subsidiaries (the "Company"), is a multi-asset, clinical-stage biopharmaceutical company focused on identifying, developing and commercializing novel treatments for multi-drug resistant ("MDR") bacterial infections. The Company's most advanced product candidate, SPR994, is designed to be the first broad-spectrum oral carbapenem-class antibiotic for use in adults to treat MDR Gram-negative infections. Treatment with effective orally administrable antibiotics may prevent hospitalizations for serious infections and enable earlier, more convenient and cost-effective treatment of patients after hospitalization. The Company also has a platform technology known as its Potentiator Platform that it believes will enable it to develop drugs that will expand the spectrum and potency of existing antibiotics, including formerly inactive antibiotics, against Gram-negative bacteria. The Company's lead product candidates generated from its Potentiator Platform are two intravenous, or IV,-administered agents, SPR741 and SPR206, designed to treat MDR Gram-negative infections in the hospital setting. In addition, the Company is developing SPR720, an oral antibiotic designed for the treatment of pulmonary non-tuberculous mycobacterial infections. The Company believes that its novel product candidates, if successfully developed and approved, would have a meaningful patient impact and significant commercial applications for the treatment of MDR infections in both the community and hospital settings.

The Company was formed as Spero Therapeutics, LLC in December 2013 under the laws of the State of Delaware. On June 30, 2017, through a series of transactions, Spero Therapeutics, LLC merged with and into Spero Therapeutics, Inc. (formerly known as Spero OpCo, Inc.), a Delaware corporation. As part of the transactions, holders of preferred units and common units of Spero Therapeutics, LLC exchanged their units for shares of Spero Therapeutics, Inc. on a one-for-one basis. These transactions are collectively referred to as the Reorganization. Upon completion of the Reorganization, the historical consolidated financial statements of Spero Therapeutics, LLC became the historical consolidated financial statements of Spero Therapeutics, Inc. because the Reorganization was accounted for as a reorganization of entities under common control.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Product candidates currently under development will require significant additional research and development efforts, including preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

On November 6, 2017, Spero Therapeutics, Inc. completed an initial public offering ("IPO") of its common stock, and issued and sold 5,500,000 shares of common stock at a public offering price of $14.00 per share, resulting in net proceeds of $71.6 million after deducting underwriting discounts and commissions but before deducting offering costs. On November 14, 2017, Spero Therapeutics, Inc., issued and sold an additional 471,498 shares of its common stock at the IPO price of $14.00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock, resulting in additional net proceeds of $6.1 million after deducting underwriting discounts and commissions. Upon the closing of the IPO in November 2017, the Company's outstanding convertible preferred shares automatically converted into shares of common stock (see Note 5).

In accordance with Accounting Standards Update ("ASU") 2014-15, Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern (Subtopic 205-40), the Company has evaluated whether there are conditions and events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the consolidated financial statements are issued. Since inception, the Company has funded its operations with proceeds from sales of preferred units (including bridge units, which converted into preferred units), payments received in connection with a concluded collaboration agreement, funding from government contracts, and most recently, with proceeds from the IPO completed in November 2017. The Company has incurred recurring losses since inception, including net losses attributable to Spero Therapeutics, Inc. of $9.8 million and $24.9 million for the three and nine months ended September 30, 2017, respectively. As of September 30, 2017, the Company had an accumulated deficit of $82.2 million. The Company expects to continue to generate operating losses for the foreseeable future. As of the issuance date of the interim consolidated financial statements, the Company expects that the $77.7 million of net proceeds after deducting underwriting discounts and commissions it received from the completion of its IPO in November 2017, together with its cash and cash equivalents of $25.4 million as of September 30, 2017, would be sufficient to fund its operating expenses, capital expenditure requirements through at least 12 months from the issuance date of these interim consolidated

financial statements. However, the future viability of the Company beyond that point is dependent on its ability to raise additional capital to finance its future operations. The Company will seek additional funding through public or private financings, debt financing, collaboration agreements or government grants. The inability to obtain funding, as and when needed, would have a negative impact on the Company's financial condition and ability to pursue its business strategies. If the Company is unable to obtain funding, the Company could be forced to delay, reduce or eliminate some or all of its research and development programs, product portfolio expansion or commercialization efforts, which could adversely affect its business prospects, or the Company may be unable to continue operations. Although management intends to pursue plans to obtain additional funding to finance its operations, there is no assurance that the Company will be successful in obtaining sufficient funding on terms acceptable to the Company to fund continuing operations, if at all.

The accompanying consolidated financial statements of the Company have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") and include the accounts of the Company and its consolidated subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

On October 20, 2017, the Company effected a one-for-6.0774 reverse stock split of its issued and outstanding shares of common stock and a proportional adjustment to the existing conversion ratios for each series of the Company's Preferred Stock (see Note 5). Accordingly, all share and per share amounts for all periods presented in the accompanying consolidated financial statements and notes thereto have been adjusted retroactively, where applicable, to reflect this reverse stock split and adjustment of the preferred stock conversion ratios. In addition, all common units and incentive units as well as the conversion ratios of preferred units of Spero Therapeutics, LLC have been presented as if the reverse stock split of the common stock of Spero Therapeutics, Inc. had been applied to such units and ratios of Spero Therapeutics, LLC.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting periods. Significant estimates and assumptions reflected in these consolidated financial statements include, but are not limited to, revenue recognition, the accrual for research and development expenses, the valuation of common shares prior to the Company's completion of its IPO, the valuation of share-based awards and the valuation of derivative liabilities. The Company bases its estimates on historical experience, known trends and other market-specific or other relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates, as there are changes in circumstances, facts and experience. Actual results may differ from those estimates or assumptions.

Interim Financial Information

The consolidated balance sheet at December 31, 2016 was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. The accompanying unaudited consolidated financial statements as of September 30, 2017 and for the three and nine months ended September 30, 2017 and 2016 have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC") for interim financial statements. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. These consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and the notes thereto for the year ended December 31, 2016 included in the Company's Registration Statement on Form S-1, File Number 333-220858 on file with SEC. In the opinion of management, all adjustments, consisting only of normal recurring adjustments necessary for a fair statement of the Company's financial position as of September 30, 2017 and results of operations for the three and nine months ended September 30, 2017 and 2016 and cash flows for the nine months ended September 30, 2017 and 2016 have been made. The results of operations for the three and nine months ended September 30, 2017 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2017.

Deferred Offering Costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in stockholders' deficit as a reduction of additional paid-in capital generated as a result of the offering. Should the planned equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the consolidated statement of operations and comprehensive loss.

Fair Value Measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The Company's cash equivalents and derivative liabilities are carried at fair value, determined according to the fair value hierarchy described above (see Note 3). The carrying values of the Company's receivables, accounts payable and accrued expenses approximate their fair values due to the short-term nature of these assets and liabilities.

Derivative Liabilities

In connection with certain equity financings, licensing transactions and research collaborations, the Company has identified certain embedded and freestanding derivatives, which are recorded as liabilities on the Company's consolidated balance sheet and are remeasured to fair value at each reporting date until the derivative is settled. Changes in the fair value of the derivative liabilities are recognized as other income (expense) in the consolidated statement of operations and comprehensive loss.

Net Income (Loss) per Share Attributable to Spero Therapeutics, Inc.

The Company follows the two-class method when computing net income (loss) per share, as the Company has issued shares that meet the definition of participating securities. The two-class method determines net income (loss) per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed. Net income (loss) per share attributable to common stockholders is calculated based on net income (loss) attributable to Spero Therapeutics, Inc. and excludes net income (loss) attributable to non-controlling interests.

Basic net income (loss) per share attributable to common stockholders is computed by dividing the net income (loss) attributable to common stockholders by the weighted average number of shares of common stock outstanding for the period. Diluted net income (loss) attributable to common stockholders is computed by adjusting net income (loss) attributable to common stockholders to reallocate undistributed earnings based on the potential impact of dilutive securities. Diluted net income (loss) per share attributable to common stockholders is computed by dividing the diluted net income (loss) attributable to common stockholders by the weighted average number of common shares outstanding for the period, including potential dilutive common shares assuming the dilutive effect of common stock equivalents.

The Company's preferred stock contractually entitles the holders of such shares to participate in dividends but does not contractually require the holders of such shares to participate in losses of the Company. Accordingly, in periods in which the Company reports a net loss, such losses are not allocated to such participating securities. In periods in which the Company reports a net loss attributable to common stockholders of Spero Therapeutics, Inc., diluted net loss per share attributable to common stockholders of Spero Therapeutics, Inc. is the same as basic net loss per share attributable to common stockholders of Spero Therapeutics, Inc., since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive. The Company reported a net loss attributable to common stockholders of Spero Therapeutics, Inc. for the three and nine months ended September 30, 2017 and 2016.

Recently Adopted Accounting Pronouncements

In March 2016, the FASB issued ASU No. 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). ASU 2016-09 involves several aspects of the accounting for share-based transactions, including the income tax consequences, classification of awards as either equity or liabilities, an option to recognize gross share compensation expense with actual forfeitures recognized as they occur and certain classifications on the statement of cash flows. Certain of these changes are required to be applied retrospectively, while other changes are required to be applied prospectively. The Company adopted ASU 2016-09 as of the required effective date of January 1, 2017 and has elected to account for forfeitures as they occur rather than apply an estimated forfeiture rate to share-based compensation expense. The adoption of ASU 2016-09 had no material impact on the Company's financial position, results of operations or cash flows.

Recently Issued Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"), which supersedes existing revenue recognition guidance under GAAP. The standard's core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. The standard outlines a five-step process to achieve this principle, and will require companies to use more judgment and make more estimates than under the current guidance. The Company expects that these judgments and estimates will include identifying performance obligations in the customer contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. ASU 2014-09 also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which delays the effective date of ASU 2014-09 such that the standard is effective for public entities for annual periods beginning after December 15, 2017 and for interim periods within those fiscal years. In March 2016, the FASB issued ASU No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations* ("ASU 2016-08"), which further clarifies the implementation guidance on principal versus agent considerations in ASU 2014-09. In April 2016, the FASB issued ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing*, clarifying the implementation guidance on identifying performance obligations and licensing. Specifically, the amendments in this update reduce the cost and complexity of identifying promised goods or services and improve the guidance for determining whether promises are separately identifiable. The amendments in this update also provide implementation guidance on determining whether an entity's promise to grant a license provides a customer with either a right to use the entity's intellectual property (which is satisfied at a point in time) or a right to access the entity's intellectual property (which is satisfied over time). In May 2016, the FASB issued ASU No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients* ("ASU 2016-12"), which clarifies the objective of the collectability criterion, presentation of taxes collected from customers, non-cash consideration, contract modifications at transition, completed contracts at transition and how guidance in ASU 2014-09 is retrospectively applied. ASU 2016-08, ASU 2016-10 and ASU 2016-12 have the same effective dates and transition requirements as ASU 2014-09. The Company plans to adopt this standard using the modified retrospective approach. The Company's preliminary assessment is that government grant revenue is outside the scope of ASC 606. Therefore the Company does not believe the adoption of ASC 606 will impact the Company's financial position, results of operations or cash flows as its only existing revenue source as of September 30, 2017 is government grants.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842*) ("ASU 2016-02"), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e., lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. The guidance is effective for public entities for annual reporting periods beginning after December 15, 2018 and for interim periods within those fiscal years, and early adoption is permitted. The Company is currently evaluating the impact that the adoption of ASU 2016-02 will have on its consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows: Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), to address diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU 2016-15 will have on its consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18 *Statement of Cash Flows (Topic 230)* ("ASU 2016-18"), which requires that amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years and should be applied using a retrospective transition method to each period presented. Early adoption is permitted. The Company is currently evaluating the impact of ASU 2016-18 on its consolidated financial statements.

In January 2017, FASB issued ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business* ("ASU 2017-01"). The amendments in this update clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill and consolidation. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU 2017-01 will have on its consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting* ("ASU 2017-09"), which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the impact that the adoption of ASU 2017-09 will have on its consolidated financial statements.

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815) I. Accounting for Certain Financial Instruments with Down Round Features II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception*. Part I applies to entities that issue financial instruments such as warrants, convertible debt or convertible preferred stock that contain down-round features. Part II replaces the indefinite deferral for certain mandatorily redeemable noncontrolling interests and mandatorily redeemable financial instruments of nonpublic entities contained within ASC Topic 480 with a scope exception and does not impact the accounting for these mandatorily redeemable instruments. ASU 2017-11 is required to be adopted for annual periods beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU 2017-11 will have on its consolidated financial statements.

3. Fair Value of Financial Assets and Liabilities

The following tables present information about the Company's assets and liabilities that are measured at fair value on a recurring basis (in thousands):

	Fair Value Measurements at September 30, 2017 Using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents:				
Money market funds	$ —	$ 21,732	$ —	$ 21,732
	$ —	$ 21,732	—	$ 21,732
Liabilities:				
Derivative liabilities:				
Anti-dilution rights	$ —	$ —	$ 217	$ 217
	$ —	$ —	$ 217	$ 217

	Fair Value Measurements at December 31, 2016 Using:			
	Level 1	Level 2	Level 3	Total
Derivative liabilities:				
Anti-dilution rights	$ —	$ —	$ 1,806	$ 1,806
Contingent prepayment option	—	—	902	902
	$ —	$ —	$ 2,708	$ 2,708

During the three and nine months ended September 30, 2017 and 2016, there were no transfers between Level 1, Level 2 and Level 3.

Tranche Rights

The Company's sales of Class A-1 preferred units ("Class A preferred units") and Class B-1 preferred units ("Class B preferred units") (see Note 5) provided investors with the right to participate in subsequent offerings of Class A and Class B preferred units in the event specified development and regulatory milestones were achieved. The Company classified each of the tranche rights as a derivative liability on its consolidated balance sheet because they met the definition of freestanding financial instruments that could have required the Company to transfer assets upon exercise. The Company remeasured the derivative liabilities associated with tranche rights to fair value at each reporting date, and recognized changes in the fair value of the derivative liabilities as a component of other income (expense) in the consolidated statement of operations and comprehensive loss.

The fair value of these derivative liabilities was determined using the probability-weighted expected return method ("PWERM"), which considered as inputs the probability and time that a milestone would be achieved, the potential fair value of preferred stock upon the exercise of the tranche right and the risk-adjusted discount rate.

Class A Tranche Rights

The fair value of the tranche right related to the Company's Class A preferred unit financing (see Note 5) was $2.4 million as of December 31, 2015. Upon the issuance of the Class B preferred units in February 2016, the tranche right was cancelled and the settlement of the fair value of the derivative liability of $2.4 million was recorded as an increase to additional paid-in capital as a deemed capital contribution from the Class A preferred unit investors.

Class B Tranche Rights

The fair value of the tranche right related to the Company's Class B preferred unit financing upon issuance in February 2016 was $0.9 million. Upon the issuance of bridge units in December 2016, the tranche rights were cancelled and the fair value of the derivative liability, which had decreased by $0.6 million to $0.3 million as of the date of settlement due to a decrease in the fair value of the Company's underlying units, was settled (see Note 5).

Anti-Dilution Rights

In connection with the issuance of non-controlling interests in certain of the Company's subsidiaries (see Note 8), specifically Spero Potentiator, Inc., Spero Europe, Ltd. and Spero Gyrase, Inc., the Company granted anti-dilution rights to the minority investors. The Company classifies the anti-dilution rights as a derivative liability on its consolidated balance sheet because they are freestanding instruments that represent a conditional obligation to issue a variable number of shares. The Company remeasures the derivative liability associated with the anti-dilution rights to fair value at each reporting date, and recognizes changes in the fair value of the derivative liability as a component of other income (expense) in the consolidated statement of operations and comprehensive loss. The fair value of these derivative liabilities was determined using a discounted cash flow model.

Spero Potentiator

In connection with the Company's issuance of a non-controlling interest in its subsidiary, Spero Potentiator Inc. ("Spero Potentiator"), to Northern Antibiotics Oy Ltd. ("Northern") in February 2015, the Company granted to Northern certain anti-dilution rights (see Note 8). The fair value of the derivative liability related to the anti-dilution rights was $1.0 million as of December 31, 2015. In January and August 2016, the Company issued an additional 2,160 shares of Spero Potentiator's common shares for no additional cost to Northern as a result of the anti-dilution rights. Upon issuance, the fair value of the additional shares of Spero Potentiator issued to Northern of $1.0 million was recorded as a reduction of the derivative liability and as an increase to the non-

controlling interest. At that time, the derivative liability related to the anti-dilution rights issued to Northern was fully settled as Northern had received the maximum number of shares it was entitled to under the anti-dilution rights.

The most significant assumption impacting the fair value of the anti-dilution rights was the probability that the Company would fund the maximum amount of investment providing anti-dilution protection. Upon issuance of the rights and through August 2016, the date the maximum anti-dilution protection was reached, the Company's assumption for the probability of such funding was 100%.

Spero Europe, Ltd.

In January 2016, in connection with the issuance of a non-controlling interest in its subsidiary, Spero Europe, Ltd. ("Spero Europe"), to Promiliad Biopharma Inc. ("Promiliad"), the Company granted to Promiliad certain anti-dilution rights (see Note 8). The fair value of the derivative liability related to the anti-dilution rights upon issuance in January 2016 was $0.2 million.

The change in the fair value of the derivative liability associated with the anti-dilution rights was insignificant during the three and nine months ended September 30, 2016. In the first and second quarters of 2017, the fair value of the derivative liability decreased by $0.2 million to $0 by May 2017. In May 2017, the non-controlling interest in Spero Europe, Ltd. was repurchased and the anti-dilution rights were settled.

The most significant assumption impacting the fair value of the anti-dilution rights was the probability that the Company would fund the maximum amount of investment providing anti-dilution protection. Upon the issuance of the rights and through December 31, 2016, the probability of such funding was determined to be 100%. During the first and second quarters of 2017, the probability of funding Spero Europe, Ltd. was reduced to 0% due to the Company's decision to no longer pursue development of the licensed technology.

Spero Gyrase, Inc.

In March 2016, in connection with the issuance of a non-controlling interest in its subsidiary, Spero Gyrase, Inc. ("Spero Gyrase"), to Biota Pharmaceuticals, Inc. (now Aviragen Therapeutics, Inc.) ("Aviragen"), the Company granted to Aviragen certain anti-dilution rights (see Note 8). The fair value of the derivative liability related to the anti-dilution rights upon issuance in March 2016 was $1.6 million.

The change in the fair value of the derivative liability associated with the anti-dilution rights was insignificant during the three and nine months ended September 30, 2016. In the first and second quarters of 2017, the fair value of the derivative liability decreased by $1.4 million to $0.2 million by June 30, 2017 and remained unchanged as of September 30, 2017 due to Company's decision to no longer pursue development of the acquired technology.

The most significant assumption impacting the fair value of the anti-dilution rights was the probability that the Company would fund the maximum amount of investment providing anti-dilution protection. Upon issuance of the rights and through December 31, 2016, the probability of such funding was determined to be 100%. As of September 30, 2017, the probability of providing future funding to the entity was 0% due to the Company's decision to no longer pursue development of the acquired technology. As of September 30, 2017, the value of the derivative liability of $0.2 million represents amounts funded to the entity that could be settled by the issuance of equity.

Contingent Prepayment Options

Bridge units issued to investors in December 2016 contained contingent prepayment options whereby such units were automatically convertible into equity units sold in a subsequent round of qualified financing at a discounted rate. The Company classified the contingent prepayment options as a derivative liability on its consolidated balance sheet because the bridge units were deemed to be more akin to debt than equity and the embedded prepayment options were at a substantial discount, thus meeting the definition of a derivative liability. The Company remeasured the derivative liability associated with the contingent prepayment options to fair value at each reporting date, and recognized changes in the fair value of the derivative liability as a component of other income (expense) in its consolidated statements of operations and comprehensive loss.

The fair value of the derivative liability was determined using the PWERM, which considered as inputs the probability and time that a subsequent round of preferred stock financing would occur and the risk-adjusted discount rate. The fair value of the derivative liability related to the contingent prepayment options was $0.9 million at issuance. The fair value of the derivative liability increased by less than $0.1 million during the first quarter of 2017, at which time the contingent prepayment option was settled upon the issuance of Class C preferred units in March 2017.

The following table provides a roll forward of the aggregate fair values of the Company's derivative liabilities, for which fair value was determined by Level 3 inputs (in thousands):

	Contingent Prepayment Options	Anti-Dilution Rights	Total
Balance at December 31, 2016	902	1,806	2,708
Change in fair value	42	(1,589)	(1,547)
Settlement	(944)	—	(944)
Balance at September 30, 2017	$ —	$ 217	$ 217

4. Accrued Expenses and Other Current Liabilities

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

	September 30, 2017	December 31, 2016
Accrued external research and development expenses	$ 1,735	$ 627
Accrued professional fees	1,644	1,062
Accrued payroll and related expenses	873	1,018
Accrued other	252	221
	$ 4,504	$ 2,928

5. Redeemable Convertible Preferred Shares

As of December 31, 2016, the operating agreement of Spero Therapeutics, LLC, as amended and restated, provided for the issuance of Junior preferred units, Class A preferred units, Class B preferred units and bridge units, but did not specify an authorized number of each for issuance. Subsequent to the Reorganization (see Note 1), the Company's amended and restated certificate of incorporation authorized the issuance of 43,297,267 shares of preferred stock, par value $0.001 per share.

Class A Preferred Unit Financing

The Class A preferred unit financing completed in 2015 included a provision for the issuance of an additional 3,295,455 Class A preferred units at a price of $4.40 per unit in exchange for gross proceeds of $14.5 million in the event the Company achieved a regulatory milestone. The Company classified this tranche right as a derivative liability on its consolidated balance sheet on the date of issuance, and the fair value of tranche right on the date of issuance of $2.4 million was recorded as both a derivative liability and as a reduction to the carrying value of the Class A preferred units. Upon issuance of the Class B preferred units in February 2016, the tranche right was cancelled (see Note 3).

Class B Preferred Unit Financing

In February 2016, the Company issued and sold 5,909,089 Class B preferred units at a price of $4.40 per unit for proceeds of $25.9 million, net of issuance costs of $0.1 million.

The Class B preferred unit financing included a provision for the issuance of an additional 1,609,846 Class B preferred units at a price of $5.28 per unit in exchange for gross proceeds of $8.5 million in the event the Company achieved a regulatory milestone. The Company classified this tranche right as a derivative liability on its consolidated balance sheet on the date of issuance, and the fair value of the tranche right on the date of issuance of $0.9 million was recorded as both a derivative liability and as a reduction to the carrying value of the Class B preferred units.

2016 Bridge Units

The regulatory milestone related to the Class B tranche right was achieved in the fourth quarter of 2016; however, the Company and the holders of the Class B preferred units agreed to replace the second closing of Class B preferred units with the

issuance of bridge units that would be convertible in the next qualified financing at a 10% discount. Accordingly, in December 2016, the Company issued and sold 8,500 bridge units to existing investors at a price of $1,000 per unit for gross proceeds of $8.5 million (the "2016 bridge units"). Upon issuance of the 2016 bridge units, the fair value of the derivative liability associated with the Class B tranche right of $0.3 million was settled, resulting in a decrease to the carrying value of the derivative liability and an increase to the carrying value of the 2016 bridge units (see Note 3). The bridge units did not provide for any stated rate of return and were automatically convertible into the same type of units issuable upon a qualified financing at a 10% discount to the per unit price paid by investors in a qualified financing. The Company classified this contingent prepayment option as a derivative liability on its consolidated balance sheet on the date of issuance, and the fair value of the contingent prepayment option on the date of issuance of $0.9 million was recorded as both a derivative liability and as a reduction to the carrying value of the bridge units.

Class C Preferred Unit Financing

In March 2017, the Company issued and sold 24,326,470 Class C preferred units at a price of $1.7749 per unit for proceeds of $43.0 million, net of issuance costs of $0.2 million. The sale of Class C preferred units met the definition of a qualified financing under the 2016 bridge unit agreements.

The Company issued 5,321,112 Class C preferred units upon the conversion of the 2016 bridge units in the amount of $8.5 million, at a conversion price of $1.60 per unit, which represented a discount of 10% to the price per unit paid by other investors in the Class C preferred unit financing. The conversion was accounted for as an extinguishment for accounting purposes. Accordingly, the Company recorded the Class C preferred units issued upon conversion of the 2016 bridge units at their aggregate fair value of $9.4 million and recorded a corresponding adjustment to extinguish the then-current carrying value of the 2016 bridge units of $8.5 million and the then-current fair value of the derivative liability related to the contingent prepayment option associated with the 2016 bridge units of $0.9 million (see Note 3). There was no gain or loss recognized upon the extinguishment.

In July 2017 the Company sold to its Chief Financial Officer 61,880 shares of the Company's Series C preferred stock at a price of $1.7749 per share, for proceeds of $0.1 million.

Shares of Preferred Stock of Spero Therapeutics, Inc. Issued upon the Reorganization

On June 30, 2017, pursuant to the terms of the Reorganization (see Note 1), holders of outstanding preferred units of Spero Therapeutics, LLC exchanged their units for preferred stock of Spero Therapeutics, Inc. on a one-for-one basis. The rights and preferences of each class of stock (as described below) were the same both before and after the Reorganization.

As of each balance sheet date, outstanding equity of the Company consisted of the following (in thousands, except share amounts):

	As of September 30, 2017				
	Preferred Stock Authorized	Preferred Stock Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Junior preferred stock	3,438,318	3,438,318	$ 4,053	$ 4,076	565,753
Series A preferred stock	4,202,278	4,202,278	18,223	19,623	1,052,902
Series B preferred stock	5,909,089	5,909,089	28,864	29,551	1,555,234
Series C preferred stock	29,747,582	29,709,462	54,970	55,121	4,888,514
	43,297,267	43,259,147	$106,110	$ 108,371	8,062,403

	As of December 31, 2016			
	Preferred Units Issued and Outstanding	Carrying Value	Liquidation Preference	Common Units Issuable Upon Conversion
Junior preferred units	3,438,318	$ 3,900	$ 3,929	565,753
Class A preferred units	4,202,278	16,739	18,514	691,460
Class B preferred units	5,909,089	27,046	27,883	972,305
	13,549,685	$47,685	$ 50,326	2,229,518

The Junior preferred stock, the Series A preferred stock, the Series B preferred stock and the Series C preferred stock are collectively referred to as the "Preferred Stock".

The holders of the Preferred Stock have the following rights and preferences:

Voting

The holders of Preferred Stock are entitled to vote, together with the holders of common stock, on all matters submitted to stockholders for a vote. The holders of Preferred Stock are entitled to the number of votes equal to the number of common shares into which each such share of Preferred Stock could convert.

Conversion

Each share of Preferred Stock is convertible at the option of the holder at any time after the date of issuance. Each share of Preferred Stock will be automatically converted into shares of common stock at the applicable conversion ratio then in effect (i) upon the closing of a firm commitment public offering with at least $50.0 million of proceeds to the Company or (ii) upon the written consent of the holders of at least 60% of the then-outstanding shares of Series B and Series C preferred stock, voting together as a single class.

The conversion ratio of each series of Preferred Stock is determined by dividing the Original Issue Price of each series by the Conversion Price of each series. The Original Issue Price is $1.00 per share for Junior preferred stock, $3.90 per share for Series A preferred stock, $4.40 per share for Series B preferred stock and $1.7749 per share for Series C preferred stock. The Conversion Price at issuance was $6.0774 per share for Junior preferred stock, $23.7019 per share for Series A preferred stock, $26.7406 per share for Series B preferred stock and $10.7868 per share for Series C preferred stock, subject to appropriate adjustment in the event of any stock split, stock dividend, combination or other similar recapitalization and other adjustments as set forth in the Company's certificate of incorporation, as amended and restated. In March and July 2017, as a result of the issuances of Series C preferred stock at a price per share less than the Series A and Series B preferred stock Conversion Price, the Conversion Price for each of Series A and Series B preferred stock was adjusted according to their terms. As of September 30, 2017, the Conversion Price of Series A and Series B preferred stock was $15.5654 per share and $16.7177 per share, respectively. The Conversion Price for Junior preferred stock was not adjusted according to its terms.

Dividends

Holders of the Series A, Series B and Series C preferred stock are entitled to receive, out of funds legally available, cumulative dividends at an annual rate of 8%, compounded annually, when and if declared by the board of directors. Holders of the Junior preferred stock are entitled to receive, out of funds legally available, noncumulative dividends at an annual rate of 5%, when and if declared by the board of directors. The Company may not declare, pay or set aside any dividends on shares of any other series of capital stock of the Company, other than dividends on common stock payable in common stock, unless the holders of the Series C preferred stock first receive, or simultaneously receive, a dividend on each outstanding share of Series C preferred stock to which they are entitled. The Company may not declare, pay or set aside any dividends on shares of any other series of capital stock of the Company, other than dividends on shares of Series C preferred stock and dividends on common stock payable in common stock, unless the holders of the Series B preferred stock first receive, or simultaneously receive, a dividend on each outstanding share of Series B preferred stock to which they are entitled. The Company may not declare, pay or set aside any dividends on shares of any other series of capital stock of the Company, other than dividends on shares of Series B preferred stock or Series C preferred stock and dividends on common stock payable in common stock, unless the holders of the Series A preferred stock first receive, or simultaneously receive, a dividend on each outstanding share of Series A preferred stock to which they are entitled. The Company may not declare, pay or set aside any dividends on shares of any other series of capital stock of the Company, other than dividends on shares of Series A, Series B or Series C preferred stock and dividends on common stock payable in common stock, unless the holders of the Junior preferred stock first receive, or simultaneously receive, a dividend on each outstanding share of Junior preferred stock to which they are entitled. Through December 31, 2016 and September 30, 2017, no cash dividends have been declared or paid by the Company's board of directors.

Liquidation

In the event of any voluntary or involuntary liquidation, dissolution or winding-up of the Company or Liquidating Event (as described below), the holders of shares of Preferred Stock will receive, in preference to the common stockholders, an amount equal to the greater of (i) the Original Issue Price per share of the respective share of preferred stock, plus all dividends declared but unpaid on such shares or (ii) the amount the holders would receive if the Preferred Stock were converted into common stock prior to such liquidation event. If, upon any such liquidation event, the assets of the Company available for distribution are insufficient to permit payment in full to the holders of Preferred Stock, the holders of the Series C preferred stock are entitled to receive such amount prior to and in preference of the holders of the Series B, Series A, Junior preferred stock and common stock. After payment in full to

holders of Series C preferred stock, the holders of the Series B preferred stock are entitled to receive such amount prior to and in preference of the holders of the Series A, Junior preferred stock and common stock. After payment in full to holders of Series C and Series B preferred stock, the holders of the Series A preferred stock are entitled to receive such amount prior to and in preference of the holders of the Junior preferred stock and common stock. After payment in full to holders of Series C, Series B and Series A preferred stock, the holders of the Junior preferred stock are entitled to receive such amount prior to and in preference of the holders of the common stock. In the event that the assets available for distribution to the Company's stockholders are not sufficient to permit payment to any class of holders in order of preference and in the full amount to which they are entitled, the assets available for distribution are distributed on a pro rata basis. In addition, solely if (i) proceeds are received in connection with the sale or merger of Spero Potentiator, Inc. and (ii) contracted distribution thresholds in relation to anti-dilution clauses are satisfied, then distributions to the Series A holders shall be made until their Adjusted Potentiator Shortfall Amount, as defined, is met, after payments to Series C and Series B preferred stock have been made in full but prior to and in preference of the holders of the Junior preferred stock and common stock. After the payment of all preferential amounts to the holders of the Preferred Stock then, to the extent available, the remaining assets available for distribution shall be distributed among the holders of the Preferred Stock and common stock ratably in proportion to the number of shares of stock held as converted to common stock.

Unless the holders of 60% of the then-outstanding shares of Series B and Series C preferred stock, voting together as a single class, and holders of 60% of the then-outstanding shares of Series C preferred stock elect otherwise, a Liquidating Event shall include a merger or consolidation (other than one in which stockholders of the Company own a majority by voting power of the outstanding shares of the surviving or acquiring corporation) or a sale, lease, transfer, exclusive license or other disposition of all or substantially all of the assets of the Company.

Redemption

At any time on or after February 1, 2021, shares of each of the Junior preferred stock, Series A, Series B and Series C preferred stock are subject to mandatory redemption by the Company in three equal annual installments beginning 60 days after receipt of a notice of redemption from the holders of at least 60% of the combined voting power of the holders of the outstanding Series B and Series C preferred stock, voting as a single class at the Original Issue Price, subject to appropriate adjustment for any stock splits, stock dividends, combinations or any other similar recapitalization affecting such shares, plus any dividends declared but unpaid thereon plus cumulative dividends, whether declared or not. If, upon any such redemption, the assets of the Company available for distribution are insufficient to permit payment in full to the holders of Preferred Stock, the holders of the Series C preferred stock are entitled to receive such amount prior to and in preference of the holders of the Series B, Series A and Junior preferred stock. After payment in full to holders of Series C preferred stock, the holders of the Series B preferred stock are entitled to receive such amount prior to and in preference of the holders of the Series A and Junior preferred stock. After payment in full to holders of Series C and Series B preferred stock, the holders of the Series A preferred stock are entitled to receive such amount prior to and in preference of the holders of the Junior preferred stock. In the event that the assets are not sufficient to permit payment of the redemption amount to any class of holders in order of preference and in the full amount to which they are entitled, the assets available for distribution are distributed on a pro rata basis.

6. Common Stock

As of December 31, 2016, the operating agreement of Spero Therapeutics, LLC, as amended and restated, provided for the issuance of common units, but did not specify an authorized number for issuance.

Subsequent to the Reorganization (see Note 1), the Company's amended and restated certificate of incorporation authorized the issuance of 61,917,986 shares of common stock, par value $0.001 per share. Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are not entitled to receive dividends, unless declared by the board of directors.

In 2014, the Company issued and sold restricted common units, which were subject to vesting requirements. In 2016, the Company repurchased 21,116 unvested common units upon forfeiture at the original issuance price of $0.001 per unit. As of December 31, 2015 and 2016, there were 75,210 units and 7,062 units, respectively, of unvested restricted common units outstanding. There was no unvested common units outstanding as of September 30, 2017.

On June 30, 2017, pursuant to the terms of the Reorganization (see Note 1), holders of common units of Spero Therapeutics, LLC exchanged their units for common stock of Spero Therapeutics, Inc. on a one-for-one basis.

7. Share-Based Compensation

Prior to the Reorganization, the Company's operating agreement, as amended and restated, provided for the granting of incentive units to officers, directors, employees, consultants and advisors. Under the terms of the incentive unit grant agreements, such incentive units were subject to a vesting schedule, with 25% of the incentive units vesting following one year of continued

employment or service and the balance vesting in equal monthly installments for 36 months beginning on the one-year anniversary of the holder's employment or service with the Company. Holders of incentive units were entitled to receive distributions in proportion to their ownership percent interest, when and if distributed, that were in excess of the strike price of the award set by the board of directors on the date of grant. The Company determined that the underlying terms of the incentive units and the intended purpose of the awards were more akin to an equity-based compensation award than a performance bonus or profit-sharing arrangement and, therefore, the incentive units were equity-classified awards.

The total number of incentive units that could have been issued under the Company's operating agreement was 573,156 as of December 31, 2016, of which 159,890 units remained available for future issuance as of December 31, 2016. Upon the Reorganization on June 30, 2017 (see Note 1), the Company could no longer issue incentive units.

2017 Stock Incentive Plan

On June 28, 2017, the Company's stockholders approved the 2017 Stock Incentive Plan (the "2017 Plan"). The 2017 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock grants and stock-based awards. The 2017 Plan is administered by the board of directors, or at the discretion of the board of directors, by a committee of the board. The exercise prices, vesting and other restrictions are determined at the discretion of the board of directors, or their committee if so delegated, except that the exercise price per share of stock options may not be less than 100% of the fair market value of the share of common stock on the date of grant and the term of stock option may not be greater than ten years. The number of shares initially reserved for issuance under the 2017 Plan was 1,785,416 shares of common stock. The shares of common stock underlying any awards that are forfeited, cancelled, repurchased or are otherwise terminated by the Company under the 2017 Plan will be added back to the shares of common stock available for issuance under the 2017 Plan. As of September 30, 2017, 243,942 options were available to be issued under the 2017 Plan.

Award Grants

In June 2017, in connection with the Reorganization, the Company cancelled the then-outstanding 402,857 incentive units. In July 2017, previous holders of the cancelled incentive units who were still employed by the Company at the time of the Reorganization received stock options for the purchase of 387,296 shares of common stock under the 2017 Plan. Such stock options were granted for the same number of shares of common stock as the number of incentive units cancelled, and the stock options were granted on the same vesting terms as the incentive units. All such stock options have an exercise price of $5.90 per share. The Company accounted for the cancellation of the incentive units and the issuance of new awards as a modification of the awards for accounting purposes in the three months ended September 30, 2017. Unrecognized compensation expense related to the original award is being recognized over the remaining service period of the modified award. The incremental fair value of the replacement options, based on the positive difference between the fair value of the modified award and the fair value of the original award immediately before it was modified was not material.

In July 2017, the Company additionally granted options for the purchase of 1,154,989 shares of common stock at an exercise price of $5.90 per share under the 2017 Plan. The options vest over four years and the fair value of these option grants was $3.96 per share.

The Company recorded share-based compensation expense in the following expense categories of its consolidated statements of operations and comprehensive loss (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Research and development expenses	$ 202	$ 33	$ 249	$ 55
General and administrative expenses	729	27	805	62
Total	$ 931	$ 60	$ 1,054	$ 117

As of September 30, 2017, total unrecognized compensation cost related to the unvested share-based awards was $4.4 million, which is expected to be recognized over a weighted average period of 3.4 years.

8. Non-Controlling Interests

Spero Potentiator

In February 2015, the Company's wholly owned subsidiary, Spero Potentiator, issued 996 shares of its common stock with an aggregate fair value of $1.1 million to Northern in exchange for an exclusive license to develop and commercialize certain licensed compounds and licensed products. The Company recognized research and development expense of $1.1 million upon acquisition of the license and recorded a non-controlling interest in Spero Potentiator in a corresponding amount.

In connection with the acquisition of the license, Northern obtained anti-dilution rights to maintain its 49.9% ownership percentage in Spero Potentiator at no additional cost to Northern in the event that Spero Potentiator completed subsequent equity financings, subject to a maximum amount of such financings. The maximum amount of gross proceeds from equity financings subject to the anti-dilution rights was $5.0 million through the date the Company filed an investigational new drug application ("IND") related to the licensed technology. Subsequent to the filing of an IND, the maximum amount of gross proceeds from equity financings subject to the anti-dilution rights was $6.5 million.

The Company accounted for the anti-dilution rights as a derivative liability on its consolidated balance sheet (see Note 3).

In January and August 2016, Northern was issued an additional 2,160 common shares of Spero Potentiator for no additional cost. The Company valued these shares at $1.0 million and recorded the amount as an increase in the non-controlling interest and a reduction of the derivative liability. At that time, the anti-dilution rights issued to Northern were fully settled as Northern had received the maximum number of shares it was entitled to under the anti-dilution rights (See Note 3).

In June 2017, the Company repurchased all of the shares of Spero Potentiator held by Northern in exchange for a cash payment of $1.0 million and contingent consideration of $0.1 million. As a condition of the repurchase of the shares from Northern, the Company amended the license agreement with Northern such that the Company will be obligated to make milestone payments of up to $7.0 million upon the achievement of specified clinical, commercial and other milestones, including a payment of $2.5 million upon the closing of an initial public offering. As a result of this transaction, during the six months ended June 30, 2017, the Company reclassified the balance of the non-controlling interest of $6.4 million as of the date of the transaction to accumulated deficit as an increase to that account. Additionally, the cash payment of $1.0 million was recorded as an increase to accumulated deficit. The Company will record the contingent payments as research and development expense when it becomes probable that the payments will be due. For periods subsequent to the acquisition, including the three months ended September 30, 2017, the Company no longer reports a non-controlling interest related to Spero Potentiator.

Spero Europe

In January 2016, the Company entered into an agreement with Promiliad whereby Promiliad granted to Spero Europe certain know-how and a sublicense to research, develop, manufacture and sell certain compounds. In exchange for the know-how and sublicense, Spero Europe provided Promiliad with a 5% equity ownership interest in Spero Europe, with a fair value of $0.1 million. In addition, Spero Europe agreed to make payments to Promiliad upon the achievement of future regulatory and commercial milestones of $4.1 million and to pay to Promiliad royalties of a mid single-digit percentage on net sales of licensed products under the agreement. Spero had the right to terminate the agreement with thirty days' notice. The Company recognized research and development expense of $0.1 million upon the acquisition of the license and recorded a non-controlling interest in Spero Europe in a corresponding amount.

In connection with the acquisition of the license, Promiliad obtained anti-dilution rights to maintain their 5% equity ownership in Spero Europe at no additional cost to Promiliad in the event that Spero Europe completed subsequent funding events, subject to a maximum amount of such funding of $5.0 million.

The Company accounted for the anti-dilution rights as a derivative liability on its consolidated balance sheet (see Note 3). The fair value of the derivative liability associated with the anti-dilution rights upon issuance in January 2016 of $0.2 million was recorded as research and development expenses as it was deemed to represent additional consideration for the license.

In May 2017, the Company repurchased all of the shares of Spero Europe from Promiliad in exchange for the return of the license. As a result of the transaction, the Company reclassified the balance of the non-controlling interest in Spero Europe of less than $0.1 million as of the date of the transaction to accumulated deficit as an increase to that account. For periods subsequent to the repurchase, including for the three months ended September 30, 2017, the Company no longer reports a non-controlling interest related to Spero Europe.

Spero Gyrase

In March 2016, the Company entered into an agreement with Aviragen and its affiliates in order to acquire certain intellectual property and know-how related to certain compounds. In connection with the transaction, the Company established Spero Gyrase, a Delaware corporation, and issued to Aviragen 200 common shares of Spero Gyrase with a fair value of $1.1 million, which represented a 20% equity ownership interest in Spero Gyrase. In addition Spero Gyrase agreed to make future milestone and royalty payments in exchange for the intellectual property. The Company accounted for the acquisition of technology as an asset acquisition because it did not meet the definition of a business. The Company recorded the acquired technology as research and development expense in the consolidated statement of operations and comprehensive loss in the amount of $1.1 million, because the acquired technology had not reached commercial feasibility and had no alternative future use, and recorded a non-controlling interest in Spero Gyrase in a corresponding amount.

In connection with the agreement, Aviragen obtained anti-dilution rights to maintain their 20% equity ownership of Spero Gyrase at no additional cost to Aviragen in the event that Spero Gyrase completed subsequent funding events, subject to a maximum amount of such funding of $8.0 million.

The Company accounted for the anti-dilution rights as a derivative liability on its consolidated balance sheet (see Note 3). The fair value of the derivative liability associated with the anti-dilution rights upon issuance in March 2016 of $1.6 million was recorded as research and development expenses as it was deemed to represent additional consideration for the license.

Spero Cantab

In June 2016, the Company entered into a stock purchase agreement and related agreements (the “Cantab Agreements”) with Pro Bono Bio PLC, a corporation organized under the laws of England, and certain of its affiliates, including PBB Distributions Limited (“PBB”), Cantab Anti-Infectives Ltd. (“CAI”) and New Pharma License Holdings Limited (“NPLH”) in order to acquire NPLH and its intellectual property rights and assets relating to the Company’s Potentiator Platform.

Under the Cantab Agreements, CAI agreed to submit a request to the National Institute of Allergy and Infectious Diseases, (“NIAID”), to novate the CAI-held NIAID contract to the Company. The NIAID contract provides for development funding of up to $5.7 million over a base and three option periods. As of September 30, 2017, funding for the base period and the first two option periods totaling $5.1 million have been committed to CAI.

Consideration under Cantab Agreements consisted of: (i) 125 shares of Spero Cantab, the Company’s subsidiary, which represented a 12.5% ownership interest in Spero Cantab, and anti-dilution rights (as described below) issued to PBB, with a combined fair value of $1.6 million, (ii) upfront consideration of $0.3 million (to be credited against future payments payable to CAI), (iii) contingent milestone payments due upon the achievement of certain clinical, regulatory and commercial milestones (see Note 11), (iv) royalty payments of low single-digit percentages based on net sales of products from the licensed technology, and (v) a specified portion of funding payments made by NIAID.

The Company accounted for the acquisition of NPLH as an asset acquisition because NPLH did not meet the definition of a business. The Company recognized research and development expense of $1.6 million upon the acquisition of NPLH because the acquired technology had not reached commercial feasibility and had no alternative future use. Upon the issuance of the shares and anti-dilution rights, the Company recorded a non-controlling interest in Spero Cantab of $1.6 million. The $0.3 million payment was recognized as research and development expenses as the services were performed by CAI. The Company records the contingent payments outlined in (iii), (iv) and (v) as research and development expense when it becomes probable that the payments will be due. Until the time that CAI has novated the NIAID contract, CAI will continue to perform research and development services at the Company’s direction and will apply for reimbursement from NIAID. The contract had not yet been novated as of December 31, 2016 or September 30, 2017. The Company pays CAI for such research and development services at an agreed-upon rate which takes into consideration costs incurred by CAI, amounts reimbursed to CAI by NIAID and the portion of the NIAID reimbursement the Company pays to CAI.

In connection with the Cantab Agreements, PBB obtained anti-dilution rights to maintain a certain equity ownership, ranging from 5% to 12.5%, of Spero Cantab at no additional cost to PBB in the event that Spero Cantab completed subsequent funding events, subject to maximum amount of such funding of $8.0 million. These anti-dilution rights represented a conditional obligation to issue a variable number of shares but were not freestanding and, therefore, did not require bifurcation for accounting purposes from the 125 shares issued.

In July 2017, the Company repurchased all of the outstanding shares of Spero Cantab owned by PBB in exchange for a cash payment of $0.2 million and an amendment to the licensing agreement to increase the first two contingent milestone payments by a total of $0.1 million. For periods subsequent to the repurchase, the Company no longer reports a non-controlling interest related to Spero Cantab.

As of each balance sheet date, non-controlling interests' balances were as follows (in thousands):

Entity	September 30, 2017	December 31, 2016
Spero Potentiator	$ —	$ (5,470)
Spero Europe	—	(21)
Spero Gyrase	361	380
Spero Cantab	—	1,303
	$ 361	$ (3,808)

9. Commitments and Contingencies

License Agreements

The Company has entered into license agreements with various parties under which it is obligated to make contingent and non-contingent payments (see Note 11).

Operating Leases

The Company has an operating lease agreement for office space that commenced in January 2016 and expires in December 2020. The lease requires annual payments of $0.4 million over the five-year term. The lease provides for a renewal option to extend the lease for an additional five years. Under the terms of the lease, the Company provided a security deposit of $0.2 million to the landlord, which is included in long-term assets in the accompanying consolidated balance sheets. The lease includes annual rent escalations as well as tenant incentives in the amount of $0.7 million, of which $0.3 million is reimbursed to the landlord over the term of the lease.

In July 2016, the Company entered into an agreement to lease laboratory space through November 30, 2019 from a sublessor, which requires annual lease payments of $0.3 million, subject to certain escalations.

The following table summarizes the future minimum payments due under the operating leases (in thousands):

Year ending December 31,	
2017 (October to December)	$ 201
2018	820
2019	808
2020	499
	$2,328

Rent escalations and tenant incentives for operating leases are accrued, and rent expense is recognized on a straight-line basis over the terms of occupancy. Rent expense for the three and nine months ended September 30, 2017 was $0.2 million and $0.6 million, respectively. Rent expense for the three and nine months ended September 30, 2016 was $0.1 million and $0.2 million, respectively.

Indemnification Agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, business partners and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with members of its board of directors and certain of its officers that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is, in many cases, unlimited. To date, the Company has not incurred any material costs as a result of such indemnifications. The Company does not believe that the outcome of any claims under indemnification arrangements will have a material effect on its financial position, results of operations or cash flows, and it has not accrued any liabilities related to such obligations in its consolidated financial statements as of December 31, 2016 or September 30, 2017.

Legal Proceedings

The Company is not currently party to any material legal proceedings. At each reporting date, the Company evaluates whether or not a potential loss amount or a potential range of loss is probable and reasonably estimable under the provisions of the authoritative guidance that addresses accounting for contingencies. The Company expenses as incurred the costs related to such legal proceedings.

10. Government Contracts

U.S. Department of Defense

In September 2016, the Company was awarded a cooperative agreement with the DoD to further develop anti-infective agents to combat Gram-negative bacteria. The agreement is structured as a single, two-year $1.5 million award. The Company is eligible for the full funding from the DoD, and there are no options to be exercised at a later date. The DoD funding supports next-generation potentiator discovery and screening of SPR741 partners. The Company recognizes revenue under this agreement as qualifying expenses are incurred. During the three and nine months ended September 30, 2017, the Company recognized $0.1 million and $0.4 million, respectively, of revenue under this agreement.

NIAID

In February 2017, the Company was awarded a grant from NIAID to conduct additional preclinical studies of SPR720, the Company's novel oral bacterial gyrase inhibitor, for the treatment of non-tuberculous mycobacterial infections. The award is structured as a 12-month $0.6 million base period and a $0.4 million option period. Through September 30, 2017, only the base period funds had been committed. The Company recognized $0.1 million of revenue in the three and nine months ended September 30, 2017 under this agreement.

CARB-X

In April 2017, the Company was awarded a grant from Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator ("CARB-X"), a public-private partnership funded by the Biomedical Advanced Research and Development Authority ("BARDA") within the U.S. Department of Health and Human Services to be used to screen, identify and complete Phase 1 trials with at least one partner compound for SPR741, the Company's lead Potentiator compound. The award commits to funding of $1.5 million over a 12-month period, with the possibility of up to a total of $6.8 million in funding over 36 months based on the successful progression of specified milestones. The Company recognized $0.4 million and $0.5 million of revenue in the three and nine months ended September 30, 2017, respectively, under this agreement.

11. Collaboration and License Agreements

The Company has certain obligations under license agreements with third parties that include annual maintenance fees and payments that are contingent upon achieving various development, regulatory and commercial milestones. Pursuant to these license agreements, the Company is required to make milestone payments if certain development, regulatory and commercial milestones are achieved, and may have certain additional research funding obligations. Also, pursuant to the terms of each of these license agreements, when and if commercial sales of a product commence, the Company will pay royalties to its licensors on net sales of the respective products.

Roche Collaboration Agreements

In April 2014, the Company and Roche entered into a research and development services and support agreement ("Research and Development Agreement") and an option agreement ("Option Agreement"), whereby the Company was required to use its best efforts to research and develop a specified asset, while Roche would provide partial funding as well as participate on a joint steering committee for the development of this asset. As part of these agreements, the Company provided Roche with the option to participate in the Company's next financing subsequent to April 2014 in an amount up to $2.0 million at 90.0% of the per unit price of the related financing (see Note 3). The subsequent financing occurred in June 2015 and, as Roche elected not to exercise its option, the option expired.

As consideration for the agreements, Roche made nonrefundable upfront payments aggregating to $2.0 million in 2014 and paid annual nonrefundable maintenance fees of $1.0 million in 2015. Due to the cooperative nature of the development plans as driven by the joint steering committee and the partial defrayment of development costs, the nonrefundable payments were considered

reductions to research and development expense. Upon receipt, the payments the Company received in 2014 and 2015 from Roche were deferred and were recognized as reductions to research and development expense.

In June 2016, the Company provided notification to Roche that it intended to terminate its Research and Development Agreement with Roche based on its rights under the agreement, effective August 2016, resulting in a recognition of the remaining deferred advance research and development payments. There was no termination fee required under the agreement. Related to payments received under the concluded collaboration, the Company recognized reductions of research and development expense of $0.2 million and $0.9 million for the three and nine months ended September 30, 2016, respectively.

MGH License Agreement

In March 2014, the Company entered into a license agreement with The General Hospital Corporation, doing business as Massachusetts General Hospital, ("MGH") to obtain an exclusive worldwide license to research, develop, manufacture and sell products based on technology related to inhibitors of bacteria quorum sensing and technology pertaining to the methods for identifying compounds for treating, reducing or preventing pathogenic infections.

Upon signing of the license agreement, the Company issued to MGH 24,681 common units. The Company also agreed to reimburse MGH for all patent costs related to the exclusive patent for the duration of the agreement. In November 2016, the Company terminated its license agreement with MGH. There were no termination payments required.

Ascenion License Agreement

In September 2014, the Company entered into a license agreement with Ascenion GmbH (formerly known as Helmholtz Zentrum fur Infektionsforschung GmbH) to obtain an exclusive worldwide license to research, develop, manufacture and sell products based on Ascenion's PqsR modulator technology. Upon signing of the license agreement, the Company issued to Ascenion 9,625 common units. In November 2016, the Company terminated its license agreement with Ascenion. There were no termination payments required.

Aviragen Agreement

Under the Company's agreement with Aviragen (see Note 8) for certain intellectual property and know-how relating to developing a gyrase inhibitor to develop therapies for Gram-negative infections, the Company is obligated to make milestone payments of up to an aggregate of $12.0 million upon the achievement of specified clinical, regulatory and commercial milestones and to pay royalties of low single-digit percentages based on net sales of products the Company acquired under the agreement.

Cantab License Agreement

Under the Cantab Agreements (see Note 8), the Company is obligated to make milestone payments of up to $6.0 million upon the achievement of specified clinical and regulatory milestones and a payment of £5.0 million ($6.8 million as of September 30, 2017 and $6.2 million as of December 31, 2016) upon the achievement of a specified commercial milestone. In addition, the Company has agreed to pay to PBB royalties, on a product-by-product and country-by-country basis, of a low single-digit percentage based on net sales of products licensed under the agreement.

The Cantab Agreements continue indefinitely, with royalty payment obligations thereunder continuing on a product-by-product and country-by-country basis until the later of ten years after the first commercial sale of such product in such country or the expiration in such country of the last to expire valid claim of any of the applicable patents.

Vertex License Agreement

In May 2016, the Company entered into an agreement with Vertex Pharmaceuticals Incorporated ("Vertex") whereby Vertex granted the Company certain know-how and a sublicense to research, develop, manufacture and sell products for a proprietary compound, as well as a transfer of materials. In exchange for the know-how, sublicense and materials, Spero paid Vertex an upfront, one-time, nonrefundable, non-creditable fee of $0.5 million, which was recognized as research and development expense. As part of the agreement, the Company is obligated to make future milestone payments of up to $81.1 million upon the achievement of specified clinical, regulatory and commercial milestones and to pay Vertex tiered royalties, on a product-by-product and country-by-country basis, of a mid single-digit to low double-digit percentage based on net sales of products licensed under the agreement.

The agreement continues in effect until the expiration of all payment obligations thereunder, with royalty payment obligations continuing on a product-by-product and country-by-country basis until the later of ten years after the first commercial sale

of such product in such country or the date of expiration in such country of the last to expire applicable patent. Further, Vertex has the right to terminate the agreement if provided with notification from the Company of intent to cease all development or if no material development or commercialization efforts occur for one year.

Meiji License Agreement

In June 2017, the Company entered into agreements with Meiji Seika Pharma Co. Ltd. ("Meiji"), a Japanese corporation, whereby Meiji granted to the Company certain know-how and a license to research, develop, manufacture and sell products for a proprietary compound in the licensed territory. In exchange for the know-how and license, the Company paid Meiji an upfront, one-time, nonrefundable, non-creditable fee of $0.6 million, which was recognized as research and development expense. As part of the agreement, the Company is obligated to make milestone payments of up to $3.0 million upon the achievement of specified clinical and regulatory milestones, including a $1.0 million milestone payment upon the enrollment of the first patient in the Company's Phase 1 clinical trial of SPR994, which milestone was achieved in October 2017 (see Note 14). The Company is also obligated to pay royalties, on a product-by-product and country-by-country basis, of a low single-digit percentage based on net sales of products licensed under the agreement and to pay Meiji a low double-digit percentage of any sublicense fees received by the Company up to $7.5 million.

The agreement continues in effect until the expiration of all payment obligations thereunder (including royalty payments and licensee revenue) on a product-by-product and country-by-country basis, unless earlier terminated by the parties. Pursuant to the terms of the agreement, in addition to each party's right to terminate the agreement upon the other party's material breach (if not cured within a specified period after receipt of notice) or insolvency, the Company also has unilateral termination rights (i) in the event that the Company abandons the development and commercialization of SPR994 for efficacy, safety, legal or business factors, and (ii) under certain circumstances arising out of the head license with a global pharmaceutical company.

Northern License Agreement

In June 2017, in connection with the repurchase of all of the outstanding shares of Spero Potentiator (see Note 8), the Company amended its license agreement with Northern such that the Company agreed to pay Northern up to $7.0 million upon the achievement of specified clinical, regulatory and other milestones, including a total payment of $2.5 million upon the closing of an initial public offering, which milestone was achieved in November 2017 (see Note 14). In addition, under an exchange agreement the Company entered into with Northern, the Company is obligated to make a payment to Northern of $0.1 million upon the closing of an initial public offering, which milestone was achieved in November 2017 (see Note 14). The agreement has a perpetual term and no express termination rights.

12. Australia Research and Development Tax Incentive

The Australian government has established a research and development tax incentive to encourage industry investment in research and development, which is available to companies incorporated under Australian law that have core research and development activities. In September 2016, the Company established Spero Potentiator Australia Pty Limited to carry out certain research and development activities. As this subsidiary meets the eligibility requirements of the Australian tax law, it is eligible to receive a 43.5% tax incentive for qualified research and development activities. For the three and nine months ended September 30, 2017, $0.1 million and $0.8 million, respectively, was recorded as a reduction to research and development expenses in the consolidated statements of operations and comprehensive loss associated with this tax incentive, representing 43.5% of the Company's qualified research and development spending in Australia. There were no amounts recorded as a reduction to research and development expenses for the three and nine months ended September 30, 2016. The refund is denominated in Australian dollars and, therefore, the receivable is re-measured to U.S. dollars as of each reporting date. As of September 30, 2017 and December 31, 2016, the Company's tax incentive receivables from the Australian government totaled $1.0 million and $0.1 million, respectively.

13. Net Loss per Share

Basic and diluted net loss per share attributable to common stockholders of Spero Therapeutics, Inc. was calculated as follows (in thousands, except share and per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Numerator:				
Net loss	$ (9,844)	$ (7,918)	$ (26,018)	$ (24,444)
Less: Net loss attributable to non-controlling interests	(8)	(1,602)	(1,137)	(6,164)
Plus: Cumulative dividends on redeemable convertible preferred shares	(2,052)	(916)	(5,313)	(2,523)
Plus: Accretion of redeemable bridge units and redeemable convertible preferred stock to redemption value	(188)	(178)	(1,133)	(792)
Net loss attributable to common stockholders of Spero Therapeutics, Inc.	$ (12,076)	$ (7,410)	$ (31,327)	$ (21,595)
Denominator:				
Weighted average common shares outstanding—basic and diluted	335,285	318,948	333,402	307,852
Net loss per share attributable to common stockholders of Spero Therapeutics, Inc.—basic and diluted	$ (36.02)	$ (23.23)	$ (93.96)	$ (70.15)

The Company's potential dilutive securities, which include redeemable convertible preferred stock, incentive units and common stock options, have been excluded from the computation of diluted net loss per share as the effect would be to reduce the net loss per share. Therefore, the weighted average number of common shares outstanding used to calculate both basic and diluted net loss per share attributable to common stockholders of Spero Therapeutics, Inc. is the same. The Company excluded the following potential common shares, presented based on amounts outstanding at each period end, from the computation of diluted net loss per share attributable to common stockholders for the three and nine months ended September 30, 2017 and 2016 because including them would have had an anti-dilutive effect:

	September 30,	
	2017	2016
Convertible preferred shares (as converted to common shares)	8,062,403	2,229,518
Common stock options	1,541,474	—
Incentive units	—	410,839
	9,603,877	2,640,357

14. Subsequent Events

For the unaudited consolidated financial statements as of September 30, 2017, and for the nine months then ended, the Company evaluated subsequent events through December 14, 2017, the date on which those consolidated financial statements were available to be issued.

Amendment to 2017 Stock Incentive Plan

On October 18, 2017, the Company's stockholders approved an amendment to the 2017 Plan, which became effective upon the completion of the Company's IPO, to increase the total number of shares reserved for issuance under the 2017 Plan from 1,785,416 to 2,696,401. Additionally, the number of shares of common stock that may be issued under the 2017 Plan will automatically increase on each January 1, beginning with the fiscal year ending December 31, 2019 and continuing for each fiscal year until, and including, the fiscal year ending December 31, 2027, equal to the lowest of (i) 607,324 shares of common stock, (ii) 4% of the outstanding shares of common stock on such date and (iii) an amount determined by the Company's board of directors or compensation committee.

Reverse Stock Split

On October 20, 2017, the Company effected a one-for-6.0774 reverse stock split of its issued and outstanding shares of common stock and a proportional adjustment to the existing conversion ratios for each series of the Company's Preferred Stock (see Note 5). Accordingly, all share and per share amounts for all periods presented in the accompanying consolidated financial statements and notes thereto have been adjusted retroactively, where applicable, to reflect this reverse stock split and adjustment of the preferred stock conversion ratios. In addition, all common units and incentive units as well as the conversion ratios of preferred units of Spero Therapeutics, LLC have been presented as if the reverse stock split of the common stock of Spero Therapeutics, Inc. had been applied to such units and ratios of Spero Therapeutics, LLC.

Milestone Payment Due under Meiji License Agreement

In October 2017, the Company paid a $1.0 million milestone payment to Meiji (see Note 11) upon the enrollment of the first patient in the Company's Phase 1 clinical trial of SPR994. The payment will be included in the statement of operations and comprehensive loss as research and development expense during the three months ending December 31, 2017.

Initial Public Offering

On November 6, 2017, the Company completed an IPO of its common stock, and issued and sold 5,500,000 shares of common stock at a public offering price of $14.00 per share, resulting in net proceeds of $71.6 million after deducting underwriting discounts and commissions but before deducting offering costs. On November 14, 2017, the Company issued and sold an additional 471,498 shares of its common stock at the IPO price of $14.00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock, resulting in additional net proceeds of $6.1 million after deducting underwriting discounts and commissions. Upon the closing of the IPO in November 2017, the Company's outstanding convertible preferred shares automatically converted into shares of common stock (see Note 5).

Milestone Payments Due under Northern Agreements

Upon the closing of the Company's IPO in November 2017, the Company paid $2.6 million to Northern (see Note 11) in connection with its license and exchange agreements. The payment will be included in the statement of operations and comprehensive loss as research and development expense during the three months ending December 31, 2017.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and related notes appearing elsewhere in this Quarterly Report and our final prospectus for our initial public offering filed pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended, or the Securities Act, with the Securities and Exchange Commission, or the SEC, on November 2, 2017. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Quarterly Report, our actual results could differ materially from the results described in, or implied by, the forward-looking statements contained in the following discussion and analysis.

Overview

We are a multi-asset, clinical-stage biopharmaceutical company focused on identifying, developing and commercializing novel treatments for multi-drug resistant, or MDR, bacterial infections. Our most advanced product candidate, SPR994, is designed to be the first broad-spectrum oral carbapenem-class antibiotic for use in adults to treat MDR Gram-negative infections. Treatment with effective orally administrable antibiotics may prevent hospitalizations for serious infections and enable earlier, more convenient and cost-effective treatment of patients after hospitalization. We also have a platform technology known as our Potentiator Platform that we believe will enable us to develop drugs that will expand the spectrum and potency of existing antibiotics, including formerly inactive antibiotics, against Gram-negative bacteria. Our lead product candidates generated from our Potentiator Platform are two intravenous, or IV,-administered agents, SPR741 and SPR206, designed to treat MDR Gram-negative infections in the hospital setting. In addition, we are developing SPR720, an oral antibiotic designed for the treatment of pulmonary non-tuberculous mycobacterial infections. We believe that our novel product candidates, if successfully developed and approved, would have a meaningful patient impact and significant commercial applications for the treatment of MDR infections in both the community and hospital settings. Since our inception in 2013, we have focused substantially all of our efforts and financial resources on organizing and staffing our company, business planning, raising capital, acquiring and developing product and technology rights, building our intellectual property portfolio and conducting research and development activities for our product candidates. We do not have any products approved for sale and have not generated any revenue from product sales.

On November 6, 2017, we completed an initial public offering, or IPO, of our common stock, and issued and sold 5,500,000 shares of common stock at a public offering price of $14.00 per share, resulting in net proceeds of $71.6 million after deducting underwriting discounts and commissions but before deducting offering costs. On November 14, 2017, we issued and sold an additional 471,498 shares of our common stock at the IPO price of $14.00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock, resulting in additional net proceeds of $6.1 million after deducting underwriting discounts. Aggregate net proceeds from the IPO totaled $77.7 million after deducting underwriting discounts and commissions but before deducting offering costs.

Prior to the IPO, we funded our operations with proceeds from the sale of preferred units and bridge units and payments received under a concluded collaboration agreement and funding from government contracts. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our product candidates. As of September 30, 2017, we had an accumulated deficit of $82.2 million. We expect to continue to incur significant expenses and increasing operating losses for at least the next several years.

We will not generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for our product candidates. If we obtain regulatory approval for any of our product candidates and do not enter into a commercialization partnership, we expect to incur significant expenses related to developing our internal commercialization capability to support product sales, marketing and distribution. Further, we expect to incur additional costs associated with operating as a public company.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of equity offerings, debt financings, government funding arrangements, collaborations, strategic alliances and marketing, distribution or licensing arrangements. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back or discontinue the development and commercialization of one or more of our product candidates.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Even if we are able to generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of September 30, 2017, we had cash and cash equivalents of $25.4 million. We believe that the net proceeds from our IPO completed in November 2017, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements into the second quarter of 2019.

The Reorganization

On June 30, 2017, we completed a series of transactions pursuant to which Spero Therapeutics, LLC merged with and into Spero Therapeutics, Inc., a Delaware corporation (formerly known as Spero OpCo, Inc.), with Spero Therapeutics, Inc. continuing as the surviving corporation. As part of the transactions, each issued and outstanding preferred and common unit of Spero Therapeutics, LLC outstanding immediately prior to the Reorganization was converted into and exchanged for shares of Spero Therapeutics, Inc. capital stock of the same class and/or series on a one-for-one basis, and previously outstanding incentive units of Spero Therapeutics, LLC were cancelled. In July 2017, previous holders of the cancelled incentive units who were still employed by us at the time of the Reorganization received stock options under our 2017 Stock Incentive Plan. Such stock options were granted for the same number of shares of our common stock as the number of incentive units cancelled, and the stock options were granted on the same vesting terms as the incentive units. All such stock options have an exercise price of $5.90 per share.

Upon consummation of the Reorganization, the historical consolidated financial statements of Spero Therapeutics, LLC became the historical consolidated financial statements of Spero Therapeutics, Inc.

Recent Developments

Initiation of Phase 1 Clinical Trial of SPR994 in Australia

As previously announced, in October 2017, we initiated our Phase 1 clinical trial of SPR994 in Australia. SPR994 is our novel antibiotic with potential to be the first broad-spectrum oral carbapenem approved for use in adults. While SPR994 has demonstrated a broad spectrum of activity against MDR Gram-negative bacteria, the clinical trial will focus on the treatment of complicated urinary tract infections, or cUTI. The trial is designed as a double-blind, placebo-controlled, ascending dose, multi-cohort study to assess the safety, tolerability, food effect and pharmacokinetics of SPR994 in healthy subjects.

Initiation of Phase 1b Clinical Trial of Potentiator SPR741 in the United Kingdom

Following pre-IND discussions with the Food and Drug Administration, or FDA, in late November 2017, as described below, we initiated our Phase 1b drug-drug interaction clinical trial of SPR741 in the United Kingdom during the fourth quarter as previously planned. SPR741 is one of our lead product candidates generated from our Potentiator Platform, such candidates currently consisting of SPR741 and SPR206, which are two intravenous, or IV, -administered agents designed to treat MDR Gram-negative infections in the hospital setting. SPR741 is our co-administered product candidate designed to expand the spectrum and increase the potency of a partner antibiotic when administered in combination, and SPR206 is designed to have an antibiotic activity as a single agent. In preclinical studies, SPR741 has shown an ability to potentiate over two dozen existing antibiotics and enable activity against Gram-negative pathogens.

The Phase 1b trial will study SPR741 in 30 healthy volunteers as a single dose in combination with compounds from the beta-lactam class of antibiotics, including cephalosporins (such as ceftazidime), monobactams (such as aztreonam) and beta-lactams/beta-lactamase inhibitors (such as pipercillin/tazobactum). The trial will assess the impact, if any, on the standalone pharmacokinetics of SPR741 or the standalone pharmacokinetics of the beta-lactam combination drug when the two are dosed together as a single dose. We anticipate top-line data from this Phase 1b trial during the first half of 2018. Based on preliminary feedback from the FDA in late November 2017, we believe that if, following such trial, we were to select piperacillian/tazobactam as the partner antibiotic, then that combination with SPR741 would require a preclinical combination toxicology study and a multiple dose drug-drug interaction trial before we could initiate a Phase 2 combination trial. With respect to other potential partner antibiotics we might select to combine with SPR741, we may also be required to conduct similar studies prior to initiating a Phase 2 combination trial. From the results of the Phase 1b trial, we expect to be in a position to identify the most attractive partner antibiotic, after considering, among other factors, the extent of additional preclinical studies and clinical trials required or deemed advantageous by us before initiating a Phase 2 combination trial with SPR741 for the treatment of cUTI, and other developments in our multi-asset portfolio, including with respect to SPR206. We expect to provide revised guidance with respect to the initiation of a Phase 2 combination trial of SPR741 after we have completed the Phase 1b trial, which we expect to be completed during the first half of 2018.

Components of Our Results of Operations

Revenue

To date, we have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products in the foreseeable future. If our development efforts for our product candidates are successful and result in regulatory approval, we may generate revenue in the future from product sales. We cannot predict if, when, or to what extent we will generate revenue from the commercialization and sale of our product candidates. We may never succeed in obtaining regulatory approval for any of our product candidates.

To date, all of our revenue has been derived from government awards. We expect that our revenue for the next several years will be derived primarily from payments under our government awards that we may enter into in the future.

U.S. Department of Defense

In September 2016, we were awarded a cooperative agreement with the U.S. Department of Defense, or DoD, to further develop anti-infective agents to combat Gram-negative bacteria. The agreement is structured as a single, two-year $1.5 million award. We are eligible for the full funding from DoD and there are no options to be exercised at a later date. The DoD funding supports next-generation potentiator discovery and screening of SPR741 partner antibiotics. We receive funding under the DoD award as we incur qualifying expenses.

NIAID

In February 2017, we received an award from the U.S. National Institute of Allergy and Infectious Diseases, or NIAID, to conduct additional preclinical studies of SPR720. The award is structured as a 12-month $0.6 million base period and $0.4 million option period. To date, only the base period funds have been committed. We receive funding under the NIAID award as we incur qualifying expenses.

CARB-X

In April 2017, we received an award from the Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator, or CARB-X, a public-private partnership funded by the Biomedical Advanced Research and Development Authority, or BARDA, within the U.S. Department of Health and Human Services, to be used to screen, identify and complete Phase 1 clinical trials with at least one partner compound for SPR741, our lead potentiator product candidate. The award commits to funding of $1.5 million over a 12-month period, with the possibility of up to a total of $6.8 million in funding over 36 months based on the successful achievement of specified milestones. We receive funding from CARB-X as we incur qualifying expenses.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our drug discovery efforts, and the development of our product candidates, which include:

- employee-related expenses, including salaries, related benefits, travel and share-based compensation expense for employees engaged in research and development functions;
- expenses incurred in connection with the preclinical and clinical development of our product candidates, including under agreements with contract research organizations, or CROs;
- the cost of consultants and contract manufacturing organizations, or CMOs, that manufacture drug products for use in our preclinical studies and clinical trials;
- facilities, depreciation and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and supplies; and
- payments made under third-party licensing agreements.

In April 2014, we entered into a research and development services and support agreement and an option agreement with Hoffmann-La Roche, Inc. and certain of its affiliates, or Roche, whereby we were required to use our best efforts to research and develop a specified asset while Roche would provide partial funding as well as participate in a joint steering committee for the development of this asset. The nonrefundable payments we received in 2014 and 2015 from Roche were recognized as reductions to research and development expense. We terminated our agreement with Roche in August 2016.

In June 2016, we entered into agreements with Pro Bono Bio PLC, or PBB, a corporation organized under the laws of England, and certain of its affiliates, including PBB Distributions Limited and Cantab Anti-Infectives Limited, or CAI, in order to acquire certain intellectual property and government funding arrangements relating to SPR206. Under these agreements, CAI agreed to submit a request to NIAID to assign the CAI-held NIAID contract to us. The NIAID contract provides for development funding of up to $5.7 million over a base period and three option periods. As of September 30, 2017, funding for the base period and the first two option periods totaling $5.1 million have been committed to CAI. Under our agreements with PBB and certain of its affiliates, CAI continues to perform research and development at our direction. We pay CAI for such research and development services at an agreed-upon rate that takes into consideration costs incurred by CAI, net of amounts reimbursed to CAI by NIAID. Thus, prior to novation of the NIAID contract to us, the amount we record as research and development expenses is net of the NIAID reimbursement amount that CAI receives. We also pay CAI a portion of the NIAID reimbursement received at rates specified in the agreement, which we also record as research and development expense.

Since the fourth quarter of 2016, we have recorded research and development expenses for our SPR741 program conducted by our Australian subsidiary net of a 43.5% research and development tax incentive we expect to receive for qualified expenses from the Australian government.

We expense research and development costs as incurred. Nonrefundable advance payments we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the related goods are delivered or the services are performed.

Our direct research and development expenses are tracked on a program-by-program basis and consist primarily of external costs, such as fees paid to consultants, contractors, CMOs and CROs in connection with our preclinical and clinical development activities. License fees and other costs incurred after a product candidate has been designated and that are directly related to the product candidate are included in direct research and development expenses for that program. License fees and other costs incurred prior to designating a product candidate are included in early stage research programs. We do not allocate employee costs, costs associated with our preclinical programs or facility expenses, including depreciation or other indirect costs, to specific product development programs because these costs are deployed across multiple product development programs and, as such, are not separately classified. The table below summarizes our research and development expenses incurred by development program:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(in thousands)			
Direct research and development expenses by program:				
SPR994	$ 1,809	$ —	$ 5,554	$ —
SPR741	2,369	2,312	5,864	7,869
SPR720	413	—	1,379	—
SPR206	442	—	442	—
Preclinical programs	66	2,071	1,207	7,467
Unallocated expenses	1,811	1,622	5,920	4,070
Total research and development expenses	$ 6,910	$ 6,005	$20,366	$19,406

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will increase substantially in connection with our planned clinical and preclinical development activities in the near term and in the future as we initiate additional clinical trials and other studies of SPR994 and SPR741, continue to discover and develop additional product candidates, hire additional clinical, scientific and commercial personnel and acquire or in-license other product candidates and technologies. This expected increase in expenses includes the impact of a total payment to Northern Antibiotics OY Ltd., or Northern, of $2.6 million which became due and was paid under our agreements with Northern upon

the completion of our IPO in November 2017 and a payment of $1.0 million to Meiji Seika Pharma Co. Ltd., or Meiji, that became due and was paid in October 2017 under our know-how license with Meiji upon the enrollment of the first patient in clinical trials.

At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our product candidates. The successful development and commercialization of our product candidates is highly uncertain. This is due to the numerous risks and uncertainties, including the following:

- successful completion of clinical trials with safety, tolerability and efficacy profiles that are satisfactory to the FDA or any comparable foreign regulatory authority;
- receipt of marketing approvals from applicable regulatory authorities;
- establishment of arrangements with third-party manufacturers to obtain manufacturing supply;
- obtainment and maintenance of patent, trade secret protection and regulatory exclusivity, both in the United States and internationally, including our ability to maintain our license agreement with Meiji with respect to SPR994;
- protection of our rights in our intellectual property portfolio;
- launch of commercial sales of SPR994 and SPR741, if approved, whether alone or in collaboration with others;
- acceptance of SPR994 and SPR741, if approved, by patients, the medical community and third-party payors;
- competition with other therapies; and
- a continued acceptable safety profile of SPR994 and SPR741 following approval.

A change in the outcome of any of these variables with respect to the development of any of our product candidates would significantly change the costs and timing associated with the development of that product candidate. We may never succeed in obtaining regulatory approval for any of our product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related costs, including share-based compensation, for personnel in executive, finance and administrative functions. General and administrative expenses also include direct and allocated facility-related costs as well as professional fees for legal, patent, consulting, investor and public relations, accounting and audit services. We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities and development of our product candidates. We also anticipate that we will incur increased accounting, audit, legal, regulatory, compliance, and director and officer insurance costs as well as investor and public relations expenses associated with operating as a public company.

Other Income (Expense)

Change in Fair Value of Derivative Liabilities

Tranche Rights. Our Class A preferred units and Class B preferred units provided our investors with the right to participate in subsequent offerings of Class A and Class B preferred units in the event that specified milestones were achieved, which we refer to as tranche rights. We classified the tranche rights as derivative liabilities on our consolidated balance sheet that we remeasured to fair value at each reporting date, and we recognized changes in the fair value of the derivative associated with the tranche rights as a component of other income (expense) in our consolidated statement of operations and comprehensive loss. The tranche rights were settled in 2016.

Anti-Dilution Rights. In connection with the issuance of non-controlling interests in certain of our subsidiaries, specifically Spero Potentiator, Inc., Spero Europe, Ltd. and Spero Gyrase, Inc., we granted the minority investors the right to maintain ownership interests at no additional cost, subject to a maximum ownership percentage, which rights we refer to collectively as anti-dilution rights. We classify the anti-dilution rights as derivative liabilities on our consolidated balance sheet that we remeasure to fair value at each reporting date, and we recognize changes in the fair value of the derivative liabilities associated with the anti-dilution rights as a component of other income (expense) in our consolidated statement of operations and comprehensive loss. As of December 31, 2016,

anti-dilution rights related to Spero Potentiator, Inc. were fully settled as the maximum number of shares to be issued to the minority investor had been reached in August 2016. In May 2017, we repurchased 100% of the minority investor's outstanding shares in Spero Europe, Ltd. and settled the anti-dilution rights associated with the shares.

Contingent Prepayment Options. Bridge units issued to our investors in 2016 were automatically convertible into equity units sold in a subsequent round of qualified financing at a discounted rate. We refer to these automatic conversion features as contingent prepayment options. We classified the contingent prepayment options as a derivative liability on our consolidated balance sheet that we remeasured to fair value at each reporting date, and we recognized changes in the fair value of the derivative liability associated with the contingent prepayment options as a component of other income (expense) in our consolidated statement of operations and comprehensive loss. The contingent prepayment options were settled in the first quarter of 2017 upon the issuance of Class C preferred units.

As of September 30, 2017, the derivative liability of $0.2 million recorded on our consolidated balance sheet relates only to the anti-dilution rights held by the minority investor in Spero Gyrase, Inc.

Interest Income and Other Income (Expense), Net

Interest income consists of interest earned on our cash equivalents, which are invested in money market accounts. Our interest income has not been significant due to nominal investment balances and low interest earned on those balances. Other income (expense), net, consists of insignificant amounts of miscellaneous income and expenses unrelated to our core operations.

Income Taxes

Since our inception, we have not recorded any income tax benefits for the net losses we have incurred in each year or for our earned research and development tax credits, as we believe, based upon the weight of available evidence, that it is more likely than not that all of our net operating loss carryforwards and tax credits will not be realized. As of December 31, 2016, we had federal and state net operating loss carryforwards of $39.8 million and $39.6 million, respectively, which may be available to offset future income tax liabilities and begin to expire in 2033. In addition, as of December 31, 2016, we had foreign net operating loss carryforwards of $3.8 million, which may be available to offset future income tax liabilities and do not expire. As of December 31, 2016, we also had federal and state research and development tax credit carryforwards of $0.6 million and $0.2 million, respectively, which begin to expire in 2033 and 2028, respectively. We have recorded a full valuation allowance against our net deferred tax assets at each balance sheet date.

Prior to the Reorganization, our former parent company, Spero Therapeutics, LLC, was treated as a partnership for federal income tax purposes and, therefore, its owners, and not itself, were subject to U.S. federal or state income taxation on the income of Spero Therapeutics, LLC. Prior to the Reorganization, all of Spero Therapeutics, LLC's directly held subsidiaries (including Spero Therapeutics, Inc.) were treated as corporations for U.S. federal income tax purposes and were subject to taxation in the United States or in other countries. Upon the Reorganization, Spero Therapeutics, Inc., whose consolidated financial statements are presented in this Quarterly Report, became the parent company for Spero Therapeutics, LLC's former subsidiaries and these entities continue to be subject to taxation in the United States or in other countries.

Net Income (Loss) Attributable to Non-Controlling Interests

Net income (loss) attributable to non-controlling interests in our consolidated statement of operations and comprehensive loss is a result of minority investments in our subsidiaries, Spero Europe, Ltd., Spero Potentiator, Inc., Spero Cantab, Inc. and Spero Gyrase, Inc., and consists of the portion of the net income or loss of these subsidiaries that is not allocated to us. Changes in the amount of net income (loss) attributable to non-controlling interests are directly impacted by changes in the net income or loss of our consolidated subsidiaries and by the ownership percentage of the minority investors.

In May 2017, we repurchased 100% of the issued and outstanding shares of Spero Europe, Ltd. held by the minority investor. In June 2017, we repurchased 100% of the issued and outstanding shares of Spero Potentiator, Inc. held by the minority investor. In July 2017, we repurchased 100% of the issued and outstanding shares of Spero Cantab, Inc. held by the minority investor. As a result of these repurchases of the non-controlling interests, for periods subsequent to each repurchase, we no longer attribute net income (loss) to the non-controlling interest. As of September 30, 2017, the remaining non-controlling interest relates only to Spero Gyrase, Inc.

Results of Operations

Comparison of the Three Months Ended September 30, 2017 and 2016

The following table summarizes our results of operations for the three months ended September 30, 2017 and 2016:

	Three Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Revenue	$ 597	$ —	$ 597
Operating expenses:			
Research and development	6,910	6,005	905
General and administrative	3,653	1,909	1,744
Total operating expenses	10,563	7,914	2,649
Loss from operations	(9,966)	(7,914)	(2,052)
Other income (expense):			
Change in fair value of derivative liabilities	(2)	(4)	2
Interest income and other income (expense), net	124	—	124
Total other income (expense), net	122	(4)	126
Net loss and comprehensive loss	(9,844)	(7,918)	(1,926)
Less: Net loss attributable to non-controlling interest	(8)	(1,602)	1,594
Net loss attributable to Spero Therapeutics, Inc.	$ (9,836)	$(6,316)	$(3,520)

Revenue

Revenue recognized during the three months ended September 30, 2017 was primarily due to the reimbursement of qualifying expenses incurred in connection with our CARB-X award related to our SPR741 program of $0.4 million. We also recognized $0.1 million each under our awards from DoD and NIAID related to our SPR741 program and SPR720 program, respectively. No revenue was recognized during the three months ended September 30, 2016.

Research and Development Expenses

	Three Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Direct research and development expenses by program:			
SPR994	$ 1,809	$ —	$ 1,809
SPR741	2,369	2,312	57
SPR720	413	—	413
SPR206	442	—	442
Preclinical programs	66	2,071	(2,005)
Unallocated expenses:			
Personnel related (including share-based compensation)	1,322	965	357
Facility related and other	489	657	(168)
Total research and development expenses	$ 6,910	$ 6,005	$ 905

We designated SPR994 as a product candidate in the fourth quarter of 2016. Direct costs related to our SPR994 program during the three months ended September 30, 2017 were primarily due to manufacturing and preclinical costs related to our Phase 1 clinical trial that we commenced in October 2017.

Direct costs related to our SPR741 program increased slightly primarily due to an increase in clinical trial costs and manufacturing costs, almost entirely offset by a decrease in preclinical costs resulting from costs incurred in the prior year to support our clinical trial notification, or CTN, filing in Australia in the fourth quarter of 2016. The increase in clinical trial costs and manufacturing costs was due to our Phase 1 clinical trial of SPR741, which was initiated in the fourth quarter of 2016, as well as manufacturing of clinical trial materials for our Phase 1b drug-drug interaction clinical trial of SPR741 in the United Kingdom, which

was initiated in November 2017, and our planned Phase 2 clinical trial. Research and development expenses for our SPR741 program conducted by our Australian subsidiary were recorded net of a 43.5% research and development tax incentive for qualified expenses from the Australian government of $0.1 million in the three months ended September 30, 2017.

We designated SPR720 as a product candidate in the fourth quarter of 2016. Direct costs related to our SPR720 program during the three months ended September 30, 2017 were primarily due to preclinical and manufacturing costs related to IND-enabling toxicology studies.

We designated SPR206 as a product candidate in July 2017. Direct costs related to our SPR206 program during the three months ended September 30, 2017 were primarily due to preclinical and manufacturing costs related to IND-enabling toxicology studies.

Direct costs related to our preclinical programs decreased as we focused development efforts on our designated product candidates. Direct costs related to our preclinical programs were recorded net of the recognition of funding received from a concluded collaboration agreement of $0.2 million during the three months ended September 30, 2016.

The increase in personnel-related costs included in unallocated expenses was due to an increase in headcount in our research and development function. Personnel-related costs for the three months ended September 30, 2017 and 2016 included share-based compensation expense of $0.2 million and less than $0.1 million, respectively. The decrease in facility-related and other costs was primarily due to higher costs incurred during the three months ended September 30, 2016 related to outfitting our new laboratory space.

General and Administrative Expenses

	Three Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Personnel related (including share-based compensation)	$ 1,512	$ 636	$ 876
Professional and consultant fees	1,850	1,094	756
Facility related and other	291	179	112
Total general and administrative expenses	$ 3,653	$ 1,909	$1,744

The increase in personnel-related costs was primarily a result of an increase in stock-based compensation expense related to additional employee stock options granted and a higher value of our common stock, as well as increased headcount in our general and administrative function. Personnel-related costs for the three months ended September 30, 2017 and 2016 included share-based compensation expense of $0.7 million and less than $0.1 million, respectively.

The increase in professional and consultant fees primarily consisted of an increase in professional fees, including accounting, audit, business development and legal fees as well as costs associated with ongoing business activities and our preparations to operate as a public company.

Other Income (Expense), Net

Other income, net consisted almost entirely of interest income for the three months ended September 30, 2017 related to interest earned on invested cash balances. We did not invest our cash in the three months ended September 30, 2016.

Comparison of the Nine Months Ended September 30, 2017 and 2016

The following table summarizes our results of operations for the nine months ended September 30, 2017 and 2016:

	Nine Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Revenue	$ 986	$ —	$ 986
Operating expenses:			
Research and development	20,366	19,406	960
General and administrative	8,350	5,005	3,345
Total operating expenses	28,716	24,411	4,305
Loss from operations	(27,730)	(24,411)	(3,319)
Other income (expense):			
Change in fair value of derivative liabilities	1,547	(37)	1,584
Interest income and other income (expense), net	165	4	161
Total other income (expense), net	1,712	(33)	1,745
Net loss and comprehensive loss	(26,018)	(24,444)	(1,574)
Less: Net loss attributable to non-controlling interest	(1,137)	(6,164)	5,027
Net loss attributable to Spero Therapeutics, Inc.	$(24,881)	$(18,280)	$(6,601)

Revenue

Revenue recognized during the nine months ended September 30, 2017 was primarily due to the reimbursement of qualifying expenses incurred in connection with the SPR741 program under our research and development awards from CARB-X of $0.5 million and from the DoD of $0.4 million. We also recognized revenue of $0.1 million under our award from NIAID related to our SPR720 program. No revenue was recognized during the nine months ended September 30, 2016.

Research and Development Expenses

	Nine Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Direct research and development expenses by program:			
SPR994	$ 5,554	$ —	$ 5,554
SPR741	5,864	7,869	(2,005)
SPR720	1,379	—	1,379
SPR206	442	—	442
Preclinical programs	1,207	7,467	(6,260)
Unallocated expenses:			
Personnel related (including share-based compensation)	4,136	2,494	1,642
Facility related and other	1,784	1,576	208
Total research and development expenses	$20,366	$19,406	$ 960

We designated SPR994 as a product candidate in the fourth quarter of 2016. Direct costs related to our SPR994 program during the nine months ended September 30, 2017 were primarily due to preclinical and manufacturing costs as we focused efforts on formulation development, manufacturing process and manufacturing of clinical trial material in anticipation of a Phase 1 clinical trial, which commenced in October 2017. We also incurred $0.6 million of research and development expense for an upfront license fee paid to Meiji.

Direct costs related to our SPR741 program decreased primarily due to a decrease in preclinical costs resulting from costs incurred in the prior year to support our CTN filing in Australia in the fourth quarter of 2016, partially offset by an increase in clinical trial costs and manufacturing costs. The increase in clinical trial costs and manufacturing costs was due to our Phase 1 clinical trial of SPR741, which was initiated in the fourth quarter of 2016, as well as manufacturing of clinical trial materials for our Phase 1b drug-

drug interaction clinical trial of SPR741 in the United Kingdom, which was initiated in November 2017, and our planned Phase 2 clinical trial. Research and development expenses for our SPR741 program conducted by our Australian subsidiary were recorded net of a 43.5% research and development tax incentive for qualified expenses from the Australian government of $0.8 million in the nine months ended September 30, 2017.

We designated SPR720 as a product candidate in the second half of 2016. Direct costs related to our SPR720 program during the nine months ended September 30, 2017 were primarily due to preclinical and manufacturing costs related to IND-enabling toxicology studies.

We designated SPR206 as a product candidate in July 2017. Direct costs related to our SPR206 program during the nine months ended September 30, 2017 were primarily due to preclinical and manufacturing costs related to IND-enabling toxicology studies.

Direct costs related to our preclinical programs decreased due primarily to the cost of in-licensing technology incurred in 2016 of $5.1 million and to decreased spending on preclinical programs in 2017. The cost of in-licensing technology incurred in 2016 of $5.1 million was a result of the issuance of equity and anti-dilution rights to Promiliad Biopharma Inc., or Promiliad, Biota Pharmaceuticals, Inc. (now Aviragen Therapeutics, Inc.), or Aviragen, and PBB, and a license fee payment of $0.5 million we made to Vertex Pharmaceuticals Inc., or Vertex. Our research and development expenses related to our preclinical programs decreased in 2017 as compared to 2016 as we focused development efforts on our product candidates. Direct costs related to our preclinical programs were recorded net of the recognition of funding received from a concluded collaboration agreement of $0.9 million during the nine months ended September 30, 2016.

The increase in personnel-related costs included in unallocated expenses was due to an increase in headcount in our research and development function. Personnel-related costs for the nine months ended September 30, 2017 and 2016 included share-based compensation expense of $0.2 million and $0.1 million, respectively. The increase in facility-related and other costs was primarily due to new laboratory space and the increased costs of supporting a larger group of research and development personnel and their research efforts.

General and Administrative Expenses

	Nine Months Ended September 30,		
	2017	2016	Change
	(in thousands)		
Personnel related (including share-based compensation)	$3,108	$1,564	$1,544
Professional and consultant fees	4,546	2,935	1,611
Facility related and other	696	506	190
Total general and administrative expenses	$8,350	$5,005	$3,345

The increase in personnel-related costs was primarily a result of an increase in headcount in our general and administrative function and an increase in stock-based compensation expense related to additional employee stock options granted and a higher value of our common stock. Personnel-related costs for the nine months ended September 30, 2017 and 2016 included share-based compensation expense of $0.8 million and $0.1 million, respectively.

The increase in professional and consultant fees primarily consisted of an increase in professional fees, including accounting, audit, business development and legal fees as well as costs associated with ongoing business activities and our preparations to operate as a public company. We also incurred increased legal fees in connection with the Reorganization.

Other Income (Expense), Net

Other income, net was $1.7 million for the nine months ended September 30, 2017, compared to less than $0.1 million of other expense, net for the nine months ended September 30, 2016. The increase in other income was primarily due to a decrease of $1.6 million in the fair value of the derivative liability for anti-dilution rights granted to minority investors in Spero Gyrase Inc. and Spero Europe Ltd. resulting from our discontinuation of the underlying development programs of these subsidiaries. We also had interest income of $0.2 million in the nine months ended September 30, 2017 as a result of interest earned on invested cash balances.

Liquidity and Capital Resources

Since our inception, we have incurred significant operating losses. We have generated limited revenue to date from funding arrangements with the DoD, NIAID and CARB-X. We have not yet commercialized any of our product candidates and we do not expect to generate revenue from sales of any product candidates for several years, if at all. To date, we have funded our operations with proceeds from the sales of preferred units and bridge units, payments received under a concluded collaboration agreement and funding from government contracts and, in November 2017, with proceeds from the IPO of our common stock. As of September 30, 2017, we had cash and cash equivalents of $25.4 million.

On November 6, 2017, we completed an IPO of our common stock, and issued and sold 5,500,000 shares of common stock at a public offering price of $14.00 per share, resulting in net proceeds of $71.6 million after deducting underwriting discounts and commissions but before deducting offering costs. On November 14, 2017, we issued and sold an additional 471,498 shares of our common stock at the IPO price of $14.00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock, resulting in additional net proceeds of $6.1 million after deducting underwriting discounts and commissions. Aggregate net proceeds from the IPO totaled $77.7 million after deducting underwriting discounts and commissions but before deducting offering costs.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented:

	Nine Months Ended September 30,	
	2017	2016
	(in thousands)	
Cash used in operating activities	$(26,371)	$(19,755)
Cash used in investing activities	—	(569)
Cash provided by financing activities	41,429	25,913
Net increase in cash and cash equivalents	$ 15,058	$ 5,589

Operating Activities

During the nine months ended September 30, 2017, operating activities used $26.4 million of cash, primarily resulting from our net loss of $26.0 million and net non-cash income of $0.3 million. Net cash used by changes in our operating assets and liabilities was less than $0.1 million and consisted primarily of a $1.0 million increase in receivables related to the Australian research and development tax incentive and to our government contracts, partially offset by an increase in accounts payable and accrued expenses and other current liabilities of $0.9 million.

During the nine months ended September 30, 2016, operating activities used $19.8 million of cash, primarily resulting from our net loss of $24.4 million and cash used by changes in our operating assets and liabilities of $0.3 million, partially offset by non-cash charges of $4.9 million. Net cash used by changes in our operating assets and liabilities for the nine months ended September 30, 2016 consisted primarily of a $0.9 million decrease in advance payments from collaborator and a $0.8 million increase in prepaid expenses and other current assets, partially offset by a $1.5 million increase in accounts payable and accrued expenses and other current liabilities. The decrease in advance payments from collaborator was a result of the recognition of research funding received in prior periods as an offset to research and development expense.

Changes in accounts payable, accrued expenses and other current liabilities, and prepaid expenses and other current assets in all periods were generally due to growth in our business, the advancement of our development programs and the timing of vendor invoicing and payments.

Investing Activities

We did not use any cash for investing activities during the nine months ended September 30, 2017. During the nine months ended September 30, 2016, net cash used in investing activities was $0.6 million, consisting of purchases of property and equipment, primarily for our new office and laboratory spaces.

Financing Activities

During the nine months ended September 30, 2017, net cash provided by financing activities was $41.4 million, consisting primarily of net proceeds of $43.1 million from the sale of our Class C preferred units, partially offset by $1.2 million of cash used to purchase outstanding shares of Spero Potentiator, Inc. and Spero Cantab, Inc. from the minority interest holders and $0.5 million of payments of initial public offering costs.

During the nine months ended September 30, 2016, net cash provided by financing activities was $25.9 million, consisting of net proceeds from the sale of our Class B preferred units.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we advance the preclinical activities and clinical trials for our product candidates in development. In addition, we expect to incur additional costs associated with operating as a public company. The timing and amount of our operating expenditures will depend largely on:

- the timing and costs of our planned clinical trials of SPR994;
- the timing and costs of our planned clinical trials of SPR741;
- the initiation, progress, timing, costs and results of preclinical studies and clinical trials of our other product candidates and potential new product candidates;
- the amount of funding that we receive under government contracts that we have applied for;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and costs of seeking regulatory approvals;
- the costs of commercialization activities for SPR994, SPR741 and other product candidates if we receive marketing approval, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities;
- the receipt of marketing approval and revenue received from any potential commercial sales of SPR994 or SPR741;
- the terms and timing of any future collaborations, licensing or other arrangements that we may establish;
- the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights, including milestone and royalty payments and patent prosecution fees that we are obligated to pay pursuant to our license agreements;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against any intellectual property related claims;
- the costs of operating as a public company; and
- the extent to which we in-license or acquire other products and technologies.

Based on our current plans, we believe that the net proceeds from our IPO completed in November 2017, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements into the second quarter of 2019. However, we do not expect that these funds will be sufficient to fund the development of our product candidates through regulatory approval and commercialization. In particular, we anticipate that these funds will not be sufficient to enable us to complete our pivotal Phase 3 clinical trial of SPR994. We believe the amount of net proceeds from our completed IPO that are currently allocated to SPR206 and SPR720 would only be sufficient to fund those programs to the point where we would be in a position to file an IND with respect to each. We have based these estimates on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical product candidates, we are unable to estimate the exact amount of

our working capital requirements. Our future funding requirements will depend on and could increase significantly as a result of many factors, including those listed above.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Obligations and Commitments

During the three months ended September 30, 2017, there have been no material changes to our contractual obligations and commitments outside the ordinary course of business from those described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations—Contractual Obligations and Commitments" in our final prospectus for our initial public offering filed pursuant to Rule 424(b)(4) under the Securities Act with the SEC on November 2, 2017.

Critical Accounting Policies and Significant Judgments and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. The preparation of our consolidated financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that of our critical accounting policies described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates" in our final prospectus for our initial public offering filed pursuant to Rule 424(b)(4) under the Securities Act with the SEC on November 2, 2017, the following involve the most judgment and complexity:

- revenue recognition;
- accrued research and development expenses;
- share-based compensation; and
- valuation of derivative liabilities.

Accordingly, we believe the policies set forth above are critical to fully understanding and evaluating our financial condition and results of operations. If actual results or events differ materially from the estimates, judgments and assumptions used by us in applying these policies, our reported financial condition and results of operations could be materially affected. There have been no significant changes to our critical accounting policies from those described in our final prospectus for our initial public offering filed pursuant to Rule 424(b)(4) under the Securities Act with the SEC on November 2, 2017.

Off-Balance Sheet Arrangements

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

Recently Issued and Adopted Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2 to our consolidated financial statements appearing elsewhere in this Quarterly Report.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Our cash and cash equivalents as of September 30, 2017 consisted of cash and money market accounts. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of interest rates. Because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our financial position or results of operations.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2017. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2017, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three months ended September 30, 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1A. Risk Factors.

Careful consideration should be given to the following risk factors, in addition to the other information set forth in this Quarterly Report and in other documents that we file with the SEC, in evaluating our company and our business. Investing in our common stock involves a high degree of risk. If any of the following risks actually occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred net losses in each year since our inception and anticipate that we will continue to incur significant losses for the foreseeable future, and if we are unable to achieve and sustain profitability, the market value of our common stock will likely decline.

We are a clinical-stage biopharmaceutical company with a limited operating history. We have not generated any revenue from the sale of products and have incurred losses in each year since our inception in 2013. Our net loss was $26.0 million for the nine months ended September 30, 2017 and $32.6 million for the year ended December 31, 2016. All of our product candidates are in development, none have been approved for sale and we may never have a product candidate approved for commercialization. We have financed our operations primarily through private placements of our preferred stock, collaborations and government funding for research and development. We have devoted substantially all of our financial resources and efforts to research and development, including preclinical and clinical development.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future as we conduct planned clinical trials and other studies of our lead product candidate, SPR994, and our lead potentiator product candidate, SPR741, seek marketing approval for SPR994 and SPR741 if clinical trials are successful, and continue to advance our other product candidates, including SPR206 and SPR720, through preclinical and clinical development. Our expenses will also increase substantially if and as we:

- conduct additional clinical trials and studies of our product candidates SPR994 and SPR741;
- continue to discover and develop additional product candidates;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval;
- establish manufacturing and supply chain capacity sufficient to provide commercial quantities of any product candidates for which we may obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, scientific and commercial personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts, as well as to support our transition to a public reporting company; and
- acquire or in-license other product candidates and technologies.

If our product candidates fail to demonstrate safety and efficacy in clinical trials, do not gain regulatory approval, or do not achieve market acceptance following regulatory approval and commercialization, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital. If we are unable to achieve and sustain profitability, the market value of our common stock will likely decline.

Because of the numerous risks and uncertainties associated with developing biopharmaceutical products, we are unable to predict the extent of any future losses or when, if ever, we will become profitable. Our expenses could increase if we are required by the FDA, or any comparable foreign regulatory authority to perform studies in addition to those currently expected, or if there are any delays in completing our clinical trials or the development of any of our product candidates.

We expect that we will need substantial additional funding. If we are unable to raise capital when needed, or do not receive payment under our government awards, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is a time-consuming, expensive and uncertain process that takes years to complete. We expect that our expenses will increase substantially as we commence and advance our planned clinical trials and other studies of SPR994 and SPR741, seek marketing approval for SPR994 and SPR741 if clinical trials are successful, and continue to advance our other product candidates, including SPR206 and SPR720, through preclinical and clinical development. If we obtain marketing approval for SPR994, SPR741 or any other product candidate, we expect to incur significant commercialization expenses related to product sales, marketing, distribution and manufacturing. Some of these expenses may be incurred in advance of marketing approval, and could be substantial. Accordingly, we will be required to obtain further funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative effect on our financial condition and our ability to pursue our business strategy.

We believe that our existing cash and cash equivalents as of September 30, 2017, together with the net proceeds from our initial public offering that closed in November 2017, will enable us to fund our operating expenses and capital expenditure requirements into the second quarter of 2019. Our cash forecasts are based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more than currently expected because of circumstances beyond our control. Our future funding requirements, both short-term and long-term, will depend on many factors, including:

- the timing and costs of our ongoing and planned clinical trials of SPR994;
- the timing and costs of our ongoing and planned clinical trials of SPR741;
- the initiation, progress, timing, costs and results of preclinical studies and clinical trials of our other product candidates and potential product candidates;
- the amount of funding that we receive under government awards that we have applied for;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and costs of seeking regulatory approvals;
- the costs of commercialization activities for SPR994, SPR741 and other product candidates if we receive marketing approval, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities;
- the receipt of marketing approval and revenue received from any potential commercial sales of SPR994 or SPR741;
- the terms and timing of any future collaborations, licensing or other arrangements that we may establish;
- the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights, including milestone and royalty payments and patent prosecution fees that we are obligated to pay pursuant to our license agreements;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against any intellectual property related claims;
- the costs of operating as a public company; and
- the extent to which we in-license or acquire other products and technologies.

As of September 30, 2017, our non-dilutive sources of funding consisted of awards from CARB-X and the DoD that provide partial funding for the development of our potentiator product candidates, including SPR741, and an award from NIAID, for our SPR720 program. Our DoD cooperative agreement is structured as a single, two-year $1.5 million award. We are eligible for the full funding from the DoD and there are no options to be exercised at a later date. The NIAID award is structured as a base period followed by a single option. For the base period of March 1, 2017 through February 28, 2018, NIAID committed funding of

approximately $0.6 million for the SPR720 program. If exercised by NIAID, the approximately $0.4 million option will have a period of performance from March 1, 2018 through February 28, 2019. The CARB-X award is structured as a base period followed by two sequential options. In March 2017, CARB-X committed funds of $1.5 million to support SPR741 development efforts for the period from April 1, 2017 to March 31, 2018. CARB-X has subsequent 12-month options for $3.9 million and $1.4 million that it can exercise at its discretion on April 1, 2018 and April 1, 2019, respectively. The NIAID and CARB-X awards are subject to termination for convenience at any time by NIAID and CARB-X. Neither organization is obligated to provide funding to Spero beyond the base period amounts from Congressionally approved annual appropriations.

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

Unless and until we can generate a substantial amount of revenue from our product candidates, we expect to finance our future cash needs through public or private equity offerings, debt financings or collaborations, licensing arrangements and government funding arrangements. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans.

To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, the ownership interest of our then existing stockholders may be materially diluted, and the terms of these securities could include liquidation or other preferences and anti-dilution protections that could adversely affect the rights of our stockholders. In addition, debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, which could adversely affect our ability to conduct our business. In addition, securing additional financing would require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us.

Our independent registered public accounting firm has included in its report on our audited consolidated financial statements for the fiscal year ended December 31, 2016 an explanatory paragraph relating to our ability to continue as a going concern.

The report from our independent registered public accounting firm for the year ended December 31, 2016 includes an explanatory paragraph stating that our recurring losses from operations since inception and required additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern. If we are unable to obtain sufficient funding, our business, prospects, financial condition and results of operations will be materially and adversely affected and we may be unable to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our audited financial statements, and it is likely that investors will lose all or a part of their investment. Future reports from our independent registered public accounting firm may also contain statements expressing substantial doubt about our ability to continue as a going concern. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to us on commercially reasonable terms or at all.

Our ability to use our net operating loss carryforwards may be limited.

As of December 31, 2016, we had U.S. federal, state and foreign net operating loss carryforwards, or NOLs, of $39.8 million, $39.6 million and $3.8 million, respectively. Our NOLs begin to expire in 2033. Utilization of these NOLs depends on many factors, including our future income, which cannot be assured. These NOLs could expire unused and be unavailable to offset our future income tax liabilities. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership by 5% stockholders over a three-year period, the corporation's ability to use its pre-change NOLs and other pre-change tax attributes to offset its post-change income may be limited. We have not determined if we have experienced Section 382 ownership changes in the past and if a portion of our NOLs is subject to an annual limitation under Section 382. In addition, we may experience ownership changes in the future as a result of subsequent changes in our stock ownership, some of which may be outside of our control. If we determine that an ownership change has occurred and our ability to use our historical NOLs is materially limited, it would harm our future operating results by effectively increasing our future tax obligations.

We have a limited operating history and no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

We were established in 2013 and began operations in 2014. Our operations to date have been limited to financing and staffing our company, developing our technology and developing SPR994, SPR741 and our other product candidates. We have not yet demonstrated an ability to successfully complete a large-scale, pivotal clinical trial, obtain marketing approval, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

We will need to transition from a development-focused company to a company with commercial activities, and we may experience difficulties in managing this transition, which could disrupt our operations.

We may encounter unforeseen expenses, difficulties, complications, delays and other known or unknown factors in achieving our business objectives. We will eventually need to transition from a company with a development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, stockholders should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

Risks Related to Product Development and Commercialization

We are heavily dependent on the success of SPR994 and SPR741, both of which are still under development, and our ability to develop, obtain marketing approval for and successfully commercialize SPR994 and SPR741. If we are unable to develop, obtain marketing approval for and successfully commercialize SPR994 or SPR741, or if we experience significant delays in doing so, our business could be materially harmed.

We currently have no products approved for sale and have invested a significant portion of our efforts and financial resources in the development of SPR994 and SPR741 as product candidates for the treatment of MDR bacterial infections. Our near-term prospects are substantially dependent on our ability to develop, obtain marketing approval for and successfully commercialize either or both of SPR994 and SPR741. The success of SPR994 and SPR741 will depend on several factors, including the following:

- successful completion of clinical trials with safety, tolerability and efficacy profiles that are satisfactory to the FDA or any comparable foreign regulatory authority;
- receipt of marketing approvals from applicable regulatory authorities;
- establishment of arrangements with third-party manufacturers to obtain manufacturing supply;
- obtainment and maintenance of patent, trade secret protection and regulatory exclusivity, both in the United States and internationally, including our ability to maintain our license agreement with Meiji with respect to SPR994;
- protection of our rights in our intellectual property portfolio;
- launch of commercial sales of SPR994 and SPR741, if approved, whether alone or in collaboration with others;
- acceptance of SPR994 and SPR741, if approved, by patients, the medical community and third-party payors;
- competition with other therapies; and
- a continued acceptable safety profile of SPR994 and SPR741 following approval.

Successful development of SPR994 and SPR741 for any additional indications would be subject to these same risks.

Many of these factors are beyond our control, including clinical development, the regulatory submission process, potential threats to our intellectual property rights and the manufacturing, marketing and sales efforts of any future collaborator. If we are unable to develop, receive marketing approval for, or successfully commercialize SPR994 or SPR741, or if we experience delays as a result of any of these factors or otherwise, our business could be materially harmed.

We have no experience as a company in obtaining regulatory approval for a drug.

As a company, we have never obtained regulatory approval for, or commercialized, a drug. It is possible that the FDA may refuse to accept any or all of our planned new drug applications, or NDAs, for substantive review or may conclude after review of our data that our application is insufficient to obtain regulatory approval for any current or future product candidates. If the FDA does not approve any of our planned NDAs, it may require that we conduct additional costly clinical, nonclinical or manufacturing validation studies before it will reconsider our applications. Depending on the extent of these or any other FDA-required studies, approval of any NDA or other application that we submit may be significantly delayed, possibly for several years, or may require us to expend more resources than we have available. Any failure or delay in obtaining regulatory approvals would prevent us from commercializing SPR994 or SPR741, generating revenues and achieving and sustaining profitability. It is also possible that additional studies, if performed and completed, may not be considered sufficient by the FDA to approve any NDA or other application that we submit. If any of these outcomes occur, we may be forced to abandon the development of our product candidates, which would materially adversely affect our business and could potentially cause us to cease operations. We face similar risks for our applications in foreign jurisdictions.

If clinical trials of SPR994, SPR741 or any other product candidate that we may advance to clinical trials fail to demonstrate safety and efficacy to the satisfaction of the FDA or comparable foreign regulatory authorities or do not otherwise produce favorable results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of SPR994, SPR741 or any other product candidate.

We may not commercialize, market, promote, or sell any product candidate in the United States without obtaining marketing approval from the FDA or in other countries without obtaining approvals from comparable foreign regulatory authorities, such as the European Medicines Agency, or EMA, and we may never receive such approvals. We must complete extensive preclinical development and clinical trials to demonstrate the safety and efficacy of our product candidates in humans before we will be able to obtain these approvals. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is inherently uncertain as to outcome. We have not previously submitted an NDA to the FDA or similar applications to comparable foreign regulatory authorities for any of our product candidates.

The clinical development of SPR994, SPR741 and any of our other product candidates is susceptible to the risk of failure inherent at any stage of drug development, including failure to demonstrate efficacy in a trial or across a broad population of patients, the occurrence of severe adverse events, failure to comply with protocols or applicable regulatory requirements, and determination by the FDA or any comparable foreign regulatory authority that a drug product is not approvable. A number of companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in clinical trials, even after promising results in earlier nonclinical studies or clinical trials. The results of preclinical and other nonclinical studies and/or early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. Notwithstanding any promising results in early nonclinical studies or clinical trials, we cannot be certain that we will not face similar setbacks. For example, although SPR994 is a new formulation of the active pharmaceutical ingredient tebipenem that exhibited a favorable safety and efficacy profile during Phase 2 clinical trials conducted by Meiji and a global pharmaceutical company, which we refer to as Global Pharma, in Japan, we may nonetheless fail to achieve success in our clinical trials. Even if our clinical trials are completed, the results may not be sufficient to obtain regulatory approval for our product candidates.

In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we believe that the results of our clinical trials warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of our product candidates.

In some instances, there can be significant variability in safety and/or efficacy results between different trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants, among others. It is possible that even if one or more of our product candidates has a beneficial effect, that effect will not be detected during clinical evaluation as a result of one of the factors listed or otherwise. Conversely, as a result of the same factors, our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in our clinical trials, we may fail to detect toxicity of or intolerability of our product candidates or may determine that our product candidates are toxic or not well tolerated when that is not in fact the case. In the case of our clinical trials, results may differ on the basis of the type of bacteria with which patients are infected. We cannot make assurances that any Phase 2, Phase 3 or other clinical trials that we may conduct will demonstrate consistent or adequate efficacy and safety to obtain regulatory approval to market our product candidates.

We may encounter unforeseen events prior to, during, or as a result of, clinical trials that could delay or prevent us from obtaining regulatory approval for SPR994, SPR741 or any of our other product candidates, including:

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

- we may not reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials of our product candidates may produce unfavorable or inconclusive results;
- we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate participants may drop out of these clinical trials at a higher rate than we anticipate or we may fail to recruit suitable patients to participate in a trial;
- our third-party contractors, including those manufacturing our product candidates or conducting clinical trials on our behalf, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- the FDA or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may have to suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical trials of our product candidates for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we enter into agreement for clinical and commercial supplies;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the institutional review boards, or IRBs, of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board, or DSMB, if any, for such trial or by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, or changes in governmental regulations or administrative actions.

If we are required to conduct additional clinical trials or other testing of SPR994, SPR741 or any other product candidate beyond the trials and testing that we contemplate, if we are unable to successfully complete clinical trials or other testing of our product candidates, if the results of these trials or tests are unfavorable or are only modestly favorable or if there are safety concerns associated with SPR994, SPR741 or any other product candidate, we may:

- incur additional unplanned costs;
- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;

- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or significant safety warnings, including boxed warnings;
- be subject to additional post-marketing testing or other requirements; or
- be required to remove the product from the market after obtaining marketing approval.

Our failure to successfully initiate and complete clinical trials of our product candidates and to demonstrate the efficacy and safety necessary to obtain regulatory approval to market any of our product candidates would significantly harm our business. Our product candidate development costs will also increase if we experience delays in testing or marketing approvals and we may be required to obtain additional funds to complete clinical trials. We cannot make assurances that our clinical trials will begin as planned or be completed on schedule, if at all, or that we will not need to restructure our trials after they have begun. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our product candidates, which may harm our business and results of operations. In addition, many of the factors that cause, or lead to, delays of clinical trials may ultimately lead to the denial of regulatory approval of SPR994, SPR741 or any other product candidate.

If we experience delays or difficulties in the enrollment of patients in clinical trials, clinical development activities could be delayed or otherwise adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may not be able to initiate, continue or complete clinical trials of SPR994, SPR741 or any other product candidate that we develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in clinical trials as required by the FDA or comparable foreign regulatory authorities, such as the EMA. Patient enrollment is a significant factor in the timing of clinical trials, and is affected by many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the proximity of patients to clinical sites;
- the eligibility criteria for participation in the clinical trial;
- the design of the clinical trial;
- our ability to recruit clinical trial investigators with appropriate experience;
- competing clinical trials and clinicians' and patients' perceptions as to the potential advantages and risks of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications that we are investigating;
- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

The inclusion and exclusion criteria for our contemplated Phase 3 clinical trials of SPR994 and SPR741 may adversely affect our enrollment rates for patients in these trials. In addition, many of our competitors also have ongoing clinical trials for product candidates that would treat the same indications as we contemplate for SPR994 and SPR741, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates.

Our inability to enroll a sufficient number of patients for our clinical trials would result in significant delays or might require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, slow down or halt our product candidate development and approval process and jeopardize our ability to seek and obtain the marketing approval required to commence product sales and generate revenue, which would cause the value of our company to decline and limit our ability to obtain additional financing if needed.

Future legislation, and/or regulations and policies adopted by the FDA, the EMA or similar regulatory authorities may increase the time and cost required for us to conduct and complete clinical trials of SPR994, SPR741 and our other product candidates and potential product candidates.

The FDA has established regulations to govern the drug development and approval process, as have foreign regulatory authorities. The policies of the FDA and other regulatory authorities may change and additional laws may be enacted or government regulations may be promulgated that could prevent, limit, delay but also accelerate regulatory review of our product candidates. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and spur innovation, but all of its provisions have not yet been implemented. Among other things, the Cures Act provides a new "limited population" pathway for certain antibacterial and antifungal drugs, or LPAD, but the FDA has not yet issued guidance regarding the LPAD. Additionally, in August 2017, FDA issued final guidance setting forth its current thinking with respect to development programs and clinical trial designs for antibacterial drugs to treat serious bacterial diseases in patients with an unmet medical need. We cannot predict what if any effect the Cures Act or any existing or future guidance from FDA will have on the development of our product candidates.

Our clinical program for SPR994 is subject to a number of specific risks that may affect the outcome of the trial, including the use of a new formulation of the active pharmaceutical ingredient, tebipenem.

Our planned pivotal Phase 3 clinical trial of SPR994 is subject to a number of specific risks arising from our clinical program and the design of the trial. We have not conducted a clinical trial of SPR994 in patients with cUTI, who will be the subjects of the clinical trial, and we have no direct clinical evidence that SPR994 is effective in treating cUTIs in humans. Although we believe that SPR994 has the potential to treat cUTI in humans based on the results of our nonclinical *in vitro* and *in vivo* animal model studies, together with Meiji's and Global Pharma's Phase 2 clinical trial results, these results are not necessarily predictive of the results of our planned clinical trials and we cannot guarantee that SPR994 will demonstrate the expected efficacy in our planned pivotal Phase 3 clinical trial patients. We also cannot guarantee that the projections made from the pharmacokinetic and pharmacodynamic models that we developed from our nonclinical and clinical SPR994 studies will be validated in our planned pivotal Phase 3 clinical trial.

In addition, we may face competition in enrolling suitable patients as a result of other companies conducting clinical trials for antibiotic product candidates that are intended to treat similar infections, resulting in slower than anticipated enrollment in our trials. Enrollment delays in the trial may result in increased development costs for SPR994, or slow down or halt our product development for SPR994.

To support our accelerated clinical development strategy for SPR994, we are relying, in part, on clinical data from two exploratory Phase 2 clinical trials conducted by Meiji (ME1211) and Global Pharma (L-084 04) in Japan, which were not conducted in accordance with FDA guidance for clinical trials in patients with cUTI. To the extent that these clinical trial design differences limit our use of the clinical data, our proposed clinical trial plan for SPR994 with the FDA could be materially delayed and we may incur material additional costs.

There are significant differences in the trial design for the two exploratory Phase 2 clinical trials conducted by Meiji and Global Pharma in Japan compared to the clinical trial design described by the FDA in its guidance for clinical trials in patients with cUTI, including:

- The studies were not randomized and were open-label and had no comparator arm. Treatment assignments were made by the investigators.
- The inclusion criteria specified complicated UTI as an entry criterion, but other than retained residual volume (100 ml) there were no other criteria defining "complicated" UTI.
- While L-084 04 excluded patients who received prior antibiotics and who had no clinical response, there were no parameters or limits for inclusion (e.g., less than 24 hours of a potentially effective antibiotic or number of doses). ME1211 did not specifically mention prior antibiotic use.
- While urine cultures were obtained at baseline, these were not quantitative, and there was no minimum requirement for bacterial load for entry.
- While microbiological outcome was assessed, the definitions did not include a minimum reduction in bacterial counts (i.e., a reduction to less than 10^4 cfu/ml).
- Clinical outcomes were global assessments by the investigators and did not specifically mention the resolution of baseline signs and symptoms.
- The primary endpoint was not a composite of both clinical and microbiological outcomes.

If the FDA were to discount significantly the value of these clinical data as support for our clinical plan to proceed from a Phase 1 dose-selection clinical trial directly to a pivotal Phase 3 clinical trial of SPR994, then our clinical pathway for SPR994 could be materially delayed and we could incur material costs associated with conducting additional clinical trials.

Our planned Phase 2 clinical trial of SPR741 is subject to a number of specific risks that may affect the outcome of the trials, including the need to co-administer SPR741 with a companion antibiotic.

Our planned Phase 2 clinical trial of SPR741 is subject to a number of specific risks arising from our clinical program and the design of the trial. We have not conducted a clinical trial of SPR741 in patients with cUTI, who will be the subjects of the clinical trial, and we have no direct clinical evidence that SPR741 as a potentiator in combination with a partner antibiotic has the potential to treat cUTI in humans. Although we believe that SPR741 as a potentiator in combination with a partner antibiotic has the potential to treat cUTI in humans based upon our nonclinical *in vitro* and *in vivo* animal model study results, these results are not necessarily predictive of the results in humans. We cannot guarantee that SPR741 as a potentiator in combination with a partner antibiotic will demonstrate the efficacy we expect to observe in patients in our planned Phase 2 clinical trial. We also cannot guarantee that the projections made from the pharmacokinetic and pharmacodynamic models that we developed from our nonclinical and clinical SPR741 studies will be validated in our planned Phase 2 clinical trial.

In addition, we may face competition in enrolling suitable patients as a result of other companies conducting clinical trials for antibiotic product candidates that are intended to treat similar infections, resulting in slower than anticipated enrollment in our trials. Enrollment delays in the trials may result in increased development costs for SPR741, or slow down or halt our product development and approval process for SPR741.

Serious adverse events or undesirable side effects or other unexpected properties of SPR994, SPR741 or any other product candidate may be identified during development or after approval that could delay, prevent or cause the withdrawal of regulatory approval, limit the commercial potential, or result in significant negative consequences following marketing approval.

Serious adverse events or undesirable side effects caused by, or other unexpected properties of, our product candidates could cause us, an institutional review board, or regulatory authorities to interrupt, delay or halt our clinical trials and could result in a more restrictive label, the imposition of distribution or use restrictions or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. If SPR994, SPR741 or any of our other product candidates is associated with serious or unexpected adverse events or undesirable side effects, the FDA, the IRBs at the institutions in which our studies are conducted, or a DSMB, could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

While the active pharmaceutical ingredient in SPR994, tebipenem, is approved in Japan, our formulation of tebipenem, SPR994, has not yet been tested extensively in patients. There may be unforeseen serious adverse events or side effects that differ from those seen in the Japanese studies. To date, patients treated with the active ingredient in SPR994 have experienced drug-related side effects including diarrhea, temporary increases in hepatic enzymes, allergic reactions, rash, and convulsions. To date, SPR741 has generally been well tolerated in clinical trials conducted in healthy subjects and there have been no reports of serious adverse events related to SPR741. Our planned Phase 2 clinical trial, however, will involve dosing a larger population of patients than were included in the ongoing Phase 1 clinical trial and additional adverse events may emerge in subsequent clinical trials.

If unexpected adverse events occur in any of our planned clinical trials, we may need to abandon development of our product candidates, or limit development to lower doses or to certain uses or subpopulations in which the undesirable side effects or other unfavorable characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many compounds that initially showed promise in clinical or earlier stage testing are later found to cause undesirable or unexpected side effects that prevented further development of the compound.

Undesirable side effects or other unexpected adverse events or properties of SPR994, SPR741 or any of our other product candidates could arise or become known either during clinical development or, if approved, after the approved product has been marketed. If such an event occurs during development, our trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of, or could deny approval of, SPR994, SPR741 or our other product candidates. If such an event occurs after such product candidates are approved, a number of potentially significant negative consequences may result, including:

- regulatory authorities may withdraw the approval of such product;
- we may be required to recall a product or change the way such product is administered to patients;

- regulatory authorities may require additional warnings on the label or impose distribution or use restrictions;
- regulatory authorities may require one or more post-market studies;
- regulatory authorities may require the addition of a “black box” warning;
- we may be required to implement a REMS including the creation of a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- our product may become less competitive; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate, if approved, or could substantially increase commercialization costs and expenses, which could delay or prevent us from generating revenue from the sale of our products and harm our business and results of operations.

Even if a product candidate does obtain regulatory approval, it may never achieve the market acceptance by physicians, patients, hospitals, third-party payors and others in the medical community that is necessary for commercial success and the market opportunity may be smaller than we estimate.

Even if we obtain FDA or other regulatory approvals and are able to launch SPR994, SPR741 or any other product candidate commercially, the product candidate may not achieve market acceptance among physicians, patients, hospitals (including pharmacy directors) and third-party payors and, ultimately, may not be commercially successful. For example, physicians are often reluctant to switch their patients from existing therapies even when new and potentially more effective or convenient treatments enter the market. Further, patients often acclimate to the therapy that they are currently taking and do not want to switch unless their physicians recommend switching products or they are required to switch therapies due to lack of coverage and reimbursement for existing therapies. Market acceptance of any product candidate for which we receive approval depends on a number of factors, including:

- the efficacy and safety of the product candidate as demonstrated in clinical trials;
- relative convenience and ease of administration;
- the clinical indications for which the product candidate is approved;
- the potential and perceived advantages and disadvantages of the product candidates, including cost and clinical benefit relative to alternative treatments;
- the willingness of physicians to prescribe the product;
- the willingness of hospital pharmacy directors to purchase the product for their formularies;
- acceptance by physicians, patients, operators of hospitals and treatment facilities and parties responsible for coverage and reimbursement of the product;
- the availability of coverage and adequate reimbursement by third-party payors and government authorities;
- the effectiveness of our sales and marketing efforts;
- the strength of marketing and distribution support;

- limitations or warnings, including distribution or use restrictions, contained in the product's approved labeling or an approved risk evaluation and mitigation strategy;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy for particular infections;
- the approval of other new products for the same indications;
- the timing of market introduction of the approved product as well as competitive products;
- adverse publicity about the product or favorable publicity about competitive products;
- the emergence of bacterial resistance to the product; and
- the rate at which resistance to other drugs in the target infections grows.

Any failure by SPR994, SPR741 or any other product candidate that obtains regulatory approval to achieve market acceptance or commercial success would adversely affect our business prospects.

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

Because we have limited financial and managerial resources, we intend to focus on developing product candidates for specific indications that we identify as most likely to succeed, in terms of both their potential for marketing approval and commercialization. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that may prove to have greater commercial potential.

Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to the product candidate.

If we are unable to establish sales, marketing and distribution capabilities or enter into sales, marketing and distribution agreements with third parties, we may not be successful in commercializing SPR994, SPR741 or any other product candidate if such product candidate is approved.

We do not have a sales, marketing or distribution infrastructure and we have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource those functions to third parties. We intend to build a commercial organization in the United States and recruit experienced sales, marketing and distribution professionals. The development of sales, marketing and distribution capabilities will require substantial resources, will be time-consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing and distribution capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization costs. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel. In addition, we may not be able to hire a sales force in the United States that is sufficient in size or has adequate expertise in the medical markets that we intend to target. If we are unable to establish a sales force and marketing and distribution capabilities, our operating results may be adversely affected.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to or persuade adequate numbers of physicians to prescribe any future products;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

We intend to use collaborators to assist with the commercialization of SPR994, SPR741 and any other product candidate outside the United States. As a result of entering into arrangements with third parties to perform sales, marketing and distribution services, our product revenues or the profitability of these product revenues to us would likely be lower than if we were to directly market and sell products in those markets.

Furthermore, we may be unsuccessful in entering into the necessary arrangements with third parties or may be unable to do so on terms that are favorable to us. In addition, we likely would have little control over such third parties, and any of them might fail to devote the necessary resources and attention to sell and market our products effectively.

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.

We face substantial competition from other pharmaceutical and biotechnology companies and our operating results may suffer if we fail to compete effectively.

The development and commercialization of new drug products is highly competitive. We face competition from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide with respect to SPR994, SPR741 and our other product candidates that we may seek to develop and commercialize in the future. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of resistant infections. Potential competitors also include academic institutions, government agencies and other public and private research organizations. Our competitors may succeed in developing, acquiring or licensing technologies and drug products that are more effective or less costly than SPR994, SPR741 or any other product candidates that we are currently developing or that we may develop, which could render our product candidates obsolete and noncompetitive.

There are a variety of available oral therapies marketed for the treatment of multi-drug resistant infections that we would expect would compete with SPR994, such as Levaquin, Cipro and Bactrim. Many of the available therapies are well established and widely accepted by physicians, patients and third-party payors. Insurers and other third-party payors may also encourage the use of generic products, for example in the fluoroquinolone class. If SPR994 is approved, the pricing may be at a significant premium over other competitive products. This may make it difficult for SPR994 to compete with these products.

There are also a number of oral product candidates in clinical development by third parties that are intended to treat UTIs. Some mid- to late-stage product candidates include C-Scape from Achaogen, Inc., sulopenem from Iterum Therapeutics Limited, eravacycline from Tetraphase Pharmaceuticals, Inc. and omadacycline from Paratek Pharmaceuticals, Inc. If our competitors obtain marketing approval from the FDA or comparable foreign regulatory authorities for their product candidates more rapidly than us, it could result in our competitors establishing a strong market position before we are able to enter the market.

There are several IV-administered products marketed for the treatment of infections resistant to first-line therapy for Gram-negative infections, including Avycaz from Allergan plc and Pfizer Inc. and Zerbaxa from Merck & Co. There are also a number of IV-administered product candidates in late-stage clinical development that are intended to treat resistant Gram-negative infections, including plazomicin from Achaogen, Inc., meropenem vaborbactam from The Medicines Company, cefiderocol from Shionogi & Co. Ltd., eravacycline IV from Tetraphase Pharmaceuticals, Inc. and relabactam from Merck & Co.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

In July 2012, the Food and Drug Administration Safety and Innovation Act was passed, which included the Generating Antibiotics Incentives Now Act, or the GAIN Act. The GAIN Act is intended to provide incentives for the development of new, qualified infectious disease products. In December 2016, the Cures Act was passed, providing additional support for the development of new infectious disease products. These incentives may result in more competition in the market for new antibiotics, and may cause pharmaceutical and biotechnology companies with more resources than we have to shift their efforts towards the development of product candidates that could be competitive with SPR994, SPR741 and our other product candidates.

Even if we are able to commercialize SPR994, SPR741 or any other product candidate, the product may become subject to unfavorable pricing regulations, or third-party payor coverage and reimbursement policies that could harm our business.

Marketing approvals, pricing, coverage 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 might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, which may negatively affect the revenues that we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

We currently expect that some of our product candidates, if approved, will be administered in a hospital inpatient setting. In the United States, governmental and other third-party payors generally reimburse hospitals a single bundled payment established on a prospective basis intended to cover all items and services provided to the patient during a single hospitalization. Hospitals bill third-party payors for all or a portion of the fees associated with the patient's hospitalization and bill patients for any deductibles or co-payments. Because there is typically no separate reimbursement for drugs administered in a hospital inpatient setting, some of our target customers may be unwilling to adopt our product candidates in light of the additional associated cost. If we are forced to lower the price we charge for our product candidates, if approved, our gross margins may decrease, which would adversely affect our ability to invest in and grow our business.

To the extent SPR994, SPR741 or any other product candidate we develop is used in an outpatient setting, the commercial success of our product candidates will depend substantially, both domestically and abroad, on the extent to which coverage and reimbursement for these products and related treatments are available from government health programs and third-party payors. If coverage is not available, or reimbursement is limited, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investments. Government authorities and third-party payors, such as health insurers and managed care organizations, publish formularies that identify the medications they will cover and the related payment levels. The healthcare industry is focused on cost containment, both in the United States and elsewhere. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect our ability to sell our product candidates profitably.

Increasingly, third-party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. We cannot be sure that coverage will be available for SPR994, SPR741 or any other product candidate that we commercialize and, if available, that the reimbursement rates will be adequate. Further, the net reimbursement for outpatient drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any approved products used on an outpatient basis that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

We cannot predict whether bacteria may develop resistance to SPR994, SPR741 or our other product candidates, which could affect their revenue potential.

We are developing SPR994 and SPR741 to treat drug-resistant bacterial infections. The bacteria responsible for these infections evolve quickly and readily transfer their resistance mechanisms within and between species. We cannot predict whether or when bacterial resistance to SPR994 or SPR741 may develop.

Specifically, neither SPR994 nor SPR741 (as a potentiator in combination with a partner antibiotic) are highly active against infections caused by *Pseudomonas aeruginosa*. As with some commercially available carbapenems, SPR994 is not active against organisms expressing a resistance mechanism mediated by enzymes known as carbapenemases. Although occurrence of this resistance mechanism is currently rare, we cannot predict whether carbapenemase-mediated resistance will become widespread in regions where we intend to market SPR994 if it is approved. The growth of drug resistant infections in community settings or in countries with poor public health infrastructures, or the potential use of SPR994 and SPR741 outside of controlled hospital settings, could contribute to the rise of resistance. If resistance to SPR994 or SPR741 becomes prevalent, our ability to generate revenue from SPR994 or SPR741 could suffer.

If we are not successful in discovering, developing and commercializing additional product candidates, our ability to expand our business and achieve our strategic objectives would be impaired.

Although a substantial amount of our efforts will focus on planned clinical trials and potential approval of our lead product candidate, SPR994, and our lead potentiator product candidate, SPR741, a key element of our strategy is to discover, develop and

commercialize a portfolio of therapeutics to treat drug resistant bacterial infections. We are seeking to do so through our internal research programs and are exploring, and intend to explore in the future, strategic partnerships for the development of new product candidates. Other than SPR741, all of our potential product candidates remain in the discovery and preclinical stages.

Research programs to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for many reasons, including the following:

- the research methodology used may not be successful in identifying potential product candidates;
- we may be unable to successfully modify candidate compounds to be active in Gram-negative bacteria or defeat bacterial resistance mechanisms or identify viable product candidates in our screening campaigns;
- competitors may develop alternatives that render our product candidates obsolete;
- product candidates that we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- a product candidate may, on further study, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all;
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors; and
- the development of bacterial resistance to potential product candidates may render them ineffective against target infections.

If we are unsuccessful in identifying and developing additional product candidates, our potential for growth may be impaired.

Product liability lawsuits against us could divert our resources, cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

We face an inherent risk of product liability claims as a result of the clinical testing of our product candidates despite obtaining appropriate informed consents from our clinical trial participants. We will face an even greater risk if we obtain marketing approval for and commercially sell SPR994, SPR741 or any other product candidate. For example, we may be sued if any product that we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Regardless of the merits or eventual outcome, liability claims may result in:

- reduced resources for our management to pursue our business strategy;
- decreased demand for our product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- significant costs to defend resulting litigation;
- substantial monetary awards to trial participants or patients;

- loss of revenue; and
- the inability to commercialize any products that we may develop.

Although we maintain general liability insurance and clinical trial liability insurance, this insurance may not fully cover potential liabilities that we may incur. The cost of any product liability litigation or other proceeding, even if resolved in our favor, could be substantial. We will need to increase our insurance coverage if and when we receive marketing approval for and begin selling SPR994, SPR741 or any other product candidate. In addition, insurance coverage is becoming increasingly expensive. If we are unable to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims, it could prevent or inhibit the development and commercial production and sale of our product candidates, which could adversely affect our business, financial condition, results of operations and prospects.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. From time to time and in the future, our operations may involve the use of hazardous and flammable materials, including chemicals and biological materials, and may also produce hazardous waste products. Even if we contract with third parties for the disposal of these materials and wastes, we cannot completely eliminate the risk of contamination or injury resulting from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

We maintain workers' compensation insurance to cover us for costs and expenses that we may incur due to injuries to our employees resulting from the use of hazardous materials, but this insurance may not provide adequate coverage against potential liabilities. Moreover, we do not currently maintain insurance for environmental liability or toxic tort claims that may be asserted against us.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. Current or future environmental laws and regulations may impair our research, development or production efforts, which could adversely affect our business, financial condition, results of operations or prospects. In addition, failure to comply with these laws and regulations may result in substantial fines, penalties or other sanctions.

Our internal computer systems, or those of our contract research organizations or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.

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 or disruption from hacking, computer viruses, software bugs, unauthorized access, natural disasters, terrorism, war, and telecommunication, equipment and electrical failures. While we have not, to our knowledge, experienced any significant 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 material disruption of our programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for any of our product candidates could result in delays in our development and regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications, or inappropriate disclosure or theft of confidential or proprietary information, we could incur liability, the further development of our product candidates could be delayed or our competitive position could be compromised.

Risks Related to Our Dependence on Third Parties

We expect to depend on collaborations with third parties for the development and commercialization of some of our product candidates. Our prospects with respect to those product candidates will depend in part on the success of those collaborations.

Although we expect to commercialize SPR994 and SPR741 ourselves in the United States, we intend to commercialize both product candidates outside the United States through collaboration arrangements. If we develop SPR741 to be co-administered in combination with branded and not generic antibiotic compounds, then we will be required to obtain and maintain rights from third-party collaborators for the development and commercialization of SPR741 co-administered with such other branded antibiotic compounds. In addition, we may seek third-party collaborators for development and commercialization of other product candidates. Our likely collaborators for any marketing, distribution, development, licensing or broader collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. We are not currently party to any such arrangements.

We may derive revenue from research and development fees, license fees, milestone payments and royalties under any collaborative arrangement into which we enter. Our ability to generate revenue from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. In addition, our collaborators may have the right to abandon research or development projects and terminate applicable agreements, including funding obligations, prior to or upon the expiration of the agreed upon terms. As a result, we can expect to relinquish some or all of the control over the future success of a product candidate that we license to a third party.

We face significant competition in seeking and obtaining appropriate collaborators. Collaborations involving our product candidates may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- a collaborator with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability; and
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a collaborator of ours is involved in a business combination, it could decide to delay, diminish or terminate the development or commercialization of any product candidate licensed to it by us.

We may have to alter our development and commercialization plans if we are not able to establish collaborations.

We will require additional funds to complete the development and potential commercialization of SPR994, SPR741 and our other product candidates. For some of our product candidates, we may decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates. For SPR741, if we develop such product candidate to be co-administered in combination with branded and not generic antibiotic compounds, we will be required to obtain and maintain rights from third-party collaborators for such development and commercialization of SPR741 co-administered with such collaborator's branded antibiotic compound. Moreover, we intend to utilize a variety of types of collaboration arrangements for commercialization outside the United States.

We face significant competition in seeking and obtaining appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include:

- the design or results of clinical trials;
- the likelihood of approval by the FDA or comparable foreign regulatory authorities;
- the potential market for the subject product candidate;
- the costs and complexities of manufacturing and delivering such product candidate to patients;
- the potential for competing products;
- our patent position protecting the product candidate, including any uncertainty with respect to our ownership of our technology or our licensor's ownership of technology we license from them, which can exist if there is a challenge to such ownership without regard to the merits of the challenge;
- the need to seek licenses or sub-licenses to third-party intellectual property; and
- industry and market conditions generally.

The collaborator may also consider alternative product candidates or technologies for similar indications that may be available for collaboration and whether such a collaboration could be more attractive than the one with us for our product candidate. We may also be restricted under future license agreements from entering into agreements on certain terms with potential collaborators. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market and our business may be materially and adversely affected.

We rely on third parties to conduct some of our preclinical studies and all of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for or commercialize any of our product candidates. If they do not perform satisfactorily, our business may be materially harmed.

We do not independently conduct nonclinical studies that comply with good laboratory practice, or GLP, requirements. We also do not have the ability to independently conduct clinical trials of any of our product candidates. We rely on third parties, such as contract research organizations, clinical data management organizations, medical institutions, and clinical investigators, to conduct our clinical trials of SPR994 and SPR741 and expect to rely on these third parties to conduct clinical trials of our other product candidates and potential product candidates. Any of these third parties may terminate their engagements with us at any time. If we need to enter into alternative arrangements, it would delay our product development activities.

Our reliance on these third parties for clinical development activities limits our control over these activities but we remain responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards. For example, notwithstanding the obligations of a contract research organization for a trial of one of our product candidates, we remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. While we will have agreements governing their activities, we control only certain aspects of their activities and have limited influence over their actual performance. The third parties with whom we contract for execution of our GLP studies and our clinical trials play a significant role in the conduct of these studies and trials and the subsequent

collection and analysis of data. Although we rely on these third parties to conduct our GLP-compliant nonclinical studies and clinical trials, we remain responsible for ensuring that each of our nonclinical studies and clinical trials are conducted in accordance with applicable laws and regulations, and our reliance on the CROs does not relieve us of our regulatory responsibilities. The FDA and regulatory authorities in other jurisdictions also require us to comply with standards, commonly referred to as good clinical practices, or GCPs, for conducting, monitoring, recording and reporting the results of clinical trials to assure that data and reported results are accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. The FDA enforces these GCPs through periodic inspections of trial sponsors, principal investigators, clinical trial sites and institutional review boards. If we or our third-party contractors fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our product candidates, which would delay the regulatory approval process. We cannot make assurances that, upon inspection, the FDA will determine that any of our clinical trials comply with GCPs. We are also required to register clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Furthermore, the third parties conducting clinical trials on our behalf are not our employees, and except for remedies available to us under our agreements with such contractors, we cannot control whether or not they devote sufficient time and resources to our ongoing development programs. These contractors may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities, which could impede their ability to devote appropriate time to our clinical programs. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates. If that occurs, we may not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates. In such an event, our financial results and the commercial prospects for SPR994, SPR741 or our other product candidates could be harmed, our costs could increase and our ability to generate revenue could be delayed, impaired or foreclosed.

We also rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of our product candidates or commercialization of any resulting products, producing additional losses and depriving us of potential product revenue.

We contract with third parties for the manufacture of preclinical and clinical supplies of SPR994 and SPR741 and expect to continue to do so in connection with any future commercialization and for any future clinical trials and commercialization of our other product candidates and potential product candidates. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not currently have nor do we plan to build the internal infrastructure or capability to manufacture SPR994, SPR741 or our other product candidates for use in the conduct of our preclinical research, our clinical trials or for commercial supply. We currently rely on and expect to continue to rely on third-party contract manufacturers to manufacture supplies of SPR994 and SPR741 and our other product candidates, and we expect to rely on third-party contract manufacturers to manufacture commercial quantities of any product candidate that we commercialize following approval for marketing by applicable regulatory authorities, if any. Reliance on third-party manufacturers entails risks, including:

- manufacturing delays if our third-party manufacturers give greater priority to the supply of other products over our product candidates or otherwise do not satisfactorily perform according to the terms of the agreement between us;
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us;
- the possible breach of the manufacturing agreement by the third party;
- the failure of the third-party manufacturer to comply with applicable regulatory requirements; and
- the possible misappropriation of our proprietary information, including our trade secrets and know-how.

We currently rely on a small number of third-party contract manufacturers for all of our required raw materials, drug substance and finished product for our preclinical research and clinical trials. We do not have long-term agreements with any of these third parties. We also do not have any current contractual relationships for the manufacture of commercial supplies of any of our product candidates. If any of our existing manufacturers should become unavailable to us for any reason, we may incur delays in identifying or qualifying replacements.

If any of our product candidates are approved by any regulatory agency, we intend to enter into agreements with third-party contract manufacturers for the commercial production of those products. This process is difficult and time consuming and we may face competition for access to manufacturing facilities as there are a limited number of contract manufacturers operating under cGMPs that are capable of manufacturing our product candidates. Consequently, we may not be able to reach agreement with third-party manufacturers on satisfactory terms, which could delay our commercialization.

Third-party manufacturers are required to comply with cGMPs and similar regulatory requirements outside the United States. Facilities used by our third-party manufacturers must be approved by the FDA after we submit an NDA and before potential approval of the product candidate. Similar regulations apply to manufacturers of our product candidates for use or sale in foreign countries. We do not control the manufacturing process and are completely dependent on our third-party manufacturers for compliance with the applicable regulatory requirements for the manufacture of our product candidates. If our manufacturers cannot successfully manufacture material that conforms to the strict regulatory requirements of the FDA and any applicable foreign regulatory authority, they will not be able to secure the applicable approval for their manufacturing facilities. If these facilities are not approved for commercial manufacture, we may need to find alternative manufacturing facilities, which could result in delays in obtaining approval for the applicable product candidate. In addition, our manufacturers are subject to ongoing periodic unannounced inspections by the FDA and corresponding state and foreign agencies for compliance with cGMPs and similar regulatory requirements. Failure by any of our manufacturers to comply with applicable cGMPs or other regulatory requirements could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspensions or withdrawals of approvals, operating restrictions, interruptions in supply and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates and have a material adverse effect on our business, financial condition and results of operations.

Our current and anticipated future dependence upon others for the manufacture of SPR994, SPR741 and our other product candidates and potential product candidates may adversely affect our future profit margins and our ability to commercialize any products for which we receive marketing approval on a timely and competitive basis.

If we fail to comply with our obligations in the agreements under which we in-license or acquire development or commercialization rights to products, technology or data from third parties, including those for SPR994, we could lose such rights that are important to our business.

We are a party to agreements with Meiji for SPR994, Northern for SPR741, Vertex Pharmaceuticals for SPR720 and PBB Distributions Limited for SPR206, and we may enter into additional agreements, including license agreements, with other parties in the future that impose diligence, development and commercialization timelines, milestone payments, royalties, insurance and other obligations on us.

For example, we have an exclusive know-how license with Meiji, or the Meiji License, that gives Spero rights outside of specified countries in Asia to develop, manufacture, and commercialize SPR994 as well as the right to use, cross-reference, file or incorporate by reference any information and relevant Meiji regulatory documentation to support any regulatory filings outside of Asia. In addition, Spero has the right to develop, manufacture and have manufactured SPR994 in Asia solely for the purpose of furthering development, manufacturing and commercialization of SPR994 outside of Asia. In exchange for those rights, Spero is obligated to satisfy diligence requirements, including using commercially reasonable efforts to develop and commercialize SPR994 and to implement a specified development plan, meeting specified development milestones and providing an update on progress on an annual basis. The Meiji License requires us to pay milestone payments of up to $3.0 million upon the achievement of specified clinical and regulatory milestones and royalties of a low single-digit percentage on net sales on a country-by-country basis.

If we fail to comply with our obligations to Meiji or any of our other partners, our counterparties may have the right to terminate these agreements, in which event we might not be able to develop, manufacture or market any product candidate that is covered by these agreements, which could materially adversely affect the value of the product candidate being developed under any such agreement. Termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or reinstated agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology.

Our reliance on government funding for certain of our programs adds uncertainty to our research and commercialization efforts with respect to those programs and may impose requirements that increase the costs of commercialization and production of product candidates developed under those government-funded programs.

Aspects of our development programs are currently being supported, in part, with funding from CARB-X, the DoD and NIAID.

Contracts and grants awarded by the U.S. government, its agencies, and its partners, including our awards from CARB-X, the DoD and NIAID, include provisions that reflect the government's substantial rights and remedies, many of which are not typically found in commercial contracts, including powers of the government to:

- terminate agreements, in whole or in part, for any reason or no reason;
- reduce or modify the government's obligations under such agreements without the consent of the other party;
- claim rights, including intellectual property rights, in products and data developed under such agreements;
- audit contract-related costs and fees, including allocated indirect costs;
- suspend the contractor or grantee from receiving new contracts pending resolution of alleged violations of procurement laws or regulations;
- impose U.S. manufacturing requirements for products that embody inventions conceived or first reduced to practice under such agreements;
- suspend or debar the contractor or grantee from doing future business with the government;
- control and potentially prohibit the export of products;
- pursue criminal or civil remedies under the False Claims Act, False Statements Act and similar remedy provisions specific to government agreements; and
- limit the government's financial liability to amounts appropriated by the U.S. Congress on a fiscal-year basis, thereby leaving some uncertainty about the future availability of funding for a program even after it has been funded for an initial period.

We may not have the right to prohibit the U.S. government from using certain technologies developed by us, and we may not be able to prohibit third-party companies, including our competitors, from using those technologies in providing products and services to the U.S. government. The U.S. government generally takes the position that it has the right to royalty-free use of technologies that are developed under U.S. government contracts.

In addition, government contracts and grants, and subcontracts and subawards awarded in the performance of those contracts and grants, normally contain additional requirements that may increase our costs of doing business, reduce our profits, and expose us to liability for failure to comply with these terms and conditions. These requirements include, for example:

- specialized accounting systems unique to government awards;
- mandatory financial audits and potential liability for price adjustments or recoupment of government funds after such funds have been spent;
- adhering to stewardship principals imposed by CARB-X as a condition of the award;
- public disclosures of certain award information, which may enable competitors to gain insights into our research program; and
- mandatory socioeconomic compliance requirements, including labor standards, non-discrimination and affirmative action programs and environmental compliance requirements.

As an organization, we are relatively new to government contracting and new to the regulatory compliance obligations that such contracting entails. If we fail to maintain compliance with those obligations, we may be subject to potential liability and to termination of our contracts.

As a U.S. government contractor, we are subject to financial audits and other reviews by the U.S. government of our costs and performance on their contracts, as well as our accounting and general business practices related to these contracts. Based on the results of its audits, the government may adjust our contract-related costs and fees, including allocated indirect costs. Although adjustments arising from government audits and reviews have not had a material adverse effect on our financial condition or results of operations in the past, we cannot make assurances that future audits and reviews will not have those effects.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain sufficient patent protection for our technology or our product candidates, or if the scope of the patent protection is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and product candidates may be adversely affected.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary chemistry technology and product candidates. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage that we may have, which could harm our business and ability to achieve profitability. To protect our proprietary position, we file patent applications in the United States and abroad related to our novel technologies and product candidates that are important to our business. The patent application and approval process is expensive and time-consuming. We may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain. No consistent policy regarding the breadth of claims allowed in biotechnology and pharmaceutical patents has emerged to date in the United States or in many foreign jurisdictions. In addition, the determination of patent rights with respect to pharmaceutical compounds and technologies commonly involves complex legal and factual questions, which has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Furthermore, recent changes in patent laws in the United States, including the America Invents Act of 2011, may affect the scope, strength and enforceability of our patent rights or the nature of proceedings which may be brought by us related to our patent rights.

Our pending and future patent applications may not result in patents being issued which protect our technology or product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

The laws of foreign countries may not protect our rights to the same extent or in the same manner as the laws of the United States. For example, even assuming the other requirements for patentability are met, currently, in the United States, the first to make the claimed invention is entitled to the patent, while outside the United States, the first to file a patent application is entitled to the patent. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. As a result of the America Invents Act of 2011, the United States transitioned to a first-inventor-to-file system in March 2013, under which, assuming the other requirements for patentability are met, the first inventor to file a patent application is entitled to the patent. However, as a result of the lag in the publication of patent applications following filing in the United States, we are still not be able to be certain upon filing that we are the first to file for patent protection for any invention. Moreover, we may be subject to a third-party preissuance submission of prior art to the U.S. Patent and Trademark Office, or become involved in opposition, derivation, reexamination, *inter partes* review or interference proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or product candidates and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may seek to market generic versions of any approved products by submitting Abbreviated New Drug Applications to the FDA in which they claim that patents owned or licensed by us are invalid, unenforceable and/or not infringed. Alternatively, our competitors may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid and/or unenforceable. Even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration

of the patent protection of our technology and products. In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized.

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

Competitors may infringe our patents, trademarks, copyrights or other intellectual property, or those of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time consuming and divert the time and attention of our management and scientific personnel. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents. In addition, in a patent infringement proceeding, there is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patents do not cover the invention. An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against those parties or other competitors, and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

In any infringement litigation, any award of monetary damages we receive may not be commercially valuable. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings.

If we are sued for infringing intellectual property rights of third parties, or otherwise become involved in disputes regarding our intellectual property rights, such litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our product candidates.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our product candidates and use our proprietary chemistry technology without infringing the intellectual property and other proprietary rights of third parties. Numerous third-party U.S. and non-U.S. issued patents and pending applications exist in the area of antibacterial treatment, including compounds, formulations, treatment methods and synthetic processes that may be applied towards the synthesis of antibiotics. If any of their patents or patent applications cover our product candidates or technologies, we may not be free to manufacture or market our product candidates as planned.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our technology or product candidates, including interference proceedings before the U.S. Patent and Trademark Office. Intellectual property disputes arise in a number of areas including with respect to patents, use of other proprietary rights and the contractual terms of license arrangements. Third parties may assert claims against us based on existing or future intellectual property rights. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. With respect to our Meiji License of certain know-how used in SPR994, we are neither a party to, nor an express third-party beneficiary of, the letter agreement between Meiji and Global Pharma consenting to Meiji's arrangement with us. As such, if any dispute among the parties were to occur, our direct enforcement rights with respect to the letter agreement may be limited or uncertain. A termination or early expiration of the head license between Meiji and Global Pharma (which currently by its terms is set to expire in January 2022) or any restriction on our ability to use the Global Pharma know-how could have a negative impact on our development of SPR994 and adversely affect our business.

If we are found to infringe a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product candidate or product. Alternatively, we may be required to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are

found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative effect on our business.

We may be subject to claims that we or our employees have misappropriated the intellectual property of a third party, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees do not use the intellectual property and other proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed such intellectual property or other proprietary information. Litigation may be necessary to defend against these claims.

In addition, while we typically require our employees, consultants and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. To the extent that we fail to obtain such assignments or such assignments are breached, we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our management and scientific personnel.

If we are unable to protect the confidentiality of our trade secrets, the value of our technology could be materially adversely affected and our business would be harmed.

In addition to seeking patents for some of our technology and products, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, in seeking to develop and maintain a competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our consultants, independent contractors, advisors, corporate collaborators, outside scientific collaborators, contract manufacturers, suppliers and other third parties. We, as well as our licensors, also enter into confidentiality and invention or patent assignment agreements with employees and certain consultants. Any party with whom we have executed such an agreement may breach that agreement and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our business and competitive position could be harmed.

We have not yet registered our trademarks. Failure to secure those registrations could adversely affect our business.

We have not yet registered our trademarks in the United States or other countries. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would, which could adversely affect our business. We have also not yet registered trademarks for any of our product candidates in any jurisdiction. When we file trademark applications for our product candidates those applications may not be allowed for registration, and registered trademarks may not be obtained, maintained or enforced. During trademark registration proceedings in the United States and foreign jurisdictions, we may receive rejections. We are given an opportunity to respond to those rejections, but we may not be able to overcome such rejections. In addition, in the United States Patent and Trademark Office and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings.

In addition, any proprietary name we propose to use with SPR994, SPR741 or any other product candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable proprietary product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

Risks Related to Regulatory Approval and Other Legal Compliance Matters

If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize SPR994, SPR741 or our other product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates, including SPR994 and SPR741, and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable foreign regulatory authorities, with regulations differing from country to country. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. We currently do not have any products approved for sale in any jurisdiction. We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party contract research organizations to assist us in this process.

The time required to obtain approval, if any, by the FDA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval. Neither we nor any future collaborator is permitted to market any of our product candidates in the United States until we or they receive regulatory approval of an NDA from the FDA.

In order to obtain approval to commercialize a product candidate in the United States or abroad, we or our collaborators must demonstrate to the satisfaction of the FDA or foreign regulatory agencies, that such product candidates are safe and effective for their intended uses. Results from nonclinical studies and clinical trials can be interpreted in different ways. Even if we believe that the nonclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. The FDA may also require us to conduct additional nonclinical studies or clinical trials for our product candidates either prior to or post-approval, and it may otherwise object to elements of our clinical development program.

We have not submitted an NDA for any of our product candidates. An NDA must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and efficacy for each desired indication. The NDA must also include significant information regarding the chemistry, manufacturing and controls for the product candidate. Obtaining approval of an NDA is a lengthy, expensive and uncertain process. The FDA has substantial discretion in the review and approval process and may refuse to accept for filing any application or may decide that our data are insufficient for approval and require additional nonclinical, clinical or other studies. Foreign regulatory authorities have differing requirements for approval of drugs with which we must comply prior to marketing. Obtaining marketing approval for marketing of a product candidate in one country does not ensure that we will be able to obtain marketing approval in other countries, but the failure to obtain marketing approval in one jurisdiction could negatively affect our ability to obtain marketing approval in other jurisdictions. The FDA or any foreign regulatory bodies can delay, limit or deny approval of our product candidates or require us to conduct additional nonclinical or clinical testing or abandon a program for many reasons, including:

- the FDA or the applicable foreign regulatory agency's disagreement with the design or implementation of our clinical trials;
- negative or ambiguous results from our clinical trials or results that may not meet the level of statistical significance required by the FDA or comparable foreign regulatory agencies for approval;
- serious and unexpected drug-related side effects experienced by participants in our clinical trials or by individuals using drugs similar to our product candidates;
- our inability to demonstrate to the satisfaction of the FDA or the applicable foreign regulatory body that our product candidates are safe and effective for the proposed indication;
- the FDA's or the applicable foreign regulatory agency's disagreement with the interpretation of data from nonclinical studies or clinical trials;
- our inability to demonstrate the clinical and other benefits of our product candidates outweigh any safety or other perceived risks;
- the FDA's or the applicable foreign regulatory agency's requirement for additional nonclinical studies or clinical trials;
- the FDA's or the applicable foreign regulatory agency's disagreement regarding the formulation, labeling and/or the specifications for our product candidates; or

- the potential for approval policies or regulations of the FDA or the applicable foreign regulatory agencies to significantly change in a manner rendering our clinical data insufficient for approval.

Of the large number of drugs in development, only a small percentage complete the FDA or foreign regulatory approval processes and are successfully commercialized. The lengthy review process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval, which would significantly harm our business, financial condition, results of operations and prospects.

Even if we eventually receive approval of an NDA or foreign marketing application for our product candidates, the FDA or the applicable foreign regulatory agency may grant approval contingent on the performance of costly additional clinical trials, often referred to as Phase 4 clinical trials, and the FDA may require the implementation of a Risk Evaluation and Mitigation Strategy, or REMS, which may be required to ensure safe use of the drug after approval. The FDA or the applicable foreign regulatory agency also may approve a product candidate for a more limited indication or patient population than we originally requested, and the FDA or applicable foreign regulatory agency may not approve the labeling that we believe is necessary or desirable for the successful commercialization of a product candidate. Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of that product candidate and would materially adversely impact our business and prospects.

We may seek fast track designation for SPR994, SPR741 or one or more of our other product candidates, but we might not receive such designation, and in any case, such designation may not actually lead to a faster development or regulatory review or approval process.

If a drug is intended for the treatment of a serious condition and nonclinical or clinical data demonstrate the potential to address unmet medical need for this condition, a drug sponsor may apply for fast track designation by the FDA for the particular indication under study. If fast track designation is obtained, the FDA may initiate review of sections of an NDA before the application is complete. This “rolling review” is available if the applicant provides and the FDA approves a schedule for the remaining information. If we seek fast track designation for a product candidate, we may not receive it from the FDA. However, even if we receive fast track designation, fast track designation does not ensure that we will receive marketing approval or that approval will be granted within any particular timeframe. We may not experience a faster development or regulatory review or approval process with fast track designation compared to conventional FDA procedures. In addition, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Fast track designation alone does not guarantee qualification for the FDA’s priority review procedures.

If we are unable to obtain marketing approval in international jurisdictions, we will not be able to market our product candidates abroad.

In order to market and sell SPR994, SPR741 or our other product candidates in the European Union and many other jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. The approval procedure varies among countries and can involve additional testing. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We may not obtain approvals from regulatory authorities outside the United States on a timely basis or at all.

If we receive regulatory approval for any product candidate, including SPR994 or SPR741, we will be subject to ongoing obligations and continuing regulatory review, which may result in significant additional expense. Our product candidates, including SPR994 and SPR741, if approved, could be subject to restrictions or withdrawal from the market, and we may be subject to penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our product candidates, when and if approved.

Any product candidate, including SPR994 or SPR741, for which we obtain marketing approval will also be subject to ongoing regulatory requirements for labeling, packaging, storage, distribution, advertising, promotion, record-keeping and submission of safety and other post-market information. For example, approved products, manufacturers and manufacturers’ facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs. As such, we and our contract manufacturers will be subject to continual review and periodic inspections to assess compliance

with cGMPs. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. We will also be required to report certain adverse reactions and production problems, if any, to the FDA and to comply with requirements concerning advertising and promotion for our products.

In addition, even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed, may be subject to significant conditions of approval or may impose requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. The FDA may also require a REMS as a condition of approval of our product candidates, which could include requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA closely regulates the post-approval marketing and promotion of drugs to ensure that drugs are marketed only for the approved indications and in accordance with the provisions of the approved labeling and regulatory requirements. The FDA also imposes stringent restrictions on manufacturers' communications regarding off-label use and if we do not restrict the marketing of our products only to their approved indications, we may be subject to enforcement action for off-label marketing.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, it may impose restrictions on that product or us. In addition, if any product fails to comply with applicable regulatory requirements, a regulatory agency may:

- issue fines, warning letters, untitled letters or impose holds on clinical trials if any are still on-going;
- mandate modifications to promotional materials or require provision of corrective information to healthcare practitioners;
- impose restrictions on the product or its manufacturers or manufacturing processes;
- impose restrictions on the labeling or marketing of the product;
- impose restrictions on product distribution or use;
- require post-marketing clinical trials;
- require withdrawal of the product from the market;
- refuse to approve pending applications or supplements to approved applications that we submit;
- require recall of the product;
- require entry into a consent decree, which can include imposition of various fines (including restitution or disgorgement of profits or revenue), reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- suspend or withdraw marketing approvals;
- refuse to permit the import or export of the product;
- seize or detain supplies of the product; or
- issue injunctions or impose civil or criminal penalties.

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

Healthcare providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any product candidates, including SPR994 and SPR741, for which we may obtain marketing approval. Our future arrangements with third-party payors and customers will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute any products for

which we obtain marketing approval and reimbursement. These laws and regulations include, for example, the false claims and anti-kickback statutes and regulations. At such time as we market, sell and distribute any products for which we obtain marketing approval and reimbursement, it is possible that our business activities could be subject to challenge under one or more of these laws and regulations. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare Anti-Kickback Statute, among other things, prohibits persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federally funded healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate the statute in order to have committed a violation. In addition, the government may assert that a claim that includes items or 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 False Claims Act imposes criminal and civil penalties, which can be enforced by private citizens through civil whistleblower and qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal ban on physician self referrals, which prohibits, subject to certain exceptions, physician referrals of Medicare or Medicaid patients to an entity providing certain “designated health services” if the physician or an immediate family member of the physician has any financial relationship with the entity;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or for making any false statements relating to healthcare matters; as in the case of the federal healthcare Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate the statute in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, also imposes obligations on certain covered entities as well as their business associates that perform certain services involving the use or disclosure of individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information, and require notification to affected individuals and regulatory authorities of certain breaches of security of individually identifiable health information;
- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency or “sunshine” requirements under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively, the ACA, requires manufacturers of drugs, devices, biologics and medical supplies to report to the U.S. Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests; and
- analogous state laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to implement compliance programs and to track and report gifts, compensation and other remuneration provided to physicians, in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and pricing information. State laws also govern the privacy and security of health information in some circumstances, and many such state laws differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

We will be required to spend substantial time and money to ensure that our business arrangements with third parties, and our business generally, comply with applicable healthcare laws and regulations. Even then, governmental authorities may conclude that our business practices, including arrangements we may have with physicians and other healthcare providers, some of whom may receive stock options as compensation for services provided, do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If governmental authorities find that our operations violate any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, imprisonment, fines, exclusion from government funded healthcare programs, such as

Medicare and Medicaid, and we may be required to curtail or restructure our operations. Moreover, we expect that there will continue to be federal and state laws and regulations, proposed and implemented, that could affect our operations and business. The extent to which future legislation or regulations, if any, relating to healthcare fraud and abuse laws or enforcement, may be enacted or what effect such legislation or regulation would have on our business remains uncertain.

Recently enacted and future policies and legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may affect the reimbursement made for any product candidate for which we receive marketing approval.

The pricing and reimbursement environment may become more challenging due to, among other reasons, policies advanced by the new presidential administration, federal agencies, new healthcare legislation passed by the U.S. Congress or fiscal challenges faced by all levels of government health administration authorities. Among policy makers and payors in the United States and foreign countries, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and expanding access to healthcare. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. We expect to experience pricing pressures in connection with the sale of any products for which we obtain marketing approval, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative proposals. Resulting legislative, administrative, or policy changes from payors may reduce payments for any products for which we obtain marketing approval and could affect future revenues.

The ACA became law in the United States in March 2010 with the goals of broadening access to health insurance, reducing or constraining the growth of healthcare spending, enhancing remedies against fraud and abuse, adding new transparency requirements for the health care and health insurance industries and imposing additional health policy reforms. Provisions of ACA may negatively affect our future revenues. For example, the ACA requires, among other things, that annual fees be paid by manufacturers for certain branded prescription drugs, that manufacturers participate in a discount program for certain outpatient drugs under Medicare Part D, and that manufacturers provide increased rebates under the Medicaid Drug Rebate Program for outpatient drugs dispensed to Medicaid recipients. The ACA also addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for line extensions and expands oversight and support for the federal government’s comparative effectiveness research of services and products.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. As a result, there have been delays in the implementation of certain aspects of the ACA. Congress and President Trump have expressed their intentions to repeal or repeal and replace the Affordable Care Act. The President issued an Executive Order and both chambers of Congress passed bills all with the goal of fulfilling their intentions, however, to date the Executive Order has had limited effect and the Congressional activities have not resulted in passage of a law. If a law is enacted, many if not all of the provisions of the Affordable Care Act may no longer apply to prescription drugs. We cannot predict the ultimate content, timing or effect of any healthcare reform legislation or the impact of potential legislation on us.

Beginning on April 1, 2013, Medicare payments for all items and services under Part A and B, including drugs and biologicals, and most payments to plans under Medicare Part D were reduced by 2%, or automatic spending reductions, required by the Budget Control Act of 2011, or BCA, as amended by the American Taxpayer Relief Act of 2012. The BCA requires sequestration for most federal programs, excluding Medicaid, Social Security, and certain other programs. The BCA caps the cuts to Medicare payments for items and services and payments to Part D plans at 2%. Subsequent legislation extended the 2% reduction, on average, to 2025. As long as these cuts remain in effect, they could adversely affect payment for our product candidates. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Moreover, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. There have been several U.S. Congressional inquiries and proposed bills designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

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 effect of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

If we successfully commercialize one of our product candidates, failure to comply with our reporting and payment obligations under U.S. governmental pricing programs could have a material adverse effect on our business, financial condition and results of operations.

If we participate in the Medicaid Drug Rebate Program if and when we successfully commercialize a product candidate, we will be required to report certain pricing information for our product to the Centers for Medicare & Medicaid Services, the federal agency that administers the Medicaid and Medicare programs. We may also be required to report pricing information to the U.S. Department of Veterans Affairs. If we become subject to these reporting requirements, we will be liable for errors associated with our submission of pricing data, for failure to report pricing data in a timely manner, and for overcharging government payers, which can result in civil monetary penalties under the Medicaid statute, the federal civil False Claims Act, and other laws and regulations.

Our employees, independent contractors, principal investigators, contract research organizations, consultants or vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, principal investigators, contract research organizations, consultants or vendors may engage in fraudulent or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates: FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA; manufacturing standards; federal and state healthcare fraud and abuse laws and regulations; or laws that require the true, complete and accurate reporting of financial information or data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. 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, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished potential profits and future earnings, and curtailment of our operations, any of which could adversely affect our business, financial condition, results of operations or prospects.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain our chief executive officer and other key executives and to attract, retain and motivate qualified personnel.

Our industry has experienced a high rate of turnover of management personnel in recent years. We are highly dependent on the development, regulatory, commercialization and business development expertise of Ankit Mahadevia, M.D., our President and Chief Executive Officer, as well as the other principal members of our management, scientific and clinical team. Although we have formal employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time.

If we lose one or more of our executive officers or key employees, our ability to implement our business strategy successfully could be seriously harmed. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of and commercialize product candidates successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be engaged by entities other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to develop and commercialize product candidates will be limited.

We expect to grow our organization, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of product candidate development, regulatory affairs and sales, marketing and distribution. Our management may need to divert a disproportionate amount of its attention away from our day-to-day activities to devote time to managing these growth activities. To manage these growth activities, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. Our inability to effectively manage the expansion of our operations may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our potential ability to generate revenue could be reduced and we may not be able to implement our business strategy.

If foreign approvals are obtained, we will be subject to additional risks in conducting business in international markets.

Even if we are able to obtain approval for commercialization of a product candidate in a foreign country, we will be subject to additional risks related to international business operations, including:

- potentially reduced protection for intellectual property rights;
- the potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market (with low or lower prices) rather than buying them locally;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting a product candidate and/or finished drug product supply or manufacturing capabilities abroad;
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters, including earthquakes, hurricanes, typhoons, floods and fires; and
- failure to comply with Office of Foreign Asset Control rules and regulations and the Foreign Corrupt Practices Act.

These and other risks may materially adversely affect our ability to attain or sustain revenue from international markets.

We may engage in acquisitions that could disrupt our business, cause dilution to our stockholders or reduce our financial resources.

In the future, we may enter into transactions to acquire other businesses, products or technologies. If we do identify suitable candidates, we may not be able to make such acquisitions on favorable terms, or at all. Any acquisitions we make may not strengthen our competitive position, and these transactions may be viewed negatively by customers or investors. We may decide to incur debt in connection with an acquisition or issue our common stock or other equity securities to the stockholders of the acquired company, which would reduce the percentage ownership of our existing stockholders. We could incur losses resulting from undiscovered liabilities of the acquired business that are not covered by the indemnification we may obtain from the seller. In addition, we may not be able to successfully integrate the acquired personnel, technologies and operations into our existing business in an effective, timely and nondisruptive manner. Acquisitions may also divert management attention from day-to-day responsibilities, increase our expenses and reduce our cash available for operations and other uses. We cannot predict the number, timing or size of future acquisitions or the effect that any such transactions might have on our operating results.

Risks Related to Our Common Stock

An active trading market for our common stock may not develop.

Our shares of common stock began trading on The Nasdaq Global Select Market on November 2, 2017. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares may not be sustained, which could put downward pressure on the market price of our common stock and thereby affect the ability of stockholders to sell their shares. An inactive trading market for our common stock may also impair our ability to raise capital to continue to fund our operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for our stockholders.

Our stock price may be volatile. The stock market in general and the market for smaller pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our stockholders may not be able to sell their shares at or above the price they paid for their shares. The market price for our common stock may be influenced by many factors, including:

- the success of existing or new competitive products or technologies;
- the timing of clinical trials of SPR994, SPR741 and any other product candidate;
- results of clinical trials of SPR994, SPR741 and any other product candidate;
- failure or discontinuation of any of our development programs;
- results of clinical trials of product candidates of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to develop, in-license or acquire additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this “Risk Factors” section.

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

The trading market for our common stock relies in part on the research and reports that securities or industry analysts publish about us or our business. If few analysts commence coverage of us, the trading price of our stock would likely decrease. If

one or more of the analysts covering our business downgrade our stock or change their opinion of our stock, our share price would likely decline. In addition, if one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We have broad discretion in the use of our cash reserves and may not use them effectively.

Our management will have broad discretion in the application of our cash reserves, including the proceeds from our IPO, and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest our cash reserves in a manner that does not produce income or that loses value.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act and may remain an emerging growth company for up to five years. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption and we will therefore be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an "emerging growth company," we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Select Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which could make it more difficult for us to attract and retain qualified members of our board of directors.

We are currently evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act, we will be required to furnish a report by our management on our internal control over financial reporting beginning with our second filing of an Annual Report on Form 10-K with the SEC after we become a public company. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as

documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

A significant portion of our total outstanding shares is restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common stock to decline significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. As of November 30, 2017, we had 14,369,182 shares of common stock outstanding. This includes the 5,971,498 shares that we sold in our initial public offering. The remaining 8,397,684 shares are currently restricted under securities laws or as a result of lock-up agreements. These restrictions are due to expire April 30, 2018, resulting in these shares becoming eligible for public sale on May 1, 2018, subject to applicable securities laws. Holders of an aggregate of 8,144,366 shares of our common stock will have rights, subject to conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We intend to file a registration statement on Form S-8 under the Securities Act on or about December 14, 2017 to register all of the shares of our common stock subject to outstanding options and all shares of our common stock otherwise issuable pursuant to our equity compensation plan. As of November 30, 2017, we had options to purchase an aggregate of 1,541,474 shares of our common stock outstanding. These shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described above.

We do not anticipate paying any cash dividends on our capital stock in the foreseeable future. Accordingly, stockholders must rely on capital appreciation, if any, for any return on their investment.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the operation, development and growth of our business. To the extent that we enter into any future debt agreements, the terms of such agreements may also preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

Our executive officers, directors and principal stockholders maintain the ability to control all matters submitted to stockholders for approval.

As of November 30, 2017, our executive officers and directors, combined with our stockholders who as of such date owned more than 5% of our outstanding common stock, in the aggregate, beneficially own shares representing approximately 52% of our capital stock. As a result, if these stockholders were to choose to act together, they would be able to control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of ownership control may:

- delay, defer or prevent a change in control;
- entrench our management and/or our board of directors; or
- impede a merger, consolidation, takeover or other business combination involving us that other stockholders may desire.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated by-laws may discourage, delay or prevent a merger, acquisition or other change in control of us that our stockholders may consider favorable, including transactions in which our stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- establish a classified board of directors such that all members of the board are not elected at one time;

- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from our board of directors;
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on at stockholder meetings;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call a special meeting of stockholders;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast to amend or repeal certain provisions of our certificate of incorporation or by-laws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. This could discourage, delay or prevent someone from acquiring us or merging with us, whether or not it is desired by, or beneficial to, our stockholders.

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

Set forth below is information regarding shares of equity securities sold, and options granted, by us during the three months ended September 30, 2017 that were not registered under the Securities Act.

Recent Sales of Unregistered Equity Securities

During the period between July 1, 2017 and September 30, 2017, we issued to certain of our employees, consultants and directors, options to purchase an aggregate of 1,542,285 shares of our common stock at a weighted-average exercise price of $5.90 per share. We deemed these issuances to be exempt from registration under the Securities Act either in reliance on Rule 701 of the Securities Act as sales and offers under compensatory benefit plans and contracts relating to compensation in compliance with Rule 701, or in reliance on Section 4(a)(2), as transactions by an issuer not involving a public offering. All recipients either received adequate information about our company or had access, through employment or other relationships, to such information. No underwriters were involved in the foregoing issuances of securities. We intend to file a registration statement on Form S-8 under the Securities Act on or about December 14, 2017 to register all of the shares of our common stock subject to outstanding options and all shares of our common stock otherwise issuable pursuant to our equity compensation plan.

On July 17, 2017, we sold 61,880 shares of our Series C preferred stock to Joel Sendek, our Chief Financial Officer, at a price of $1.7749 per share, for aggregate proceeds of $0.1 million. Upon the closing of our initial public offering on November 6, 2017, all of such shares of Series C preferred stock converted into shares of common stock, as described in Note 5 to our consolidated financial statements appearing elsewhere in this Quarterly Report. We deemed this transaction to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) as a transaction by an issuer not involving a public offering.

Use of Proceeds from Initial Public Offering

On November 6, 2017, we completed the initial public offering of our common stock pursuant to which we issued and sold 5,500,000 shares of our common stock at a price to the public of $14.00 per share. In addition, on November 14, 2017, we issued and sold an additional 471,498 shares of common stock at the initial public offering price of $14.00 per share as a result of the partial exercise by the underwriters of their option to purchase additional shares of common stock.

The offer and sale of all of the shares of our common stock in our IPO were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-220858), which was declared effective by the SEC on November 1, 2017. Following the sale of all of the shares offered in the offering, the offering terminated. Merrill Lynch, Pierce, Fenner & Smith Incorporated, Cowen and Company, LLC. and Stifel, Nicolaus & Company, Incorporated acted as joint book-running managers and Oppenheimer & Co. Inc. as co-manager of our IPO.

We received aggregate gross proceeds from our initial public offering of $83.6 million, or aggregate net proceeds of $77.7 million after deducting underwriting discounts and commissions of $5.9 million but before deducting estimated offering costs of $3.4 million. None of the underwriting discounts and commissions or offering expenses were incurred or paid to directors or officers of ours or their associates or to persons owning 10% or more of our common stock or to any of our affiliates.

We had not used any of the net proceeds from the IPO as of September 30, 2017 because the IPO closed on November 6, 2017. We have invested the net proceeds from the IPO in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities. There has been no material change in our planned use of the net proceeds from the IPO as described in our final prospectus filed pursuant to Rule 424(b)(4) under the Securities Act with the SEC on November 2, 2017.

Item 5. Other Information

Compensatory Arrangements of Certain Officers

On December 12, 2017, the Compensation Committee (the “Committee”) of the Board of Directors (the “Board”) of Spero Therapeutics, Inc. (the “Company”) approved increases to executive officer compensation as follows: The Committee approved the following increases in annual base salary effective as of January 1, 2018: Joel Sendek, the Company’s Chief Financial Officer, from $355,000 to $365,000; Cristina Larkin, the Company’s Chief Operating Officer, from $345,000 to $385,000 and Thomas Parr Jr., Ph.D., the Company’s Chief Scientific Officer, from $293,000 to $344,000. In addition, the Committee also approved increases in the target amounts for annual performance bonus payments commencing with 2018 performance for each of Mr. Sendek, Ms. Larkin, and Dr. Parr from 30% to 35% of base salary. Payments will be based upon the achievement of corporate performance goals as determined by the Committee. Additionally, on December 13, 2017, pursuant to the recommendation of the Committee, the Board approved an increase in the annual base salary of Ankit Mahadevia, M.D., the Company’s Chief Executive Officer, effective as of January 1, 2018 from $400,000 to $465,000 and an increase in his target amount for his annual performance bonus, which will be based upon the achievement of corporate performance goals as determined by the Committee, from 30% to 50% of his base salary.

Item 6. Exhibits.

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K (File No. 001-38266) filed with the SEC on November 6, 2017).
3.2	Amended and Restated By-Laws of the Registrant (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K (File No. 001-38266) filed November 6, 2017).
10.1	Spero Therapeutics, Inc. 2017 Stock Incentive Plan, as amended.
10.2	Form of Stock Option Agreement under the Spero Therapeutics, Inc. 2017 Stock Incentive Plan, as amended.
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

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

SPERO THERAPEUTICS, INC.

Date: December 14, 2017

By: /s/Ankit Mahadevia, M.D.
Ankit Mahadevia, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

Date: December 14, 2017

By: /s/Joel Sendek
Joel Sendek
Chief Financial Officer and Treasurer
(Principal Financial Officer)

Exhibit 10.1

SPERO THERAPEUTICS, INC.

2017 STOCK INCENTIVE PLAN

(As Amended on November 6, 2017)

1. DEFINITIONS.

Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this Spero Therapeutics, Inc. 2017 Stock Incentive Plan, have the following meanings:

Administrator means the Board of Directors, unless it has delegated power to act on its behalf to the Committee, in which case the term Administrator means the Committee.

Affiliate means a corporation or other entity which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Agreement means an agreement between the Company and a Participant delivered pursuant to the Plan and pertaining to a Stock Right, in such form as the Administrator shall approve.

Board of Directors means the Board of Directors of the Company.

Cause means, with respect to a Participant (a) dishonesty with respect to the Company or any Affiliate, (b) insubordination, substantial malfeasance or non-feasance of duty, (c) unauthorized disclosure of confidential information, (d) breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or similar agreement between the Participant and the Company or any Affiliate, and (e) conduct substantially prejudicial to the business of the Company or any Affiliate; provided, however, that any provision in an agreement between the Participant and the Company or an Affiliate, which contains a conflicting definition of Cause for termination and which is in effect at the time of such termination, shall supersede this definition with respect to that Participant. The determination of the Administrator as to the existence of Cause will be conclusive on the Participant and the Company.

Code means the United States Internal Revenue Code of 1986, as amended including any successor statute, regulation and guidance thereto.

Committee means the committee of the Board of Directors to which the Board of Directors has delegated power to act under or pursuant to the provisions of the Plan.

Common Stock means shares of the Company’s common stock, $0.001 par value per share.

Company means Spero Therapeutics, Inc., a Delaware corporation.

Consultant means any natural person who is an advisor or consultant who provides bona fide services to the Company or its Affiliates, provided that such services are not in connection with the offer or sale of securities in a capital raising transaction, and do not directly or indirectly promote or maintain a market for the Company's or its Affiliates' securities.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Employee means any employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), designated by the Administrator to be eligible to be granted one or more Stock Rights under the Plan.

Exchange Act means the United States Securities Exchange Act of 1934, as amended.

Fair Market Value of a Share of Common Stock means:

(1) If the Common Stock is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the Common Stock, the closing or, if not applicable, the last price of the Common Stock on the composite tape or other comparable reporting system for the trading day on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date;

(2) If the Common Stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the Common Stock for the trading day referred to in clause (1), and if bid and asked prices for the Common Stock are regularly reported, the mean between the bid and the asked price for the Common Stock at the close of trading in the over-the-counter market for the most recent trading day on which Common Stock was traded on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date; and

(3) If the Common Stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Administrator, in good faith, shall determine in compliance with applicable laws.

ISO means an option intended to qualify as an incentive stock option under Section 422 of the Code.

Non-Qualified Option means an option which is not intended to qualify as an ISO.

Option means an ISO or Non-Qualified Option granted under the Plan.

Participant means an Employee, director or Consultant of the Company or an Affiliate to whom one or more Stock Rights are granted under the Plan. As used herein, "Participant" shall include "Participant's Survivors" where the context requires.

Plan means this Spero Therapeutics, Inc. 2017 Stock Incentive Plan.

Securities Act means the Securities Act of 1933, as amended.

Shares means shares of the Common Stock as to which Stock Rights have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Paragraph 3 of the Plan. The Shares issued under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or both.

Stock-Based Award means a grant by the Company under the Plan of an equity award or an equity based award which is not an Option or a Stock Grant.

Stock Grant means a grant by the Company of Shares under the Plan.

Stock Right means a right to Shares or the value of Shares of the Company granted pursuant to the Plan – an ISO, a Non-Qualified Option, a Stock Grant or a Stock-Based Award.

Survivor means a deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to a Stock Right by will or by the laws of descent and distribution.

2. PURPOSES OF THE PLAN.

The Plan is intended to encourage ownership of Shares by Employees and directors of and certain Consultants to the Company and its Affiliates in order to attract and retain such people, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Plan provides for the granting of ISOs, Non-Qualified Options, Stock Grants and Stock-Based Awards.

3. SHARES SUBJECT TO THE PLAN.

(a) The number of Shares which may be issued from time to time pursuant to this Plan shall be 2,696,401 (after taking into consideration the reverse stock split in connection with the Company's initial public offering) of shares of Common Stock, or the equivalent of such number of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 24 of the Plan.

(b) Notwithstanding Subparagraph (a) above, on the first day of each fiscal year of the Company during the period beginning in fiscal year 2019, and ending on the second day of

fiscal year 2027, the number of Shares that may be issued from time to time pursuant to the Plan, shall be increased by an amount equal to the lesser of (i) 607,324 (after taking into consideration the reverse stock split in connection with the Company's initial public offering) or the equivalent of such number of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 24 of the Plan; (ii) 4% of the number of outstanding shares of Common Stock on such date; and (iii) an amount determined by the Administrator.

(c) If an Option ceases to be "outstanding", in whole or in part (other than by exercise), or if the Company shall reacquire at not more than its original issuance price any Shares issued pursuant to a Stock Grant or Stock-Based Award, or if any Stock Right expires or is forfeited, cancelled, or otherwise terminated or results in any Shares not being issued, the unissued or reacquired Shares which were subject to such Stock Right shall again be available for issuance from time to time pursuant to this Plan. Notwithstanding the foregoing, if a Stock Right is exercised, in whole or in part, by tender of Shares or if the Company or an Affiliate's tax withholding obligation is satisfied by withholding Shares, the number of Shares deemed to have been issued under the Plan for purposes of the limitation set forth in Paragraph 3(a) above shall be the number of Shares that were subject to the Stock Right or portion thereof, and not the net number of Shares actually issued. However, in the case of ISOs, the foregoing provisions shall be subject to any limitations under the Code.

4. ADMINISTRATION OF THE PLAN.

The Administrator of the Plan will be the Board of Directors, except to the extent the Board of Directors delegates its authority to the Committee, in which case the Committee shall be the Administrator. Subject to the provisions of the Plan, the Administrator is authorized to:

(a) Interpret the provisions of the Plan and all Stock Rights and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;

(b) Determine which Employees, directors and Consultants shall be granted Stock Rights;

(c) Determine the number of Shares for which a Stock Right or Stock Rights shall:

(i) Stock Rights with respect to more than 1,000,000 Shares (after taking into consideration the reverse stock split in connection with the Company's initial public offering) be granted to any Participant in any fiscal year; and

(ii) the aggregate grant date fair value of Shares to be granted to any non-employee director under the Plan in any calendar year may not exceed $750,000 dollars; provided however that the foregoing limitation shall not apply to Stock Rights made pursuant to an election to receive the Stock Right in lieu of cash for all or a portion of fees received for service on the Board of Directors or any Committee thereof;

(d) Amend any term or condition of any outstanding Stock Right, including, without limitation, to reduce or increase the exercise price or purchase price**,** accelerate the vesting schedule or extend the expiration date, provided that (i) such term or condition as amended is

permitted by the Plan; (ii) any such amendment shall not impair the rights of a Participant under any Stock Right previously granted without such Participant's consent or in the event of death of the Participant the Participant's Survivors; and (iii) any such amendment shall be made only after the Administrator determines whether such amendment would cause any adverse tax consequences to the Participant, including, but not limited to, the annual vesting limitation contained in Section 422(d) of the Code and described in Paragraph 6(b)(iv) below with respect to ISOs and pursuant to Section 409A of the Code;

(e) Buy out for a payment in cash or Shares, a Stock Right previously granted and/or cancel any such Stock Right and grant in substitution therefor other Stock Rights, covering the same or a different number of Shares and having an exercise price or purchase price per share which may be lower or higher than the exercise price or purchase price of the cancelled Stock Right, based on such terms and conditions as the Administrator shall establish and the Participant shall accept; and

(f) Adopt any sub-plans applicable to residents of any specified jurisdiction as it deems necessary or appropriate in order to comply with or take advantage of any tax or other laws applicable to the Company, any Affiliate or to Participants or to otherwise facilitate the administration of the Plan, which sub-plans may include additional restrictions or conditions applicable to Stock Rights or Shares issuable pursuant to a Stock Right;

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of not causing any adverse tax consequences under Section 409A of the Code and preserving the tax status under Section 422 of the Code of those Options which are designated as ISOs. Subject to the foregoing, the interpretation and construction by the Administrator of any provisions of the Plan or of any Stock Right granted under it shall be final, unless otherwise determined by the Board of Directors, if the Administrator is the Committee. In addition, if the Administrator is the Committee, the Board of Directors may take any action under the Plan that would otherwise be the responsibility of the Committee.

To the extent permitted under applicable law, the Board of Directors or the Committee may allocate all or any portion of its responsibilities and powers to any one or more of its members and may delegate all or any portion of its responsibilities and powers to any other person selected by it. The Board of Directors or the Committee may revoke any such allocation or delegation at any time. Notwithstanding the foregoing, only the Board of Directors or the Committee shall be authorized to grant a Stock Right to any director of the Company or to any "officer" of the Company as defined by Rule 16a-1 under the Exchange Act.

5. ELIGIBILITY FOR PARTICIPATION.

The Administrator will, in its sole discretion, name the Participants in the Plan; provided, however, that each Participant must be an Employee, director or Consultant of the Company or of an Affiliate at the time a Stock Right is granted. Notwithstanding the foregoing, the Administrator may authorize the grant of a Stock Right to a person not then an Employee, director or Consultant of the Company or of an Affiliate; provided, however, that the actual grant of such Stock Right shall be conditioned upon such person becoming eligible to become a

Participant at or prior to the time of the execution of the Agreement evidencing such Stock Right. ISOs may be granted only to Employees who are deemed to be residents of the United States for tax purposes. Non-Qualified Options, Stock Grants and Stock-Based Awards may be granted to any Employee, director or Consultant of the Company or an Affiliate. The granting of any Stock Right to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in any other grant of Stock Rights or any grant under any other benefit plan established by the Company or any Affiliate for Employees, directors or Consultants.

6. TERMS AND CONDITIONS OF OPTIONS.

Each Option shall be set forth in writing in an Option Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Administrator may provide that Options be granted subject to such terms and conditions, consistent with the terms and conditions specifically required under this Plan, as the Administrator may deem appropriate including, without limitation, subsequent approval by the shareholders of the Company of this Plan or any amendments thereto. The Option Agreements shall be subject to at least the following terms and conditions:

(a) Non-Qualified Options: Each Option intended to be a Non-Qualified Option shall be subject to the terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards for any such Non-Qualified Option:

(i) Exercise Price: Each Option Agreement shall state the exercise price (per share) of the Shares covered by each Option, which exercise price shall be determined by the Administrator and shall be at least equal to the Fair Market Value per share of the Common Stock on the date of grant of the Option.

(ii) Number of Shares: Each Option Agreement shall state the number of Shares to which it pertains.

(iii) Vesting Periods: Each Option Agreement shall state the date or dates on which it first is exercisable and the date after which it may no longer be exercised, and may provide that the Option rights accrue or become exercisable in installments over a period of months or years, or upon the occurrence of certain conditions or the attainment of stated performance goals or events.

(iv) Additional Conditions: Exercise of any Option may be conditioned upon the Participant's execution of a Share purchase agreement in a form satisfactory to the Administrator providing for certain protections for the Company and its other shareholders, including requirements that:

A. The Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted; and

B. The Participant or the Participant's Survivors may be required to execute letters of investment intent and must also acknowledge that the Shares will bear legends noting any applicable restrictions.

(v) Term of Option: Each Option shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide.

(b) ISOs: Each Option intended to be an ISO shall be issued only to an Employee who is deemed to be a resident of the United States for tax purposes, and shall be subject to the following terms and conditions, with such additional restrictions or changes as the Administrator determines are appropriate but not in conflict with Section 422 of the Code and relevant regulations and rulings of the Internal Revenue Service:

(i) Minimum standards: The ISO shall meet the minimum standards required of Non-Qualified Options, as described in Paragraph 6(a) above, except subsections (i) and (v) thereunder.

(ii) Exercise Price: Immediately before the ISO is granted, if the Participant owns, directly or by reason of the applicable attribution rules in Section 424(d) of the Code:

A. Ten percent (10%) or less of the total combined voting power of all classes of stock of the Company or an Affiliate, the exercise price per share of the Shares covered by each ISO shall not be less than one hundred percent (100%) of the Fair Market Value per share of the Common Stock on the date of grant of the Option; or

B. More than ten percent (10%) of the total combined voting power of all classes of stock of the Company or an Affiliate, the exercise price per share of the Shares covered by each ISO shall not be less than one hundred ten percent (110%) of the Fair Market Value per share of the Common Stock on the date of grant of the Option.

(iii) Term of Option: For Participants who own:

A. Ten percent (10%) or less of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide; or

B. More than ten percent (10%) of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than five (5) years from the date of the grant or at such earlier time as the Option Agreement may provide.

(iv) Limitation on Yearly Exercise: The Option Agreements shall restrict the amount of ISOs which may become exercisable in any calendar year

(under this or any other ISO plan of the Company or an Affiliate) so that the aggregate Fair Market Value (determined on the date each ISO is granted) of the stock with respect to which ISOs are exercisable for the first time by the Participant in any calendar year does not exceed one hundred thousand dollars ($100,000).

7. TERMS AND CONDITIONS OF STOCK GRANTS.

Each Stock Grant to a Participant shall state the principal terms in an Agreement duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards:

(a) Each Agreement shall state the purchase price per share, if any, of the Shares covered by each Stock Grant, which purchase price shall be determined by the Administrator but shall not be less than the minimum consideration required by the Delaware General Corporation Law, if any, on the date of the grant of the Stock Grant;

(b) Each Agreement shall state the number of Shares to which the Stock Grant pertains; and

(c) Each Agreement shall include the terms of any right of the Company to restrict or reacquire the Shares subject to the Stock Grant, including the time and events upon which such rights shall accrue and the purchase price therefor, if any.

(d) Dividends (other than stock dividends to be issued pursuant to Section 24 of the Plan) may accrue but shall not be paid prior to the time, and only to the extent that, the restrictions or rights to reacquire the Shares subject to the Stock Grant lapse.

8. TERMS AND CONDITIONS OF OTHER STOCK-BASED AWARDS.

The Administrator shall have the right to grant other Stock-Based Awards based upon the Common Stock having such terms and conditions as the Administrator may determine, including, without limitation, the grant of Shares based upon certain conditions, the grant of securities convertible into Shares and the grant of stock appreciation rights, phantom stock awards or stock units. The principal terms of each Stock-Based Award shall be set forth in an Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company. Each Agreement shall include the terms of any right of the Company including the right to terminate the Stock-Based Award without the issuance of Shares, the terms of any vesting conditions or events upon which Shares shall be issued; provided that dividends (other than stock dividends to be issued pursuant to Section 24 of the Plan) or dividend equivalents may accrue but shall not be paid prior to and only to the extent that, the Shares subject to the Stock-Based Award vest. Under no circumstances may the Agreement covering stock appreciation rights (a) have an exercise price (per share) that is less than the Fair Market Value per share of Common Stock on the date of grant or (b) expire more than ten years following the date of grant.

The Company intends that the Plan and any Stock-Based Awards granted hereunder be exempt from the application of Section 409A of the Code or meet the requirements of paragraphs (2), (3) and (4) of subsection (a) of Section 409A of the Code, to the extent applicable, and be operated in accordance with Section 409A so that any compensation deferred under any Stock-Based Award (and applicable investment earnings) shall not be included in income under Section 409A of the Code. Any ambiguities in the Plan shall be construed to effect the intent as described in this Paragraph 8.

9. EXERCISE OF OPTIONS AND ISSUE OF SHARES.

An Option (or any part or installment thereof) shall be exercised by giving written notice to the Company or its designee (in a form acceptable to the Administrator, which may include electronic notice), together with provision for payment of the aggregate exercise price in accordance with this Paragraph for the Shares as to which the Option is being exercised, and upon compliance with any other condition(s) set forth in the Option Agreement. Such notice shall be signed by the person exercising the Option (which signature may be provided electronically in a form acceptable to the Administrator), shall state the number of Shares with respect to which the Option is being exercised and shall contain any representation required by the Plan or the Option Agreement. Payment of the exercise price for the Shares as to which such Option is being exercised shall be made (a) in United States dollars in cash or by check, or (b) at the discretion of the Administrator, through delivery of shares of Common Stock held for at least six months (if required to avoid negative accounting treatment) having a Fair Market Value equal as of the date of the exercise to the aggregate cash exercise price for the number of Shares as to which the Option is being exercised, or (c) at the discretion of the Administrator, by having the Company retain from the Shares otherwise issuable upon exercise of the Option, a number of Shares having a Fair Market Value equal as of the date of exercise to the aggregate exercise price for the number of Shares as to which the Option is being exercised, or (d) at the discretion of the Administrator, in accordance with a cashless exercise program established with a securities brokerage firm, and approved by the Administrator, or (e) at the discretion of the Administrator, by any combination of (a), (b), (c) and (d) above or (f) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine. Notwithstanding the foregoing, the Administrator shall accept only such payment on exercise of an ISO as is permitted by Section 422 of the Code.

The Company shall then reasonably promptly deliver the Shares as to which such Option was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be fully paid, non-assessable Shares.

10. PAYMENT IN CONNECTION WITH THE ISSUANCE OF STOCK GRANTS AND STOCK-BASED AWARDS AND ISSUE OF SHARES.

Any Stock Grant or Stock-Based Award requiring payment of a purchase price for the Shares as to which such Stock Grant or Stock-Based Award is being granted shall be made (a) in United States dollars in cash or by check, or (b) at the discretion of the Administrator, through delivery of shares of Common Stock held for at least six months (if required to avoid negative accounting treatment) and having a Fair Market Value equal as of the date of payment to the purchase price of the Stock Grant or Stock-Based Award, or (c) at the discretion of the Administrator, by any combination of (a) and (b) above; or (d) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine.

The Company shall, when required by the applicable Agreement, reasonably promptly deliver the Shares as to which such Stock Grant or Stock-Based Award was made to the Participant (or to the Participant's Survivors, as the case may be), subject to any escrow provision set forth in the applicable Agreement. In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance.

11. RIGHTS AS A SHAREHOLDER.

No Participant to whom a Stock Right has been granted shall have rights as a shareholder with respect to any Shares covered by such Stock Right except after due exercise of an Option or issuance of Shares as set forth in any Agreement, tender of the aggregate exercise or purchase price, if any, for the Shares being purchased and registration of the Shares in the Company's share register in the name of the Participant.

12. ASSIGNABILITY AND TRANSFERABILITY OF STOCK RIGHTS.

By its terms, a Stock Right granted to a Participant shall not be transferable by the Participant other than (i) by will or by the laws of descent and distribution, or (ii) as approved by the Administrator in its discretion and set forth in the applicable Agreement provided that no Stock Right may be transferred by a Participant for value. Notwithstanding the foregoing, an ISO transferred except in compliance with clause (i) above shall no longer qualify as an ISO. The designation of a beneficiary of a Stock Right by a Participant, with the prior approval of the Administrator and in such form as the Administrator shall prescribe, shall not be deemed a transfer prohibited by this Paragraph. Except as provided above during the Participant's lifetime a Stock Right shall only be exercisable by or issued to such Participant (or his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Stock Right or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon a Stock Right, shall be null and void.

13. EFFECT ON OPTIONS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE OR DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement, in the event of a termination of service (whether as an Employee, director or Consultant) with the Company or an Affiliate before the Participant has exercised an Option, the following rules apply:

(a) A Participant who ceases to be an Employee, director or Consultant of the Company or of an Affiliate (for any reason other than termination for Cause, Disability, or death for which events there are special rules in Paragraphs 14, 15, and 16, respectively), may exercise any Option granted to him or her to the extent that the Option is exercisable on the date of such termination of service, but only within such term as the Administrator has designated in a Participant's Option Agreement.

(b) Except as provided in Subparagraph (c) below, or Paragraph 15 or 16, in no event may an Option intended to be an ISO be exercised later than three months after the Participant's termination of employment.

(c) The provisions of this Paragraph, and not the provisions of Paragraph 15 or 16, shall apply to a Participant who subsequently becomes Disabled or dies after the termination of employment, director status or consultancy; provided, however, in the case of a Participant's Disability or death within three months after the termination of employment, director status or consultancy, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

(d) Notwithstanding anything herein to the contrary, if subsequent to a Participant's termination of employment, termination of director status or termination of consultancy, but prior to the exercise of an Option, the Administrator or the Board of Directors determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute Cause, then such Participant shall forthwith cease to have any right to exercise any Option.

(e) A Participant to whom an Option has been granted under the Plan who is absent from the Company or an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide; provided, however, that, for ISOs, any leave of absence granted by the Administrator of greater than ninety days, unless pursuant to a contract or statute that guarantees the right to reemployment, shall cause such ISO to become a Non-Qualified Option on the 181st day following such leave of absence.

(f) Except as required by law or as set forth in a Participant's Option Agreement, Options granted under the Plan shall not be affected by any change of a Participant's status within or among the Company and any Affiliates, so long as the Participant continues to be an Employee, director or Consultant of the Company or any Affiliate.

14. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Option Agreement, the following rules apply if the Participant's service (whether as an Employee, director or Consultant) with the Company or an Affiliate is terminated for Cause prior to the time that all of his or her outstanding Options have been exercised:

(a) All outstanding and unexercised Options as of the time the Participant is notified his or her service is terminated for Cause will immediately be forfeited.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service but prior to the exercise of an Option, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then the right to exercise any Option is forfeited.

15. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement,

(a) A Participant who ceases to be an Employee, director or Consultant of the Company or of an Affiliate by reason of Disability may exercise any Option granted to such Participant:

(i) To the extent that the Option has become exercisable but has not been exercised on the date of the Participant's termination of service due to Disability; and

(ii) In the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of the Participant's termination of service due to Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of the Participant's termination of service due to Disability.

(b) A Disabled Participant may exercise the Option only within the period ending one year after the date of the Participant's termination of service due to Disability, notwithstanding that the Participant might have been able to exercise the Option as to some or all of the Shares on a later date if the Participant had not been terminated due to Disability and had continued to be an Employee, director or Consultant or, if earlier, within the originally prescribed term of the Option. The Administrator shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

16. EFFECT ON OPTIONS OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT.

Except as otherwise provided in a Participant's Option Agreement,

(a) In the event of the death of a Participant while the Participant is an Employee, director or Consultant of the Company or of an Affiliate, such Option may be exercised by the Participant's Survivors:

(i) To the extent that the Option has become exercisable but has not been exercised on the date of death; and

(ii) In the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

(b) If the Participant's Survivors wish to exercise the Option, they must take all necessary steps to exercise the Option within one year after the date of death of such Participant, notwithstanding that the decedent might have been able to exercise the Option as to some or all of the Shares on a later date if he or she had not died and had continued to be an Employee, director or Consultant or, if earlier, within the originally prescribed term of the Option.

17. EFFECT OF TERMINATION OF SERVICE ON STOCK GRANTS AND STOCK-BASED AWARDS.

In the event of a termination of service (whether as an Employee, director or Consultant) with the Company or an Affiliate for any reason before the Participant has accepted a Stock Grant or a Stock-Based Award and paid the purchase price, if required at the time, such grant shall terminate.

For purposes of this Paragraph 17 and Paragraph 18 below, a Participant to whom a Stock Grant or a Stock-Based Award has been issued under the Plan who is absent from work with the Company or with an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide.

In addition, for purposes of this Paragraph 17 and Paragraph 18 below, any change of employment or other service within or among the Company and any Affiliates shall not be treated as a termination of employment, director status or consultancy so long as the Participant continues to be an Employee, director or Consultant of the Company or any Affiliate.

18. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE OR DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Agreement, in the event of a termination of service (whether as an Employee, director or Consultant), other than termination for Cause, death or Disability for which events there are special rules in Paragraphs 19, 20, and 21, respectively, before all forfeiture provisions or Company rights of repurchase (other than rights to repurchase at then fair market value following termination of service as an Employee, director or Consultant) shall have lapsed, then the Company shall have the right to cancel or repurchase that number of Shares subject to a Stock Grant or Stock-Based Award as to which the Company's forfeiture or repurchase rights have not lapsed.

19. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Agreement, the following rules apply if the Participant's service (whether as an Employee, director or Consultant) with the Company or an Affiliate is terminated for Cause:

(a) All Shares subject to any Stock Grant or Stock-Based Award that remain subject to forfeiture provisions or as to which the Company shall have a repurchase right shall be immediately forfeited to the Company as of the time the Participant is notified his or her service is terminated for Cause.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then all Shares subject to any Stock Grant or Stock-Based Award that remained subject to forfeiture provisions or as to which the Company had a repurchase right on the date of termination shall be immediately forfeited to the Company.

20. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Agreement, the following rules apply if a Participant ceases to be an Employee, director or Consultant of the Company or of an Affiliate by reason of Disability: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of Disability, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of Disability as would have lapsed had the Participant not become Disabled. The proration shall be based upon the number of days accrued prior to the date of Disability.

The Administrator shall make the determination both as to whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

21. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT.

Except as otherwise provided in a Participant's Agreement, the following rules apply in the event of the death of a Participant while the Participant is an Employee, director or Consultant of the Company or of an Affiliate: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of death, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of death as would have lapsed had the Participant not died. The proration shall be based upon the number of days accrued prior to the Participant's date of death.

22. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue Shares under the Plan unless and until the following conditions have been fulfilled:

(a) The person who receives a Stock Right shall warrant to the Company, prior to the receipt of Shares, that such person is acquiring such Shares for his or her own account, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person acquiring such Shares shall be bound by the provisions of the following legend (or a legend in substantially similar form) which shall be endorsed upon the certificate evidencing the Shares issued pursuant to such exercise or such grant:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws."

(b) At the discretion of the Administrator, the Company shall have received an opinion of its counsel that the Shares may be issued in compliance with the Securities Act without registration thereunder.

23. DISSOLUTION OR LIQUIDATION OF THE COMPANY.

Upon the dissolution or liquidation of the Company, all Options granted under this Plan which as of such date shall not have been exercised and all Stock Grants and Stock-Based Awards which have not been accepted, to the extent required under the applicable Agreement, will terminate and become null and void; provided, however, that if the rights of a Participant or

a Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise or accept any Stock Right to the extent that the Stock Right is exercisable or subject to acceptance as of the date immediately prior to such dissolution or liquidation. Upon the dissolution or liquidation of the Company, any outstanding Stock-Based Awards shall immediately terminate unless otherwise determined by the Administrator or specifically provided in the applicable Agreement.

24. ADJUSTMENTS.

Upon the occurrence of any of the following events, a Participant's rights with respect to any Stock Right granted to him or her hereunder shall be adjusted as hereinafter provided, unless otherwise specifically provided in a Participant's Agreement:

(a) Stock Dividends and Stock Splits. If (i) the shares of Common Stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of Common Stock as a stock dividend on its outstanding Common Stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Common Stock, each Stock Right and the number of shares of Common Stock deliverable thereunder shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made including, in the exercise or purchase price per share, to reflect such events. The number of Shares subject to the limitations in Paragraph 3(a), 3(b) and 4(c) shall also be proportionately adjusted upon the occurrence of such events.

(b) Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, consolidation, sale of all or substantially all of the Company's assets or the acquisition of all of the outstanding voting stock of the Company in a single transaction or a series of related transactions other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Administrator or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to outstanding Options, either (i) make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options either the consideration payable with respect to the outstanding shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participants, provide that such Options must be exercised (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph), within a specified number of days of the date of such notice, at the end of which period such Options which have not been exercised shall terminate; or (iii) terminate such Options in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of Common Stock into which such Option would have been exercisable (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph) less the aggregate exercise price thereof. For purposes of determining the payments to be made pursuant to Subclause (iii) above, in the case of a Corporate Transaction the consideration for which, in whole or in part, is other than cash, the consideration other than cash shall be valued at the fair value thereof as determined in good faith by the Board of Directors.

With respect to outstanding Stock Grants, the Administrator or the Successor Board, shall make appropriate provision for the continuation of such Stock Grants on the same terms and conditions by substituting on an equitable basis for the Shares then subject to such Stock Grants either the consideration payable with respect to the outstanding Shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity. In lieu of the foregoing, in connection with any Corporate Transaction, the Administrator may provide that, upon consummation of the Corporate Transaction, each outstanding Stock Grant shall be terminated in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of Common Stock comprising such Stock Grant (to the extent such Stock Grant is no longer subject to any forfeiture or repurchase rights then in effect or, at the discretion of the Administrator, all forfeiture and repurchase rights being waived upon such Corporate Transaction). For purposes of determining such payments, in the case of a Corporate Transaction the consideration for which, in whole or in part, is other than cash, the consideration other than cash shall be valued at the fair value thereof as determined in good faith by the Board of Directors.

In taking any of the actions permitted under this Paragraph 24(b), the Administrator shall not be obligated by the Plan to treat all Stock Rights, all Stock Rights held by a Participant, or all Stock Rights of the same type, identically.

(c) Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation, limited liability company or other entity are issued with respect to the outstanding shares of Common Stock, a Participant upon exercising an Option or accepting a Stock Grant after the recapitalization or reorganization shall be entitled to receive for the price paid upon such exercise or acceptance if any, the number of replacement securities which would have been received if such Option had been exercised or Stock Grant accepted prior to such recapitalization or reorganization.

(d) Adjustments to Stock-Based Awards. Upon the happening of any of the events described in Subparagraphs (a), (b) or (c) above, any outstanding Stock-Based Award shall be appropriately adjusted to reflect the events described in such Subparagraphs. The Administrator or the Successor board shall determine the specific adjustments to be made under Paragraph 24, including, but not limited to, the effect of any Corporate Transaction and, subject to Paragraph 4, its determination shall be conclusive.

(e) Modification of Options. Notwithstanding the foregoing, any adjustments made pursuant to Subparagraph (a), (b) or (c) above with respect to Options shall be made only after the Administrator determines whether such adjustments would (i) constitute a “modification” of any ISOs (as that term is defined in Section 424(h) of the Code) or (ii) cause any adverse tax consequences for the holders of Options, including, but not limited to, pursuant to Section 409A of the Code. If the Administrator determines that such adjustments made with respect to Options would constitute a modification or other adverse tax consequence, it may in its discretion refrain from making such adjustments, unless the holder of an Option specifically agrees in writing that

such adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such "modification" on his or her income tax treatment with respect to the Option. This paragraph shall not apply to the acceleration of the vesting of any ISO that would cause any portion of the ISO to violate the annual vesting limitation contained in Section 422(d) of the Code, as described in Paragraph 6(b)(iv).

25. ISSUANCES OF SECURITIES.

Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to Stock Rights. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company prior to any issuance of Shares pursuant to a Stock Right.

26. FRACTIONAL SHARES.

No fractional shares shall be issued under the Plan and the person exercising a Stock Right shall receive from the Company cash in lieu of such fractional shares equal to the Fair Market Value thereof.

27. CONVERSION OF ISOs INTO NON-QUALIFIED OPTIONS; TERMINATION OF ISOs.

The Administrator, at the written request of any Participant, may in its discretion take such actions as may be necessary to convert such Participant's ISOs (or any portions thereof) that have not been exercised on the date of conversion into Non-Qualified Options at any time prior to the expiration of such ISOs, regardless of whether the Participant is an Employee of the Company or an Affiliate at the time of such conversion. At the time of such conversion, the Administrator (with the consent of the Participant) may impose such conditions on the exercise of the resulting Non-Qualified Options as the Administrator in its discretion may determine, provided that such conditions shall not be inconsistent with this Plan. Nothing in the Plan shall be deemed to give any Participant the right to have such Participant's ISOs converted into Non-Qualified Options, and no such conversion shall occur until and unless the Administrator takes appropriate action. The Administrator, with the consent of the Participant, may also terminate any portion of any ISO that has not been exercised at the time of such conversion.

28. WITHHOLDING.

In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act ("F.I.C.A.") withholdings or other amounts are required by applicable law or governmental regulation to be withheld from the Participant's salary, wages or other remuneration in connection with the issuance of a Stock Right or Shares under the Plan or upon the lapsing of any forfeiture provision or right of repurchase or for any other reason required by law, the Company may withhold from the Participant's compensation, if any, or may require that the Participant advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the statutory minimum amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's

Common Stock or a promissory note, is authorized by the Administrator (and permitted by law). For purposes hereof, the fair market value of the shares withheld for purposes of payroll withholding shall be determined in the manner set forth under the definition of Fair Market Value provided in Paragraph 1 above, as of the most recent practicable date prior to the date of exercise. If the Fair Market Value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate employer.

29. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

Each Employee who receives an ISO shall notify the Company in writing immediately after the Employee makes a Disqualifying Disposition of any Shares acquired pursuant to the exercise of an ISO. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale or gift) of such Shares before the later of (a) two years after the date the Employee was granted the ISO, or (b) one year after the date the Employee acquired Shares by exercising the ISO, except as otherwise provided in Section 424(c) of the Code. If the Employee has died before such Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

30. TERMINATION OF THE PLAN.

The Plan will terminate on June 30, 2027, the date which is ten years from the earlier of the date of its adoption by the Board of Directors and the date of its approval by the shareholders of the Company. The Plan may be terminated at an earlier date by vote of the shareholders or the Board of Directors of the Company; provided, however, that any such earlier termination shall not affect any Agreements executed prior to the effective date of such termination. Termination of the Plan shall not affect any Stock Rights theretofore granted.

31. AMENDMENT OF THE PLAN AND AGREEMENTS.

The Plan may be amended by the shareholders of the Company. The Plan may also be amended by the Administrator, including, without limitation, to the extent necessary to qualify any or all outstanding Stock Rights granted under the Plan or Stock Rights to be granted under the Plan for favorable federal income tax treatment as may be afforded incentive stock options under Section 422 of the Code (including deferral of taxation upon exercise), and to the extent necessary to qualify the Shares issuable under the Plan for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Any amendment approved by the Administrator which the Administrator determines is of a scope that requires shareholder approval shall be subject to obtaining such shareholder approval. Any modification or amendment of the Plan shall not, without the consent of a Participant, adversely affect his or her rights under a Stock Right previously granted to him or her. With the consent of the Participant affected, the Administrator may amend outstanding Agreements in a manner which may be adverse to the Participant but which is not inconsistent with the Plan. In the discretion of the Administrator, outstanding Agreements may be amended by the Administrator in a manner which is not adverse to the Participant. Nothing in this Paragraph 31 shall limit the Administrator’s authority to take any action permitted pursuant to Paragraph 24.

32. EMPLOYMENT OR OTHER RELATIONSHIP.

Nothing in this Plan or any Agreement shall be deemed to prevent the Company or an Affiliate from terminating the employment, consultancy or director status of a Participant, nor to prevent a Participant from terminating his or her own employment, consultancy or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

33. SECTION 409A.

If a Participant is a "specified employee" as defined in Section 409A of the Code (and as applied according to procedures of the Company and its Affiliates) as of his separation from service, to the extent any payment under this Plan or pursuant to the grant of a Stock-Based Award constitutes deferred compensation (after taking into account any applicable exemptions from Section 409A of the Code), and to the extent required by Section 409A of the Code, no payments due under this Plan or pursuant to a Stock-Based Award may be made until the earlier of: (i) the first day of the seventh month following the Participant's separation from service, or (ii) the Participant's date of death; provided, however, that any payments delayed during this six-month period shall be paid in the aggregate in a lump sum, without interest, on the first day of the seventh month following the Participant's separation from service.

The Administrator shall administer the Plan with a view toward ensuring that Stock Rights under the Plan that are subject to Section 409A of the Code comply with the requirements thereof and that Options under the Plan be exempt from the requirements of Section 409A of the Code, but neither the Administrator nor any member of the Board, nor the Company nor any of its Affiliates, nor any other person acting hereunder on behalf of the Company, the Administrator or the Board shall be liable to a Participant or any Survivor by reason of the acceleration of any income, or the imposition of any additional tax or penalty, with respect to a Stock Right, whether by reason of a failure to satisfy the requirements of Section 409A of the Code or otherwise.

34. INDEMNITY.

Neither the Board nor the Administrator, nor any members of either, nor any employees of the Company or any parent, subsidiary, or other Affiliate, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with their responsibilities with respect to this Plan, and the Company hereby agrees to indemnify the members of the Board, the members of the Committee, and the employees of the Company and its parent or subsidiaries in respect of any claim, loss, damage, or expense (including reasonable counsel fees) arising from any such act, omission, interpretation, construction or determination to the full extent permitted by law.

35. CLAWBACK.

Notwithstanding anything to the contrary contained in this Plan, the Company may recover from a Participant any compensation received from any Stock Right (whether or not settled) or cause a Participant to forfeit any Stock Right (whether or not vested) in the event that the Company's Clawback Policy then in effect is triggered.

36. GOVERNING LAW.

This Plan shall be construed and enforced in accordance with the law of the State of Delaware.

Exhibit 10.2

Option No._____

SPERO THERAPEUTICS, INC.

Stock Option Grant Notice

Stock Option Grant under the Company's
2017 Stock Incentive Plan (As Amended on November 6, 2017)

1. Name and Address of Participant: _____
2. Date of Option Grant: _____
3. Type of Grant: _____
4. Maximum Number of Shares for which this Option is exercisable: _____
5. Exercise (purchase) price per share: _____
6. Option Expiration Date: _____
7. Vesting Start Date: _____
8. Vesting Schedule: This Option shall become exercisable (and the Shares issued upon exercise shall be vested) as follows provided the Participant is an Employee, director or Consultant of the Company or of an Affiliate on the applicable vesting date:

   [25% of the Shares shall be vested on the first anniversary of the Vesting Start Date, and thereafter the remainder of the Shares not yet vested shall vest in equal monthly installments for 36 months beginning on the first anniversary of the Vesting Start Date.]

The foregoing rights are cumulative and are subject to the other terms and conditions of this Agreement.

The Company and the Participant acknowledge receipt of this Stock Option Grant Notice and agree to the terms of the Stock Option Agreement attached hereto and incorporated by reference herein and the Company's 2017 Stock Incentive Plan, as amended.

SPERO THERAPEUTICS, INC.

By: _____
Name: _____
Title: _____

_____
Participant

SPERO THERAPEUTICS, INC.

STOCK OPTION AGREEMENT—INCORPORATED TERMS AND CONDITIONS

AGREEMENT made as of the date of grant set forth in the Stock Option Grant Notice by and between Spero Therapeutics, Inc. (the "Company"), a Delaware corporation, and the individual whose name appears on the Stock Option Grant Notice (the "Participant").

WHEREAS, the Company desires to grant to the Participant an Option to purchase shares of its common stock, $0.001 par value per share (the "Shares"), under and for the purposes set forth in the Company's 2017 Stock Incentive Plan, as amended (the "Plan");

WHEREAS, the Company and the Participant understand and agree that any terms used and not defined herein have the same meanings as in the Plan; and

WHEREAS, the Company and the Participant each intend that the Option granted herein shall be of the type set forth in the Stock Option Grant Notice.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the parties hereto agree as follows:

1. GRANT OF OPTION.

The Company hereby grants to the Participant the right and option to purchase all or any part of an aggregate of the number of Shares set forth in the Stock Option Grant Notice, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Participant acknowledges receipt of a copy of the Plan.

2. EXERCISE PRICE.

The exercise price of the Shares covered by the Option shall be the amount per Share set forth in the Stock Option Grant Notice, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares after the date hereof (the "Exercise Price"). Payment shall be made in accordance with Paragraph 9 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become vested and exercisable as set forth in the Stock Option Grant Notice and is subject to the other terms and conditions of this Agreement and the Plan.

4. TERM OF OPTION.

This Option shall terminate on the Option Expiration Date as specified in the Stock Option Grant Notice and, if this Option is designated in the Stock Option Grant Notice as an ISO and the Participant owns as of the date hereof more than 10% of the total combined voting power of all classes of capital stock of the Company or an Affiliate, such date may not be more than five years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Participant ceases to be an Employee, director or Consultant of the Company or of an Affiliate for any reason other than the death or Disability of the Participant, or termination of the Participant for Cause (the "Termination Date"), the Option to the extent then vested and exercisable pursuant to Section 3 hereof as of the Termination Date, and not previously terminated in accordance with this Agreement, may be exercised within three months after the Termination Date, or on or prior to the Option Expiration Date as specified in the Stock Option Grant Notice, whichever is earlier, but may not be exercised thereafter except as set forth below. In such event, the unvested portion of the Option shall not be exercisable and shall expire and be cancelled on the Termination Date.

If this Option is designated in the Stock Option Grant Notice as an ISO and the Participant ceases to be an Employee of the Company or of an Affiliate but continues after termination of employment to provide service to the Company or an Affiliate as a director or Consultant, this Option shall continue to vest in accordance with Section 3 above as if this Option had not terminated until the Participant is no longer providing services to the Company. In such case, this Option shall automatically convert and be deemed a Non-Qualified Option as of the date that is three months from termination of the Participant's employment and this Option shall continue on the same terms and conditions set forth herein until such Participant is no longer providing service to the Company or an Affiliate.

Notwithstanding the foregoing, in the event of the Participant's Disability or death within three months after the Termination Date, the Participant or the Participant's Survivors may exercise the Option within one year after the Termination Date, but in no event after the Option Expiration Date as specified in the Stock Option Grant Notice.

In the event the Participant's service is terminated by the Company or an Affiliate for Cause, the Participant's right to exercise any unexercised portion of this Option even if vested shall cease immediately as of the time the Participant is notified his or her service is terminated for Cause, and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Participant's termination, but prior to the exercise of the Option, the Administrator determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute Cause, then the Participant shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Participant, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Participant's termination of service due to Disability or, if earlier, on or prior to the Option Expiration Date as specified in the Stock Option Grant Notice. In such event, the Option shall be exercisable:

(a) to the extent that the Option has become exercisable but has not been exercised as of the date of the Participant's termination of service due to Disability; and

(b) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of the Participant's termination of service due to Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of the Participant's termination of service due to Disability.

In the event of the death of the Participant while an Employee, director or Consultant of the Company or of an Affiliate, the Option shall be exercisable by the Participant's Survivors within one year after the date of death of the Participant or, if earlier, on or prior to the Option Expiration Date as specified in the Stock Option Grant Notice. In such event, the Option shall be exercisable:

(x) to the extent that the Option has become exercisable but has not been exercised as of the date of death; and

(y) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of Exhibit A attached hereto (or in such other form acceptable to the Company, which may include electronic notice). Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option (which signature may be provided electronically in a form acceptable to the Company). Payment of the Exercise Price for such Shares shall be made in accordance with Paragraph 9 of the Plan. The Company shall deliver such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Participant and if the Participant shall so request in the notice exercising the Option, shall be registered in the

Company's share register in the name of the Participant and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Participant, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Participant otherwise than by will or by the laws of descent and distribution. If this Option is a Non-Qualified Option then it may also be transferred (i) pursuant to a qualified domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder or (ii) for no consideration to or for the benefit of the Participant's Immediate Family (including, without limitation, to a trust for the benefit of the Participant's Immediate Family or to a partnership or limited liability company for one or more members of the Participant's Immediate Family), and the transferee shall remain subject to all the terms and conditions applicable to the Option prior to such transfer and each such transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer. The term "Immediate Family" shall mean the Participant's spouse, former spouse, parents, children, stepchildren, adoptive relationships, sisters, brothers, nieces, nephews and grandchildren (and, for this purpose, shall also include the Participant). Except as provided above in this paragraph, the Option shall be exercisable, during the Participant's lifetime, only by the Participant (or, in the event of legal incapacity or incompetency, by the Participant's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Participant shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Participant. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

10. TAXES.

The Participant acknowledges and agrees that (i) any income or other taxes due from the Participant with respect to this Option or the Shares issuable upon exercise of this Option shall be the Participant's responsibility; (ii) the Participant was free to use professional advisors of his or her choice in connection with this Agreement, has received advice from his or her professional advisors in connection with this Agreement, understands its meaning and import, and is entering into this Agreement freely and without coercion or duress; (iii) the Participant has not received and is not relying upon any advice, representations or assurances made by or on behalf of the Company or any Affiliate or any employee of or counsel to the Company or any Affiliate regarding any tax or other effects or implications of the Option, the Shares or other matters contemplated by this Agreement; and (iv) neither the Administrator, the Company, its Affiliates, nor any of its officers or directors, shall be held liable for any applicable costs, taxes, or penalties associated with the Option if, in fact, the Internal Revenue Service were to determine that the Option constitutes deferred compensation under Section 409A of the Code.

If this Option is designated in the Stock Option Grant Notice as a Non-Qualified Option or if the Option is an ISO and is converted into a Non-Qualified Option and such Non-Qualified Option is exercised, the Participant agrees that the Company may withhold from the Participant's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Participant on exercise of the Option. The Participant further agrees that, if the Company does not withhold an amount from the Participant's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Participant will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares covered by such exercise unless the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon any certificate(s) evidencing the Shares issued pursuant to such exercise:

"The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the Securities Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Participant agrees that in the event the Company proposes to offer for sale to the public any of its equity securities and such Participant is requested by the Company and any underwriter engaged by the Company in connection with such offering to sign an agreement restricting the sale or other transfer of Shares, then it will promptly sign such agreement and will not transfer, whether in privately negotiated transactions or to the public in open market transactions or otherwise, any Shares or other securities of the Company held by him or her during such period as is determined by the Company and the underwriters, not to exceed 180 days following the closing of the offering, plus such additional period of time as may be required to comply with FINRA rules or similar rules thereto promulgated by another regulatory authority (such period, the "Lock-Up Period"). Such agreement shall be in writing and in form and substance reasonably satisfactory to the Company and such underwriter and pursuant to customary and prevailing terms and conditions. Notwithstanding whether the Participant has signed such an agreement, the Company may impose stop-transfer instructions with respect to the Shares or other securities of the Company subject to the foregoing restrictions until the end of the Lock-Up Period.

12.2 The Participant acknowledges and agrees that neither the Company, its stockholders nor its directors and officers, has any duty or obligation to disclose to the Participant any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the service of the Participant by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

13. NO OBLIGATION TO MAINTAIN RELATIONSHIP.

The Participant acknowledges that: (i) the Company is not by the Plan or this Option Agreement obligated to continue the Participant as an employee, director or Consultant of the Company or an Affiliate; (ii) the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (iii) the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iv) all determinations with respect to any such future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (v) the Participant's participation in the Plan is voluntary; (vi) the value of the Option is an extraordinary item of compensation which is outside the scope of the Participant's employment or consulting contract, if any; and (vii) the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. IF OPTION IS INTENDED TO BE AN ISO.

If this Option is designated in the Stock Option Grant Notice as an ISO so that the Participant (or the Participant's Survivors) may qualify for the favorable tax treatment provided to holders of Options that meet the standards of Section 422 of the Code then any provision of this Agreement or the Plan which conflicts with the Code so that this Option would not be deemed an ISO is null and void and any ambiguities shall be resolved so that the Option qualifies as an ISO. The Participant should consult with the Participant's own tax advisors regarding the tax effects of the Option and the requirements necessary to obtain favorable tax treatment under Section 422 of the Code, including, but not limited to, holding period requirements.

Notwithstanding the foregoing, to the extent that the Option is designated in the Stock Option Grant Notice as an ISO and is not deemed to be an ISO pursuant to Section 422(d) of the Code because the aggregate Fair Market Value (determined as of the Date of Option Grant) of any of the Shares with respect to which this ISO is granted becomes exercisable for the first time during any calendar year in excess of $100,000, the portion of the Option representing such excess value shall be treated as a Non-Qualified Option and the Participant shall be deemed to have taxable income measured by the difference between the then Fair Market Value of the Shares received upon exercise and the price paid for such Shares pursuant to this Agreement.

Neither the Company nor any Affiliate shall have any liability to the Participant, or any other party, if the Option (or any part thereof) that is intended to be an ISO is not an ISO or for any action taken by the Administrator, including without limitation the conversion of an ISO to a Non-Qualified Option.

15. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION OF AN ISO.

If this Option is designated in the Stock Option Grant Notice as an ISO then the Participant agrees to notify the Company in writing immediately after the Participant makes a Disqualifying Disposition of any of the Shares acquired pursuant to the exercise of the ISO. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale) of such Shares before the later of (a) two years after the date the Participant was granted the ISO or (b) one year after the date the Participant acquired Shares by exercising the ISO, except as otherwise provided in Section 424(c) of the Code. If the Participant has died before the Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

16. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Spero Therapeutics, Inc.
675 Massachusetts Avenue
Cambridge, MA 02139
Attention: Chief Financial Officer

If to the Participant, at the address set forth on the Stock Option Grant Notice

or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

17. GOVERNING LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to its internal principles governing the conflict of law. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in the Commonwealth of Massachusetts and agree that such litigation shall be conducted in the state courts of Suffolk County, Massachusetts or the federal courts of the United States for the District of Massachusetts.

18. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

19. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof (with the exception of acceleration of vesting provisions contained in any other agreement with the Company). No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict, the express terms and provisions of this Agreement. Notwithstanding the foregoing in all events, this Agreement shall be subject to and governed by the Plan.

20. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

21. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

22. DATA PRIVACY.

By entering into this Agreement, the Participant: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; and (ii) authorizes the Company and each Affiliate to store and transmit such information in electronic form for the purposes set forth in this Agreement.

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Exhibit A

NOTICE OF EXERCISE OF STOCK OPTION

[Form for Shares registered in the United States]

To: Spero Therapeutics, Inc.

IMPORTANT NOTICE: This form of Notice of Exercise may only be used at such time as the Company has filed a Registration Statement with the Securities and Exchange Commission under which the issuance of the Shares for which this exercise is being made is registered and such Registration Statement remains effective.

Ladies and Gentlemen:

I hereby exercise my Stock Option to purchase _____ shares (the "Shares") of the common stock, $0.001 par value, of Spero Therapeutics, Inc. (the "Company"), at the exercise price of $____ per share, pursuant to and subject to the terms of that Stock Option Grant Notice dated _____, 201__.

I understand the nature of the investment I am making and the financial risks thereof. I am aware that it is my responsibility to have consulted with competent tax and legal advisors about the relevant national, state and local income tax and securities laws affecting the exercise of the Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

Please issue the Shares (check one):

☐ to me; or

☐ to me and _____, as joint tenants with right of survivorship,

at the following address:

_____

_____

_____

My mailing address for stockholder communications, if different from the address listed above, is:

_____

_____

_____

Very truly yours,

_____

Participant (signature)

_____

Print Name

_____

Date

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

CERTIFICATIONS

I, Ankit Mahadevia, M.D., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Spero Therapeutics, Inc.;

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

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

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

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

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

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

5. The registrant's other certifying officer 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: December 14, 2017

By: /s/ Ankit Mahadevia, M.D.
Ankit Mahadevia, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, Joel Sendek, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Spero Therapeutics, Inc.;

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

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

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

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

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

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

5. The registrant's other certifying officer 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: December 14, 2017

By: /s/ Joel Sendek
Joel Sendek
Chief Financial Officer and Treasurer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Spero Therapeutics, Inc. (the "Company") for the period ended September 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Ankit Mahadevia, M.D., President and Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Date: December 14, 2017

By: /s/ Ankit Mahadevia, M.D.
Ankit Mahadevia, M.D.
President and Chief Executive Officer
(Principal Financial Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Spero Therapeutics, Inc. (the "Company") for the period ended September 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Joel Sendek, Chief Financial Officer and Treasurer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Date: December 14, 2017

By: /s/ Joel Sendek
Joel Sendek
Chief Financial Officer and Treasurer
(Principal Financial Officer)